



INDEPENDENT CLEANUP PATHWAY FINAL REPORT

MARKET TRANSPORT TERMINAL FACILITY

110 North Marine Drive
PORTLAND, OR 97217

DEQ ECSI File # 4746

Prepared for:

DSV Road North America

1300 Minters Chapel Road, Suite 100
Grapevine, TX 76051

Issued on:

October 7, 2024

Project No. 1729-24002-01

Executive Summary

DSV Road North America (DSV) retained Aquarius Environmental, LLC (AE) to investigate the possible release of gear oil at the Market Transport truck terminal (Site) located at 110 North Marine Drive in Portland, Oregon. On October 7, 2020, the current owner, Wilson Logistics, reported a suspected gear oil release beneath the concrete floor of the truck shop.

Four drilling events were conducted to assess the nature and extent of the gear oil release that was reportedly related to a pipe leak under the building. The release is now understood to have been limited in areal extent beneath the footprint of the truck shop. Based on Oregon Department of Environmental Quality (DEQ) rules and guidance, this Site qualified for the Independent Cleanup Pathway (ICP). A work plan was prepared (and previously submitted to DEQ) to remediate the gear oil release through a focused soil removal action beneath a portion of the truck shop floor.

A focused soil removal action was conducted to remove contaminated soil beneath the floor of the truck shop. The soil removal was focused on the center bay area, particularly the mechanic pit and adjacent soils. Building structural code requirements limited remedial action south of the mechanic pit. As a result, a limited volume of gear oil-impacted soil remains beneath the building footprint. Concrete and soil were disposed of in an appropriately permitted Subtitle D landfill. Groundwater seepage into the excavation was pumped to Baker tanks and either transported off-site for disposal or discharged under a City of Portland permit to the sanitary sewer. The mechanic pit was rebuilt within the center bay and the surrounding concrete slab was replaced.

This report presents soil and groundwater sample results that were compared to applicable DEQ generic risk-based concentrations (RBCs) for diesel-range organics (DRO) and polynuclear aromatic hydrocarbons (PAHs), as well as site-specific RBCs for gear oil prepared with the DEQ spreadsheet workbook (DEQ, 2011). None of the soil and groundwater samples exceeded their respective RBCs, and the remedial action was completed to the maximum practicable extent. Overall, the assessments of residual risk, human health risk, and ecological risk indicate the remedial action provides long-term protection for human health and the environment.

A residual risk assessment was completed to evaluate risk at the site. Surface soil, subsurface soil and groundwater were identified as media of concern. Following the completion of a conceptual site model and a beneficial water use determination, it was determined no drinking water groundwater exposure pathways were complete. Following an assessment of potential residual risk, no COCs were identified in any media of concern.

AE respectfully requests a “No Further Action” determination based on the information presented herein, which (i) Demonstrates an understanding of the nature and extent of residual impacts for historical operations at the subject site, and (ii) Presents a residual risk assessment.

Independent Cleanup Pathway Final Report

for:

MARKET TRANSPORT TERMINAL FACILITY

110 North Marine Drive
PORTLAND, OR 97217
(DEQ ECSI File # 4746)

Has been prepared for the sole benefit and use of our Client:

DSV Road North America

1300 Minters Chapel Road, Suite 100
Grapevine, TX 76051

and its assignees

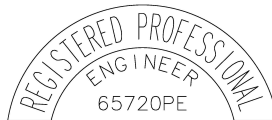
Issued

October 7, 2024

by:

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RENEWAL DATE: 6/30/2026

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Table of Contents

1.0	Introduction	2
1.1	Purpose and Objectives	2
2.0	Site Background	3
2.1	Site Location and Description	3
2.1.1	<i>Present Use of Adjoining Properties</i>	<i>3</i>
2.2	Land Use.....	4
2.3	Site Ownership and Occupancy	4
2.4	History of Operations.....	4
2.5	Regulatory History and Listings	4
2.5.1	<i>Truck Shop Gear Oil Release</i>	<i>6</i>
3.0	Environmental Settings	6
3.1	Climate Information.....	6
3.2	Topography.....	7
3.3	Surface Water Hydrology.....	7
3.4	Groundwater Hydrogeology	7
3.5	Regional and Site Geology	7
3.5.1	<i>Regional Geology</i>	<i>7</i>
3.5.2	<i>Site Soil and Geology.....</i>	<i>8</i>
4.0	Cleanup Levels and Other Numeric Criteria.....	8
4.1	Soil Matrix Cleanup Levels	9
4.2	Risk-Based Cleanup.....	9
5.0	Recent Investigations Related to the Geal Oil Release.....	9
5.1	Site Characterization.....	10
5.1.1	<i>Sampling Methods.....</i>	<i>10</i>
5.2	Analytical Methods	13
5.3	Findings	15
5.3.1	<i>Soil.....</i>	<i>15</i>
5.3.2	<i>Reconnaissance Groundwater</i>	<i>16</i>
6.0	Corrective Action Measures	Error! Bookmark not defined.
6.1	Preparatory Activities for the Soil Removal Action	17
6.1.1	<i>Property Access.....</i>	<i>17</i>
6.1.2	<i>Subcontractor Procurement.....</i>	<i>17</i>
6.1.3	<i>Underground Utility Location</i>	<i>17</i>
6.1.4	<i>Site Health and Safety Plan.....</i>	<i>17</i>
6.1.5	<i>Supporting Engineering Activities.....</i>	<i>18</i>
6.2	Overview of the Soil Removal Action.....	18
6.3	Verification Sampling.....	20
7.0	Current Known Extent of Impacts	20

7.1	Current Known Extent of Impacts.....	20
7.2	Media of Concern	21
	7.2.1 Land Use– Potential Receptors	21
	7.2.2 Ground-Water Use.....	21
8.0	Residual Risk Assessment.....	22
8.1	Identification of Constituents of Interest	22
8.2	Identification of Constituents of Potential Concern.....	23
	8.2.1 Subsurface Soil.....	23
	8.2.2 Groundwater.....	23
8.3	Conceptual Site Model.....	23
8.4	Calculation of Site-Specific RBCs for Geal Oil RRO.....	24
8.5	Further Evaluation of COPCs.....	25
	8.5.1 Further Evaluation of Soil.....	25
	8.5.2 Further Evaluation of Groundwater.....	25
	8.5.3 Risk Summary.....	25
8.6	Uncertainty Analysis	25
8.7	Ecological Exposure Assessment	26
9.0	Conclusions and Recommendations.....	26
10.0	Limitations.....	27

List of Tables, Figures, and Appendices

Tables

WITHIN TEXT

- 5.1 Analytical Methods
- 5.2 Analytical Matrix
- 8-1 Summary of Pathway Analysis for Human Receptors

AFTER TEXT (*following 'Tables' tab*)

- 1 Summary of Analytical Data, Soil
- 2 Summary of Analytical Data, Reconnaissance Groundwater
- 3 Further Evaluation of COPCs, Soil
- 4 Further Evaluation of COPCs, Groundwater

Figures

- 1. Site Location Map
- 2. Site Features Aerial Photo Map
- 3. Boring Sample Location
- 4. Cross-Section A-A' of Truck Shop Soils Prior to and After Focused Soil Removal Action
- 5. Area of Focused Soil Removal Action
- 6. Estimated Extent of Residual RRO Impacts to Groundwater
- 7. Conceptual Site Exposure Model

Appendices

- A Boring Logs
- B Photographic Log
- C Laboratory Reports, Soil and Groundwater Samples, Borings B-10 to B-23
- D Soil Disposal Tickets
- E Water Disposal Records
- F Laboratory Report, Verification Soil Samples G1 to G8
- G Well Logs for Nearby Water Wells
- H Site-Specific Risk-Based Concentrations
- I Ecological Risk Screening Checklist

List of Acronyms and Abbreviations

AE	Aquarius Environmental, LLC	DEQ	Oregon Department of Environmental Quality
AMSL	above mean sea level	ORS	Oregon Revised Statute
BDS	(City of Portland) Bureau of Development Services	OSHA	Occupational Health and Safety Administration
Cascade	Cascade Environmental	PAH	polynuclear aromatic compound
COIs	constituents of interest	PHC	petroleum hydrocarbons
COPCs	constituents of potential concern	psf	pounds per square foot
DRO	diesel-range organics	QA	quality assurance
DSV	DSV Road North America	QC	quality control
ECSI	Environmental Contaminant Site Information	RBC	risk-based concentration
ENW	EVREN Northwest, Inc.	RBDM	risk-based decision making
EPH	extractable petroleum hydrocarbon	RRO	residual-range organics
ft bgs	foot/feet below existing ground surface	SAPS	(DEQ) Site Assessment Prioritization System
HAA	Hahn and Associates, Inc.	Strata	Strata Design, LLC
HASP	Health and Safety Plan	Stratus	Stratus Corporation
HAZWOPER	Hazardous Waste Operations and Emergency Response	SVOC	semi-volatile organic compound
ICP	(DEQ) Independent Cleanup Pathway	TPH	total petroleum hydrocarbon
IG2	General Industrial 2	TPH-D	total petroleum hydrocarbon – diesel range
KGA	Kramer Gehlen & Associates, Inc.	TPH-O	total petroleum hydrocarbon – oil range
kPa	kiloPascal	USACE	U.S. Army Corps of Engineers
µg/L	microgram/liter	USEPA	U.S. Environmental Protection Agency
mg/kg	milligram/kilogram	UST	underground storage tank
NFA	No Further Action	VCP	(DEQ) Voluntary Cleanup Program
NOAA	National Oceanic and Atmospheric Administration	VPH	volatile petroleum hydrocarbon
NW	Northwest	USACE	U.S. Army Corps of Engineers
OAR	Oregon Administrative Rule	Wilson	Wilson Logistics

1.0 Introduction

DSV Road North America (DSV) retained Aquarius Environmental, LLC (AE) to investigate the possible release of petroleum gear oil at the Market Transport truck terminal (the Site) located at 110 North Marine Drive in Portland, Oregon (see Figure 1). An affiliate of DSV previously owned the Site, selling the business to Wilson Logistics (Wilson) in 2019. Wilson notified DSV on October 7, 2020, regarding a suspected gear oil release beneath the concrete floor of the truck tractor shop. Gear oil was reportedly entering the mechanic pit floor from beneath the building slab floor. AE provided site investigation and a focused soil removal action, as described in this report. EVREN Northwest, Inc. was requested to collaborate with the residual risk assessment portion of this project.

This report summarizes the background and setting for Site characterization of petroleum hydrocarbons (PHCs) and Constituents of Interest (COIs) including constituents related to gear oil PHCs. This Report was submitted to DEQ to satisfy characterization, cleanup, and remedial investigation requirements and it proposes closure for the Site.

1.1 Purpose and Objectives

The purpose of the site investigation and focused soil removal action was to remove accessible gear-oil-impacted soil, thereby reducing potential for exposure to impacted media. The objectives to achieve the overall purpose were:

- Delineate the nature and extent of the gear oil release.
- Based on the areal extent of the gear oil release, plan and conduct a focused soil removal action within the footprint of the truck shop.
 - Soil removal activities were focused in areas to maximize the removal of impacted media while taking into consideration the structural stability of the combined truck shop and office building.
 - As the Oregon Department of Environmental Quality (DEQ) has a limited number of generic risk-based concentrations (RBCs) for petroleum hydrocarbons and none for gear oil, perform research and sampling of soil and groundwater to prepare site-specific RBCs for gear oil using the DEQ spreadsheet workbook.¹
- Prepare a conceptual site model to evaluate exposure pathways.
- Assess the residual risk associated with complete exposure pathways for current and future receptors.

¹ Oregon Department of Environmental Quality, Calculating Noncarcinogenic RBCs for Total Petroleum Hydrocarbons, Microsoft Excel spreadsheet workbook, last revised November 15, 2011.

2.0 Site Background

Site Name:	Market Transport Terminal Facility
ECSI No.:	4746
Location:	110 North Marine Drive PORTLAND, OR 97217
Latitude:	45° 36' 0.88" N
Longitude:	122° 40' 1.27" W
Legal Description:	T1N R1E Sec. 03AC, Tax Lot 1900
Site Owner:	MARKET TRANSPORT LTD 110 N MARINE DR PORTLAND OR 97217
Current Occupant	Wilson Logistics

2.1 Site Location and Description

The Site is approximately 17 acres and is located in the northern Portland industrial area on the flood plain of the Columbia River (Figure 1). The property ranges in elevation from approximately 10 to 28 feet above mean sea level (ft amsl), with the higher elevations along the northern portion of the property adjacent to North Marine Drive, which is located on an elevated grade on a levee between the industrial area and the Columbia River. Access to the Site from North Marine Drive is controlled with a security checkpoint at the north entrance. The east entrance on NE 2nd Avenue is gated and locked. The Site is located in Portland's East Columbia Neighborhood Natural Resource Management District and the Peninsula Drainage District No. 2 and is located approximately 600 feet south of the Columbia River and 4,800 feet north of the Columbia Slough (Figure 1).

The truck shop is located in the south-central area of the Site at an elevation of approximately 12 feet above sea level (Figure 2). The fueling center is directly adjacent along the north side of the shop building. A two-story office building is structurally attached to the south side of the shop (Figure 2). Truck tractors and trailers enter through doors on the east and west sides of the truck shop for service in three bays extending the width of the building. The center bay includes a mechanic pit for service access to the underside of the tractors.

2.1.1 Present Use of Adjoining Properties

Properties located to the north of the Site, across Marine Drive, are zoned Open Space (OS) and Commercial Mixed Use 2 (CM2). The Site is in the Columbia Corridor Business District, which borders the Columbia River from Troutdale in the east to the confluence of the Willamette River in the west.

Transportation and automotive-related businesses are located on adjacent properties to the west and south. A liquefied carbon dioxide supplier is located adjacent to the northeast corner of the truck terminal.

Residential areas are situated east and north of the terminal, including houseboats along the bank of the Columbia River.

The Bridgeton Slough Natural Area is located directly across Marine Drive from the western portion of the Site and approximately 450 feet from the truck shop. The entrance to the Columbia Children's Arboretum is located about 1,900 feet southeast of the truck shop, while the East Delta Park – Owens Sports Complex is about 1,700 feet west-southwest of the truck shop.

2.2 Land Use

The base land use zoning is General Industrial 2 (IG2)² for the Site and adjacent properties south of Marine Drive.

2.3 Site Ownership and Occupancy

Market Transport originally developed the truck terminal in 1976. Endeavour Capital partnered with Market Transport's management in 2002 to purchase a majority interest in the business from the company founder, who retained a minority interest. Endeavour sold Market Transport to DSV in 2006, which sold the business to Wilson in 2019.

2.4 History of Operations

A summary of the historical uses of the property is presented in a Level I Property Transfer Assessment prepared in 1991³, which is summarized here. Based on a review of U.S. Army Corps of Engineers (USACE) aerial photos, the property uses from the 1936 to 1973 was primarily agricultural, with some minor residential development in 1970 along North Marine Drive. By 1973, aerial photographs indicated the area of the future truck shop was used for a timber storage operation. According to Multnomah County records, Craeger Trucking Company occupied the property and operated a flatbed trucking business that reportedly included transporting and storing unmilled timber products (e.g., logs).

The Market Transport terminal was developed on the property in 1976. A 1983 USACE aerial photo indicated much of the property was redeveloped as Market Transport's truck terminal. The former main terminal building (i.e., truck shop and office) was reportedly destroyed in a fire in 1987. The present-day truck shop and office building were built following the fire.

2.5 Regulatory History and Listings

AE conducted a historical review of previous environmental activities in the truck shop area. Hahn and Associates, Inc. (HAA) provided copies of their reports documenting the decommissioning of three underground storage tanks (USTs) and the associated performance of groundwater monitoring, discussed below. HAA provided oversight in 1989 for the removal of two former USTs that were in the fuel center

² City of Portland website Portlandmaps.com

³ Hahn and Associates, Inc. February 12, 1991. An Environmental Property Transfer Assessment, Level I, 110 N. Marine Drive, Portland, Oregon.

area, including a 1,000-gallon used oil UST and a 10,000-gallon diesel UST⁴ (Figure 3). A third tank in the fuel center area, a 1,500-gallon gasoline UST, was removed prior to HAA's work with Market Transport, possibly in 1987 when a 2,000-gallon gasoline UST was installed.³ Approximately 790 cubic yards of DRO-contaminated soil were removed adjacent to the fuel center and disposed of in the St. Johns Landfill.⁴ As a limited volume of DRO-impacted media was left in place, six rounds of ground-water monitoring were performed from August 1990 to April 1992.⁵ Ground-water level measurements taken on November 6, 1991 indicated a generally southerly gradient.⁶ DEQ issued a conditional No Further Action (NFA) determination in May 1992 that recognized a pocket of diesel contamination remained beneath the fueling center structure, i.e., adjacent to the diesel UST.⁷

In 2006, a petroleum release report was mistakenly filed by a contractor that was making piping upgrades for the diesel UST. HAA submitted an addendum to DEQ to explain that the contractor's report was in error since the detected contamination was covered by the 1992 conditional NFA determination⁸. DEQ subsequently issued an Administrative Closure for the 2006 report that indicated the observed contamination was from the previously reported release addressed under the conditional NFA.⁹

The Market Transport Terminal facility is listed on DEQ's Environmental Contaminant Site Information (ECSI) database. The ECSI database file shows the site as enrolled in DEQ's Independent Cleanup Pathway (ICP) program in May 2006 and is currently in progress.

⁴ HAA. November 8, 1989. Underground Storage Tank Decommissioning, Market Transport, Ltd., 110 North Marine Drive, Portland, Oregon.

⁵ The groundwater monitoring events and results are described in the following reports:

- i. HAA. September 4, 1990. Quarterly Groundwater Monitoring Sampling and Analysis (First Quarter), Market Transport, Ltd., 110 North Marine Drive, Portland, Oregon.
- ii. HAA. November 28, 1990. Quarterly Groundwater Monitoring Sampling and Analysis (Second Quarter), Market Transport, Ltd., 110 North Marine Drive, Portland, Oregon.
- iii. HAA. March 6, 1991. Quarterly Groundwater Monitoring Sampling and Analysis (Third Quarter), Market Transport, Ltd., 110 North Marine Drive, Portland, Oregon.
- iv. HAA. May 30, 1991. Sixth Quarter Groundwater Monitoring Sampling and Analysis (Fourth Quarter), Market Transport, Ltd., 110 North Marine Drive, Portland, Oregon.
- v. HAA. May 30, 1991. Sixth Quarter Groundwater Monitoring Sampling and Analysis (Fourth Quarter), Market Transport, Ltd., 110 North Marine Drive, Portland, Oregon.
- vi. HAA. January 24, 1992. Fifth Quarter Groundwater Monitoring Sampling and Analysis, Market Transport, Ltd., 110 North Marine Drive, Portland, Oregon.
- vii. HAA. April 19, 1992. Sixth Quarter Groundwater Monitoring Sampling and Analysis, Market Transport, Ltd., 110 North Marine Drive, Portland, Oregon.

⁶ HAA. February 21, 1992. Level II Environmental Property Transfer Assessment and Subsurface Investigative Activities, Market Transport, Ltd., 110 North Marine Drive, Portland, Oregon.

⁷ DEQ. May 29, 1992. File No. 26-89-177, Market Transport, Determination of No Further Action with Conditions for 3 Underground Storage Tanks.

⁸ HAA. August 22, 2006. Addendum to August 2006 Petroleum Release Report, Market Transport, Ltd. Facility, 110 North Marine Drive, Portland, Oregon, LUST No. 26-06-1362 and 26-89-177.

⁹ DEQ. February 12, 2007. Market Transport Ltd. III, UST Cleanup File No. 26-06-1362, UST Facility ID No. 331, Cover Letter for Administrative Closure Memo for File No. 26-06-1362.

2.5.1 Truck Shop Gear Oil Release

Based on interviews with long-term employees, AE learned that various weights of petroleum lubricants were previously transferred via pneumatically pressurized piping beneath the shop floor from former above-floor tanks to two separate hose reel alcoves in the mechanic pit, thereby providing the mechanics with ready access to lubricants for truck servicing (Figure 3).

Following Wilson's acquisition of Market Transport in 2019, employees reported that gear oil entered the pit through cracks and penetrations in the pit walls and floor, especially at the east hose reel alcove. Long-term employees noted that the gear oil pump for the former pressurized piping system would operate even when the corresponding hose was not in use, which may have been due to a leak in the gear oil piping below the shop floor. Although no formal problem was observed with the gear oil pump and piping, the hose reels in the pit alcoves were disconnected from use several years prior and all oil supply lines and hose reels were relocated above the truck shop floor. A multi-chamber storage tank system was installed at the same location as the previously referenced above-floor tanks with all piping and hose reels located aboveground. This system was in use until 2021 when a new system of similar design replaced it, and the above-floor tanks were moved to a location along the north wall of the truck shop.

3.0 Environmental Settings

The Site is located in in the flood plain of the Columbia River in Portland, Oregon. Further details are discussed below.

3.1 Climate Information

The National Oceanic and Atmospheric Administration (NOAA) Climate Book for Portland, Oregon was referenced for climate information. Since 1940, Portland International Airport has served as the primary reporting station for continuous weather observations, located approximately two miles east of the Site.

Portland is situated between the Coast Range and the Cascades, that both contribute significantly to the overall mild climate. The Coast Range shields the Portland area to some degree from Pacific Ocean storms, while the Cascades create orographic lift that results in moderate rainfall for the Willamette Valley. Further, the Cascades generally block cold continental air masses from western Oregon, although the Columbia River Gorge may funnel cold air directly to Portland¹⁰.

Precipitation is variable within the Portland area, with the airport receiving 35-37 inches of rainfall per year while the West Hills receives 60 inches. Rain is seasonal, as nearly 90 percent of annual rainfall is between mid-October and mid-May. Summers are relatively dry with about 3 percent of annual rainfall during July and August. Measurable amounts of snow occur about four days each year and accumulations are usually less than two inches, typically melting within 24 hours (NOAA, 2023).

¹⁰ NOAA. 2023. Climate of Portland, Revision 5; Website:
<https://www.weather.gov/media/pqr/climate/ClimatBookPortland/pg1.pdf>, including updated 1991-2020 climate normal.

Although Portland experiences four seasons, the temperatures are typically mild. Winter temperatures are generally in the 40s and 50s during daytime, and in the 30s at night. Cold easterly winds can lower this temperature range. Skies are usually overcast during the winter rainy season. Spring and fall are transitional seasons, as would be expected, between winter and summer. High pressure over the Pacific Ocean is typical of July and August, thereby blocking the source of moisture for rainfall. Temperatures may reach the 90s, but infrequently reach 100 degrees (NOAA, 2023).

3.2 Topography

The Site is located along the south side of North Marine Drive, which is on the crest of a flood control levee along the Columbia River. Consequently, the northern portion of the property is the topographic high paralleling this levee and slopes to the south (Figure 1). The elevation along the northern property boundary is 28 ft msl, which decreases to 15 ft msl along the base of the levee. The Site slopes gradually toward the southern property boundary that is generally at an elevation of 10 ft msl.

3.3 Surface Water Hydrology

Most of the truck terminal is covered by impervious surfaces, including buildings and parking areas to support operations. The Site is located between the Columbia River and a drainage ditch that parallels the southern property boundary; the ditch ultimately discharges to the Columbia Slough. There are no direct drainages between the river and the ditch. Stormwater is collected from impervious surfaces and treated under a 1200-Z Permit prior to discharging to the City of Portland storm system.

3.4 Groundwater Hydrogeology

As noted above, the Site is levee-protected from Columbia River flooding, although the river level is recognized to seasonally affect ground-water flow between the river and the Columbia Slough. Groundwater was observed and sampled in selected soil borings. However, a clearly defined water table was not observed since the confining soils (e.g., clay and silt) have limited the permeability to thin horizons where sands or gravels are present.

Figure 4 presents a north-south cross-section of the soils and groundwater seams beneath the truck shop. The groundwater seams appear to be discontinuous in the cross-section, which may represent historical shallow drainages across the flood plain between the Columbia River and the Columbia Slough. These drainages were repeatedly covered by fine-grained overbank flood sediments that resulted in confined groundwater seams within an overall silt matrix. If not for these confined groundwater seams, hydraulic conductivity would likely be limited by the silt sediments.

3.5 Regional and Site Geology

The Site is located on the flood plain of the Columbia River that defines the site geology and hydrogeology.

3.5.1 Regional Geology

The Site is in the Willamette Valley/Puget Sound lowland, which is a broad geologic structural depression that stretches from Cottage Grove, Oregon to the Georgia Strait in Washington. The Willamette Valley is bounded by the Cascade Mountains to the east and the Coast Range to the west. Several tectonic events

occurred to yield the volcanic rocks that are common throughout the region, including eruptions of volcanoes that formed the Cascades, the rifting in eastern Oregon and Washington that fed the Columbia River Basalt flows all the way to the Pacific Ocean, the uplift of the Coast Range, and the approximately 100 small cones of the Boring (Oregon) volcanic field in the Portland area. The Willamette Valley resulted from the depression of a series of fault-bounded blocks between the two mountain ranges.

Sediments were deposited in the valley from various sources, including erosion of mountains and highland areas, lacustrine and alluvial deposits, and volcanic ash and lava flows. As we see the Willamette Valley today, the surficial geology is largely due to the massive sedimentation from the Pleistocene ice age floods that are attributed to several sources, but the greatest impact was due to the regular and frequent collapse of the ice dam forming glacial Lake Missoula in western Montana. These ice age floodwaters filled the Portland Basin to an elevation approaching 400 feet above sea level, as well as flowed southward and thinned in depth in the Willamette Valley, reaching as far as the Eugene-Springfield area. Accordingly, the ice-age floodwaters dropped boulders at the mouth of the Columbia River gorge, gravel deposits in the Lake Oswego/Tualatin area, and sediments that are now the agricultural fields of the Willamette Valley.

3.5.2 Site Soil and Geology

According to the Soil Survey of Multnomah County Oregon published by the USDA Soil Conservation Service (1983), the northern portion of the Site, which does not include the truck shop area, is Sauvies-Rafton-Urban land complex with 0 to 3 percent slopes. The southern portion of the site, which includes the truck shop area, is underlain by Rafton silt loam, where unmodified by the development of the Site. The Rafton silt loam consists of recent alluvium with some mixing of volcanic ash. The silt loam is very deep, very poorly-drained soil on broad undulating flood plains of the Columbia River.

The property is located about a half-mile east of the former site of Vanport, a World War II housing development for military defense workers that was flooded and destroyed in 1948 because of a Columbia River levee breach. Based on a comparison of topographic elevations, this flood may have also impacted the Site. In any case, the 1948 Vanport flood substantiates the overbank flood sediment deposition mechanism, as observed in the soil boring logs.

Soils observed during drilling were generally fine-grained silts and clays to a depth of 15 feet below existing ground surface (ft bgs), which was either a concrete floor or asphalt parking area within the investigation area at the Site. The observed soil horizons were likely overbank deposits from flooding of the Columbia River prior to its damming and the construction of flood control levees. Appendix A presents all boring logs associated with the site investigation.

4.0 Cleanup Levels and Other Numeric Criteria

The subject site is being cleaned up under Oregon Administrative Rule (OAR) Chapter 340, Division 122, *Hazardous Substance Remedial Action Rules*, as administered by DEQ.

4.1 Soil Matrix Cleanup Levels

Under the Soil Matrix Cleanup Option (OAR 340-122-0320 through 0360) cleanup standards are determined by assigning site-specific values to the environmental parameters. The DEQ's *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* (RBDM) guidance document (2003 revision) states that the Soil Matrix Cleanup Levels are considered to be adequately protective for petroleum contamination regardless of source. Therefore, the Soil Matrix Cleanup standards may also be used as cleanup levels for sites being remediated under the *Hazardous Substance Remedial Action Rules*.

4.2 Risk-Based Cleanup

DEQ allows site closure using a risk-based approach; risk-based cleanup concentrations (RBCs) for contaminants of concern are derived in accordance with DEQ's RBDM guidance document. This document provides guidance on the remediation of hazardous substance cleanups as well as petroleum-contaminated sites.

RBCs are based on DEQ's unacceptable additional risk criteria for cancer occurrence and for non-carcinogenic health impacts. The State of Oregon considers acceptable additional risk of cancer from contact with carcinogenic constituents at less than one in one million incidences, or, for non-carcinogenic constituents, below the constituent threshold concentration at which health impacts would occur. RBCs are generally used to evaluate sampling analytical results as follows:

- DEQ's lowest RBC for residential receptors is used as an initial 'conservative' screening of all constituents of interest. If a constituent's concentration exceeds its screening-level RBC (SLRBC), it requires further evaluation and is identified as a COPC. Otherwise, the constituent is considered unlikely to pose unacceptable risk to any human receptor.
- COPCs are further evaluated through a risk-based assessment which evaluates site-specific exposure pathways and receptors against generic DEQ-provided RBCs.

Should constituents be identified that also exceed their generic, but exposure pathway- and receptor-specific RBCs, then the appropriateness of additional site-specific methods allowed under the RBDM guidance document was evaluated (e.g., the development of site-specific RBCs, sampling of soil gas and/or vapor, etc.)¹¹

5.0 Recent Investigations Related to the Geal Oil Release

AE performed an environmental site investigation focused on the gear oil release at the truck shop in December 2020 and May 2021 with a subsequent sampling event performed on January 2023 and July 2024, to better define the bounds of a focused soil removal action.

¹¹ DEQ RBDM Data Table, Dated May 2018.

5.1 Site Characterization

Site characterization was performed through an iterative process to define the extent of the gear oil release beneath the truck shop. AE conducted an initial site review, including a visual assessment of the truck shop and personnel interviews. On December 18, 2020, AE led a field investigation to complete six borings (B-1 through B-6) to collect continuous soil cores and ground-water samples, when possible; five of the borings were located inside the truck shop and the sixth was outside in the historically down-gradient direction from the source area (Figure 3). A second sampling event was conducted on May 25, 2021, to collect continuous soil cores and ground-water samples from three borings (B-7 through B-9) to assess whether gear oil contamination had moved downgradient from the truck shop toward the south property boundary. These borings were located along the south side of the truck shop/office complex (Figure 3).

The following information was gathered during the initial phases of the site investigation and appeared to indicate that the source area was adjacent to the north wall of the mechanic pit.

1. An employee noted that the aboveground lubricant storage may have been located between the middle and north truck bays during the prior setup of the truck shop.
2. Based on the location of the two hose reel alcoves in the north wall of the mechanic pit, the leaking gear oil line serving the hose reels was anticipated to be in the backfill along the north wall of the mechanic pit.
3. The highest concentration of gear oil detected during the initial site investigation was in Boring B-3, near the east hose reel alcove.

Based on the sampling results from the December 18, 2020, and May 25, 2021, field events, AE completed 10 additional borings inside the truck shop on January 16-17, 2023. Borings B10 through B-19 were in the area of the mechanic pit to focus on delineating the contamination documented in this area. Accordingly, Borings B10 through B-16 were in two parallel rows north of the mechanic pit, while Borings B17 through B-19 were in a row between the south side of the pit and the I-beam columns supporting the truck shop roof (Figure 3). Note that the roof columns were the de facto southern boundary for any soil removal action due to 1) foundation stability requirements within the excavation, and 2) City of Portland permitting limitations for the use of temporary structural bracing to remove a roof column to accommodate soil excavation between the middle and south truck bays.

5.1.1 Sampling Methods

Before beginning each drilling event discussed below, the proposed boring locations were cleared for drilling. This included a request to the Oregon Utility Notification Center to identify utilities in public areas (e.g., road right-of-way, easements) prior to each drilling event. Further, a private utility locator was retained to ensure that all underground utilities were identified.

Soil sampling was performed with push-probe drilling rigs to collect continuous soil cores from the borings, which were logged. Boring logs are presented in Appendix A. Groundwater was sampled with a peristaltic pump from temporary 1-inch-diameter PVC well screens placed in the boreholes. Where sufficient ground-water flowed into the borehole, water was purged to clear up turbidity prior to sampling. Further details are described below.

December 18, 2020 – Soil Borings B-1 to B-6

During the first drilling event, six boring locations were completed for soil and ground-water sampling. Five boring locations were inside the truck shop and a sixth boring was located outside, approximately 25 feet west of the southwest corner of the truck shop (Figure 3). The indoor boring locations were arranged near the four exterior walls and the fifth was off centered to be near the east hose reel alcove where gear oil reportedly entered the mechanic pit through penetrations and cracks in the concrete. Stratus Corporation (Stratus) completed six push-probe borings to a depth of either 10 ft bgs or 15 ft bgs using a track-mounted Geoprobe 7822DT. The depth of each boring was dependent upon the observations made as the continuous cores were collected and logged. Boring logs are presented in Appendix A.

One soil sample each was collected from Borings B-1 and B-6, while two samples each were collected from Borings B-2 through B-5. The sample nomenclature indicates the boring number (e.g., B-1) followed by the depth in feet of the sample in the boring (e.g., 9-10); in this example, the full sample identification is B-1-9-10. Soil samples were collected based on basic field observations, including visual appearance, odor, and sheen test. Where these field observations did not clearly identify a section of the soil core for sampling, other factors were taken into consideration, such as apparent moisture content.

Ground-water sampling was attempted in all six boreholes by installing temporary well screens, which was successful in Borings B-2 through B-6. No groundwater accumulated in Boring B-1.

May 25, 2021 – Soil Borings B-7 to B-9

The second drilling event included completion of three soil borings in the asphalt-covered parking area along the south side of the office building located adjacent to the truck shop. Borings B-7, B-8, and B-9 were arranged parallel to the office building (Figure 3) to collect and screen samples for indications of gear oil contamination from the truck shop. Stratus used a track-mounted Geoprobe 7822DT to complete the borings to 15 ft bgs; the continuous core samples were collected and logged. Temporary wells were successfully installed in all three boreholes to collect reconnaissance ground-water samples.

Two soil samples were collected from each of the three borings and identified using the same nomenclature applied to the previous soil samples. Field observations were again used to select sections of soil cores for laboratory analyses. As none of the soil cores exhibited the distinctive gear oil odor or any other field indication of a petroleum hydrocarbon, other observations, including soil type, color, and apparent moisture content, were used to select core sections for sampling.

January 16-17, 2023 – Soil Borings B-10 to B-19

Cascade Environmental (Cascade) was subcontracted for completion of ten soil borings inside the truck shop. As noted above, the objective of this field event was to further delineate the gear oil release for the soil removal action planned for the mechanic pit area. The Cascade drilling crew used a handheld drill with a hole saw to core through the concrete floor at each boring location, which was approximately 5½ inches thick. A track-mounted Geoprobe 7720DT89 was used to complete Borings B-10 through B-19 to a depth of 15 feet below the upper surface of the truck shop floor. Continuous soil cores were collected and logged from each boring. In addition, temporary wells were installed in five of the boreholes to collect reconnaissance ground-water samples, including Borings B-10, B-15, B-17, B-18, and B-19.

For each of the ten borings, two soil samples were collected and identified using the same nomenclature as prior boring samples. Field observations of visual appearance (e.g., staining), odor, and sheen test were employed to select soil samples from the cores. Also, based on observations from the December 18, 2020, sampling event, the apparent moisture content of soil beneath the truck shop was recognized to be elevated in two thin seams, typically having more sand content, within the overall silt and clay soils in which the mechanic pit was constructed. Accordingly, many of the soil samples were collected within these seams at approximately 5-6 ft bgs and 10-11 ft bgs.

July 12, 2024 – Soil Borings B-20 to B-23

Cascade was subcontracted for completion of four additional soil borings inside the truck shop. The objective of this field event was to further delineate the RRO following the focused soil removal action in the mechanic pit area, and to address data gaps with regards to the characterization of soil and groundwater. The Cascade drilling crew used a handheld drill with a hole saw to core through the concrete floor at each boring location. A track-mounted Geoprobe 7720DT89 was used to complete Borings B-20 through B-23 to a depth of 15 feet below the upper surface of the truck shop floor. Continuous soil cores were collected and logged from each boring. In addition, temporary wells were installed in all four boreholes to collect reconnaissance ground-water samples.

For each of the four borings, one soil sample was collected and identified using the same nomenclature as prior boring samples. Field observations of visual appearance (e.g., staining), odor, and sheen test were employed to select soil samples from the cores. As with the prior testing, soil sampling targeted apparent groundwater seepage seams observed at approximately 10-11 ft bgs.

5.2 Analytical Methods

The following analyses were performed on soil and groundwater samples:

Table 5.1. Analytical Methods

Analytical Parameter	Analytical Method
Total Petroleum Hydrocarbons (TPH), quantified as diesel-range and heavy oil (residual)-range organics (DRO and RRO, respectively)	Method NWTPH-Dx, with acid/silica gel cleanup
TPH, quantified as gasoline-range organics (GRO)	Method NWTPH-Gx
GRO-related volatile constituents	EPA Method 8260
Extractable Petroleum Hydrocarbons (EPH) Volatile Petroleum Hydrocarbons (VPH)	Volatile Petroleum Hydrocarbons by NWVPH Extractable Petroleum Hydrocarbons by NWEPH
Semi volatile Organic Compounds (SVOCs), including Polynuclear Aromatic Compounds (PAHs)	EPA Method 8270E

The sampling and analysis protocol for each sampling event is summarized by the table below, which illustrates a focus on DRO, RRO, and PAHs to delineate the gear oil release in soil and groundwater:

Table 5.2. Analytical Matrix

Sampling Event	Sample		Laboratory Analysis				
	Water	Soil	RRO and DRO	GRO	GRO-related VOCs	PAHs	EPH and VPH
December 18, 2020: Borings B-1 to B-6	X	X	X			X	
May 25, 2021: Borings B-7 to B-9	X	X	X			X	
January 16-17, 2023: Borings B-10 to B-19	X	X	X			X	X
March 3, 2023: Grab samples G-1 to G-8		X	X			X	
July 12, 2024: Borings B-20 to B-23	X	X	X	X	X	X	

All soil and groundwater samples collected from Borings B-1 through B-23 were analyzed for DRO and RRO. The TPH samples were prepared using a silica gel cleanup to mitigate the potential detection of natural organic matter (e.g., humic acids) in the soil. Soil and groundwater samples collected from Borings B-20 through B-23 were additionally analyzed for GRO and related VOCs.

Those soil samples from the first sampling event (December 18, 2020), specifically Borings B-1 through B-6, with detectable TPH concentrations were also analyzed for select SVOCs, particularly PAHs that may be present in petroleum-based oil contamination. As no SVOCs, other than limited PAHs at low concentrations, were detected during the first sampling event, the follow-up analytical protocol was limited to PAHs (i.e., not the full SVOC suite) for groundwater samples with TPH detection in the second sampling event (May 25, 2021) from Borings B-7 through B-9.

In preparation for the soil removal action, all soil samples from the third sampling event (January 16-17, 2023) were analyzed for DRO and RRO, with supporting EPH and VPH analyses, and select SVOCs, particularly PAHs, to further assess the gear oil release in the area around the mechanic pit. This approach was developed during an online meeting with DEQ personnel on October 3, 2022, regarding the general site conditions and the soil and groundwater investigations performed up to that time. DEQ personnel suggested that development of site-specific RBCs for gear oil may be necessary since the DEQ’s generic TPH RBCs for RRO were specific for mineral oil. The analytical protocol was expanded to support development of site-specific RBCs for gear oil.

5.2.1 Quality Assurance / Quality Control

As the Work Plan indicates, AE has subcontracted laboratory work to Apex Laboratories. Apex conducts necessary quality assurance (QA) and quality control (QC) calculations that are summarized in the final

laboratory reports. When lab reports are received, AE reviews them to ensure they are of acceptable quality. This assessment includes reviewing sampling dates, hold time, laboratory duplicates, laboratory control samples, method blanks, matrix spikes and reporting limits. For this project, no significant exceptions or anomalies were noted in the laboratory reports

5.3 Findings

Analytical results for soil and reconnaissance groundwater samples collected for site characterization are presented in Tables 1 and 2. Complete laboratory reports for the first and second sampling events (December 18, 2020, and May 25, 2021) were provided as attachments to the report entitled Truck Shop Environmental Investigation,¹² which was previously presented to DEQ as an appendix to the Truck Shop Removal Action Work Plan.¹³ Appendix C of this current report provides the complete laboratory reports for the third and four sampling events (January 16-17, 2023 and July 12, 2024).

5.3.1 Soil

Soil samples collected during the first and second sampling events indicated gear oil (RRO) impacts in Borings B-3, B-5, and B-9, as well as PAH detections in borings B-5 and B-9 (Table 1). During the third sampling event, RRO impacts were found in borings B-15, B-18, and B-19, while PAHs were found in boring B-13, B-14, and B-19 (Table 1).

Borings B-3, B-15, B-18, B-19 and B-20 are in the general area where the gear oil piping is believed to have leaked. As shown on Figure 4, the highest concentrations of gear oil are at a depth of 5-6 ft bgs in these four borings, with the greatest concentrations in borings B-3 and B-19 at 6,430 milligrams/kilogram (mg/kg) and 15,200 mg/kg, respectively. Samples collected at depths of 8-11 ft bgs have substantially lower concentrations of RRO in borings B-3, B-19 and B-20 relative to their respective shallower samples (5-6 ft bgs), suggesting attenuation with depth in this area, while borings B-15 and B-18 are non-detect for gear oil at 10-11 ft bgs. Borings B-5, B-21, B-22 and B-23 are located downgradient and boring B-5 is non-detect for RRO at 7-8 ft bgs; however, it has a concentration of 1,870 mg/kg at 10.5-11.5 ft bgs, suggesting minimal lateral attenuation from boring B-19 at the same depth. However, borings B-21, B-22, and B-23 are all non-detected for RRO, suggesting that the detection at boring B-5 may be an anomaly and that lateral down-gradient migration from the release area is minimal.

Very low concentrations of PAHs were found at Borings B-9, B-13, B-14, and B-22. There appear to be two different areas of PAHs beneath the truck shop. The PAHs in boring B-9 south of the office are below screening level values. There are no suggestions of high level of impact, or a secondary release. This data could be related to the previously decommissioned UST located south of the office building (see Figure 3) or fill historically placed in the area.

¹² AE. May 24, 2022. Market Transport Terminal, Truck Shop Environmental Investigation, July 6, 2021; Revision 1.

¹³ AE. November 23, 2022. Market Transport Terminal, Truck Shop Removal Action Work Plan, Final Revision 0, (signed and stamped March 15, 2023).

Soil samples collected from approximately 10-11-foot depth in borings B-20 through B-23 were also analyzed for GRO and GRO-related VOCs. GRO and related VOCs were not detected at any of these locations.

5.3.2 Reconnaissance Groundwater

Groundwater was observed in Borings B-2 through B-6, but no water was available for sampling in B-1. When sufficient groundwater flowed into the borehole, water was purged from a temporary well to clear up turbidity prior to sampling. This was possible to some degree in Borings B-2, B-3, and B-5, while borings B-4 and B-6 were slow to yield groundwater. Boring B-4 was monitored for nearly an hour, and it produced only one liter of water, which was much less than the four liters requested by the lab for the contaminant analyses.

During the first sampling event (December 18, 2020), groundwater from Borings B-3 and B-5 was found to include RRO detections [1,860 micrograms per liter ($\mu\text{g/L}$) in B-3 and 169 $\mu\text{g/L}$ in B-5]. DRO was detected in Boring B-3 at 236 $\mu\text{g/L}$, which was the only confirmed detection of DRO in any of the reconnaissance groundwater samples from all three sampling events. The DRO detection was attributed to the confirmed release addressed by the conditional NFA for the diesel UST.⁷

The groundwater yield from Borings B-7 through B-9 during the second sampling event (May 25, 2021) was substantially greater than in Borings B-1 through B-6. Within minutes of collecting the soil cores from B-7, B-8, and B-9, water accumulated in the boreholes to static water levels of 2.46 ft bgs, 2.8 ft bgs, and 2.8 ft bgs, respectively. The difference between the depth of first observed groundwater and the static depth of water following equilibration suggests that groundwater in this area is under confining pressure. A temporary well screen was placed in each borehole and water was purged with a peristaltic pump to clear turbidity prior to sampling. Each well was sampled at a low-flow rate and yielded four liters of groundwater within several minutes of pumping. There were no detections of DRO or RRO in any of these borings.

The completion of ten borings during the third sampling event (January 16-17, 2023) including groundwater sampling from five of them, including Borings B-10, B-15, and B-17 through B-19. As with the other sampling events, a temporary well screen was placed in each boring and water was purged with a peristaltic pump to clear turbidity before sampling. Only B-15 had a detection of RRO (673 $\mu\text{g/L}$). No RRO was detected in the reconnaissance ground-water sample from Boring B-19, even though it had the highest concentration of RRO in soil samples from all sampling events. There was also no DRO detected in any of the reconnaissance groundwater samples collected during the third sampling event.

Four additional borings (B-20 through B-23) were completed following the focused soil removal action, as a fourth sampling event (July 12, 2024) with reconnaissance groundwater sampling from each of them. A temporary well screen was placed in each boring, and water was purged with a peristaltic pump to clear turbidity before sampling. RRO was not detected in any of these borings, including boring B-20, which was sited near the suspected release location. DRO was detected in three of the four borings, with the greatest concentration at boring B-20 (291 $\mu\text{g/L}$), again sited near the suspected release area. Reconnaissance groundwater samples collected from borings B-20 through B-23 were also analyzed for GRO and GRO-related VOCs. GRO and related VOCs were not detected at any of these locations.

6.0 Removal Action

The site investigation ultimately supported remediation under OAR 340-122-0070, Removal Action Authority. The removal action included the demolition and removal of the former mechanic pit and limited area of concrete floor in the center bay of the truck shop, the removal of gear oil-impacted soil and gravel base beneath the pit, and the construction of a new mechanic pit. Tricter Rig, LLC was contracted to perform the environmental remediation and reconstruction. Work commenced in later March 2023. The remediation and reconstruction were largely completed by May 19, 2023. A photographic log of this work, as well as other aspects of this project, is included as Appendix B.

6.1 Preparatory Activities for the Soil Removal Action

6.1.1 Property Access

AE coordinated with the property owner, Wilson Logistics, regarding access to the truck shop area during site investigation activities, remediation planning site visits, and the soil removal action. During the soil removal action, no truck maintenance activities were allowed in the truck shop. Accordingly, Wilson moved the truck shop equipment and operations to the on-site trailer shop during the demolition, excavation, and construction activities.

6.1.2 Subcontractor Procurement

AE subcontracted for geotechnical and structural engineering support, private utility location, construction, and analytical laboratory services required to complete the soil removal action. AE has long-standing professional services agreements with Strata Design, LLC (Strata) for geotechnical engineering support and Kramer Gehlen & Associates, Inc. (KGA) for structural engineering support. Typically, Alpha Locates or Locates Down Under, Inc. were subcontracted to clear the truck shop area for utilities and piping. Construction services were solicited from a short-list of environmental contractors, including Tricter Rig, which had recent on-site experience during installation of the new stormwater system at the terminal and was awarded the removal action project. Analytical laboratory services were provided by Apex Laboratories, LLC of Tigard, Oregon, an Oregon-certified analytical laboratory, for all soil and groundwater samples collected during the site investigation and verification sampling.

6.1.3 Underground Utility Location

Public underground utilities were located and marked prior to the soil removal action. This included contacting the Oregon Utility Notification Center, which in turn notified the various utilities in the area to mark any underground installations.

6.1.4 Site Health and Safety Plan

A site-specific health and safety plan (HASP) was prepared for the soil removal action in general accordance with the Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) requirements at 29 CFR 1910.120. A copy of the HASP was maintained on site during the soil removal activities.

6.1.5 Supporting Engineering Activities

AE engaged Strata and KGA for geotechnical and structural engineering support needed to prepare the work plan, to address the City of Portland permitting requirements, and prepare the details necessary for a bid package for contractors. Strata conducted a geotechnical assessment of the bearing capacity of the soils and provided recommendations for concrete replacement, which was provided to KGA for structural engineering. KGA assessed the footing, foundation, and roof support required during the soil removal action, which established the preliminary sequencing for soil removal. KGA also prepared the structural design for the replacement floor and mechanic pit to access the gear oil-contaminated soil.

KGA prepared shoring calculations and a drawing set for temporary steel framing to support the roof to allow the removal of an interior column during soil excavation. However, during the City of Portland Bureau of Development Services (BDS) building permit review, it was determined that the office building adjacent to the south side of the truck shop is structurally tied to the shop building. The BDS indicated that the structural connection between the office building and truck shop presented life safety concerns regarding the office building employees, who would not be allowed to work in their office space if temporary structural changes were made to facilitate the soil removal in the truck shop.

Consequently, the soil removal action was limited to the center bay area of the truck shop (Figure 5), which mitigated the BDS's life safety concerns for the adjoining office building. KGA revised the structural design set, including removing temporary steel framing for roof support and resulting reduced excavation area. In addition, Strata prepared a response to the BDS request for supplemental information regarding subsurface conditions and construction recommendations that were incorporated in the updated structural design. The project was permitted under BDS building permit 22-163791-CO (December 12, 2022).

6.2 Overview of the Soil Removal

Since the contaminated soil was beneath the floor of the truck shop in the mechanic pit area, soil removal was focused on the center bay area and accessible areas. The soil removal action required removal of the mechanic pit and strips of concrete floor along the north and south sides and at each end of the pit prior to soil removal. The area adjacent to the north side of the pit was initially thought to be the source area for the release from the gear oil supply line due to the location of the hose reel alcoves along the north wall of the pit, as well as the elevated concentration of gear oil detected in Boring B-3 during the first sampling event (December 18, 2020). For that reason, the area originally proposed for excavation on the north side of the pit was larger in area. Following the completion of Borings B-10, B-11, and B-12 during the third sampling event (January 16-17, 2023), the laboratory results indicated gear oil was not present at these locations and the area proposed for the soil removal was consequently reduced in size (Figure 5).

Tricter Rig staged on-site ahead of the demolition, including placement of their construction trailer in the south bay of the truck shop, preparation of the north bay as the drive-through load-out area for excavated soil and concrete, and delivery of trackhoes, as well as portable Baker tanks for storage of pit water pumped from the excavation.

The concrete floor was saw-cut and then broken out with a trackhoe to limit construction worker contact with potentially contaminated soil. Soil was first excavated along the north side of the mechanic pit. This excavation intersected the uppermost groundwater seam at approximately the depth of the base of the

mechanic pit. Additional groundwater seepage into the pit was observed from the gravel backfill in the oil piping trench to the east hose reel alcove. A pump was placed in a low spot in the excavation to collect and transfer pit water to the Baker tanks. During the initial collection of groundwater seepage, gear oil could be seen clouding the water in the excavation (see photographic logs, Appendix B).

The mechanic pit was constructed with rebar-reinforced concrete and generally required breaking it up with a trackhoe-mounted jackhammer or cutting the rebar with a handheld circular saw. Where readily possible, the rebar was separated from the concrete and collected for recycling.

As the demolition of the mechanic pit progressed, the removal of the first section of pit floor revealed that the gravel subgrade beneath the slab floor was coated with gear oil (phase separated product), which had blackened with age (see photographic logs, Appendix B). In addition, it was confirmed that lubricant transfer tubing was installed beneath the pit floor and may have been a source of the gear oil release (see photographic logs, Appendix B). Gear oil-stained subgrade gravel was observed in the along the entire length of the removed mechanic pit slab floor.

Upon removal of the mechanic pit, a section of concrete floor was saw-cut near the roof column by Boring B-19 and removed to probe to determine the footing dimensions for the column. The footing was estimated to be approximately 12 inches by 12 inches, and it extended about 6-8 inches below the base of the concrete floor and therefore prevented further removal of the concrete floor and soil along the south side of the excavation.

Tricter Rig continued the removal of impacted subgrade gravel and underlying soil in exposed areas of the mechanic pit, including the gravel base and underlying soil. Approximately 195 tons of petroleum-impacted concrete, subgrade gravel, and soil were trucked off-site for disposal at the Wasco County Landfill; the soil disposal tickets are provided in Appendix D. The final depth was essentially controlled by the 1:1 slope maintained along the north wall of the excavation (Figure 4).

During the soil removal and the reconstruction of the mechanic pit, the groundwater seepage was pumped to the Baker tanks. AE collected water samples from the Baker tanks for laboratory analyses; the lab reports are provided in Appendix E. AE applied to the City of Portland to dispose of the seepage water at a sanitary sewer vault located southeast of the truck shop. This application was eventually approved, but not before nearly 20,000 gallons of groundwater seepage was trucked off-site for disposal; the haul tickets are presented in Appendix E. Subsequently, approximately 50,500 gallons of seepage was collected in the Baker tanks and then discharged through a flowmeter and hoses to the sanitary sewer vault for treatment at a City wastewater plant. The City of Portland Permit and monthly reports are presented in Appendix E.

Upon completion of the soil removal, AE collected confirmation soil samples from the excavation margins (see Section 6.3. Following the collection of soil confirmation samples, Tricter Rig installed a geonet for structural reinforcement in the bottom of the excavation and placed a gravel base on it for the subsequent reconstruction of the mechanic pit. Tricter Rig subcontracted the concrete work to rebuild the mechanic pit and the concrete floor; note that the mechanic pit was extended 3 feet at each end per Wilson's request to provide safer access. No soil backfill was placed in the excavation around the mechanic pit. Due to limited access for compaction activities, the south wall of the pit was poured between the inner wall form and the soil wall, which created an extra-thick wall. A controlled density fill (CDF) mix was poured as backfill along the north side and both ends of the mechanic pit. The final floor matched the

existing truck shop floor elevation, and the steps, railings, and oil pan trolley rails were installed to bring the mechanic pit into service. See photographic logs in Appendix B for photos of restoration activities.

6.3 Verification Sampling

During the soil removal action, gear oil was observed in the gravel base beneath the entire length of the former mechanic pit. Upon completion of the impacted subgrade gravel but prior to rebuilding the concrete pit, a sampling grid for the confirmation sample locations was established along the full length of the former mechanic pit gravel base, which had been excavated and transported off-site for disposal. Based on professional judgment, confirmatory soil samples G1-G8 were collected from the soil that was below the excavated pit gravel base (Figure 5) rather than randomly assigning a sample location within each grid. The sample locations were established to be approximately equidistant from each other on the final elevation of the excavation bottom; no further excavation could be performed due to stability requirements for excavation slopes. Due to safety considerations, no samples were collected from the sloped wall along the north side of the excavation. The soil samples were provided to the laboratory for analysis on the same day as their collection.

The laboratory report for the verification sampling is presented in Appendix F. The analytical results and sample depths below the truck shop floor are summarized in Table 1.

7.0 Current Known Extent of Impacts

RRO was detected beneath and adjacent to the mechanic pit, as indicated in the summary analytical results in Tables 1-2 and supporting illustrations in Figures 5 and 6. Minor detections of DRO and PAHs suggested that residual DRO contamination from the diesel UST cleanup (north of the shop) in the early 1990s is likely comingling with the release of gear oil in some locations beneath the truck shop floor.

7.1 Current Known Extent of Impacts

Prior environmental investigations were designed to delineate the nature and extent of the petroleum contamination beneath the truck shop to support both a focused removal action, as well as to define nature and extent. The gear oil release does not appear to have moved beyond the footprint of the truck shop and adjoining office building. The greatest concentration of contamination appeared to be located beneath the central area of the truck shop, as indicated by the soil sampling results at Borings B-3, B-15, B-18, B-19 and B-20 along the mechanic pit, as well as reconnaissance groundwater sampling results at B-3 and B-15. The contamination decreases toward the south side of the truck shop, as evidenced by the analytical results for soil and reconnaissance groundwater collected at Borings B-5, and B-21 through B-23. The subsequent sampling results from Borings B-7, B-8, and B-9 demonstrated the gear oil release does not extend beyond the overall building footprint for the truck shop and office area. Accordingly, it is anticipated that the southern extent of the RRO in soil and groundwater may be between the mechanic pit and the office building, as shown in Figure 6.

7.2 Media of Concern

Work completed has evaluated subsurface soil and groundwater for impacts related to historical site operations with the following results:

- **Surface soil** (up to 3 feet bgs). Following removal of impacted subgrade gravel and underling soil, no residual impacts were present in surface soil. Therefore, surface soil is not a media of concern.
- **Subsurface soil** (below 3 feet bgs) is identified as containing constituents of potential concern (COPCs) at concentrations above screening level RBCs (SLRBCs).
- **Groundwater** is identified as containing COPCs at concentrations above SLRBCs.

Therefore, subsurface soil and groundwater are identified as current media of concern. Tables 1 and 2 show a summary of soil and reconnaissance groundwater (respectively) analytical results. Sample locations are shown on Figures 3 and 5.

7.2.1 Land Use– Potential Receptors

The site is currently zoned IG2 by the City of Portland. According to the City of Portland, the IG2 zone will generally have larger lots and irregular or large block patterns. The area is less developed, with sites having medium and low building coverages which are usually set back from the street. Generally, the uses and character of this zone are oriented towards Industry, and with specific allowable uses including manufacturing, warehouse and freight movement, wholesale sales, industrial service, railroad yards, parks and open spaces. Therefore, future potential residents were not retained as a possible receptor.¹⁴

Construction workers may have contact with subsurface soil. Since subsurface soils are impacted in the depth range of some utility trenches and basement excavations, future excavation workers were retained as possible receptors.

Therefore, based on current and likely future land uses, potential current and future receptors at the site include occupational workers, construction workers, and excavation workers. It is assumed that these receptors are conservative with respect to consideration of the occasional site visitor.

7.2.2 Groundwater Use

A Beneficial Water Use Determination (BWUD) utilizes an inherent natural conditions approach to determine current and reasonably likely future beneficial uses of groundwater. The site and surrounding area are connected to the City of Portland municipal water supply. Thus, although residual COPCs are present in shallow groundwater exceeding SLRBCs, shallow groundwater in the area is not currently used for drinking water and it is unlikely that shallow groundwater will be developed for future beneficial uses. In addition, it is unlikely that residual COIs in groundwater will migrate to the Columbia River, based on delineation data that suggests the release is limited to the truck shop area. Based on a review of water wells located in Section 03 of Township 1S, Range 1E, deeper water bearing units are utilized for beneficial use. The closest wells are summarized below.

¹⁴ Portland Zoning. <https://www.portlandmaps.com/bps/zoning/#/zones/base/IG2>, accessed February 4, 2020.

- Well MULT 430 is reportedly located approximately 1000 feet north of the subject site. The well is reportedly used for domestic purposes, and draws water from a screen located between 109-114 feet bgs. This water-bearing zone is located beneath approximately 90-feet of clay and silt and is likely confined (see Appendix G for well log).
- Well MULT 925 is located approximately 1 miles west-southwest of the subject site. The well is reportedly used for domestic and irrigation purposes, and draws water from a screen located 161 to 171-feet bgs. This water-bearing zone is located beneath approximately 40-feet of clay and silt and is likely confined (see Appendix G for well log).

Therefore, based on current and likely future shallow groundwater use, the shallow groundwater resource underlying the subject site does not have a current or likely future beneficial use.

8.0 Residual Risk Assessment

A residual risk assessment was completed to evaluate risk at the site. As described in Section 7, subsurface soil and groundwater were identified as media of potential concern.

8.1 Locality of the Facility

DEQ defines the locality of the facility (LOF) as:

“any point where a human or ecological receptor contacts or is reasonably likely to come into contact with facility-related hazardous substances...’, taking into account the nature of the contaminant, contaminant migration, human and biological activity, and time.” (quoting OAR 340-122-0115(35)).

The LOF considers the likelihood of the contamination migrating over time and may be larger than the facility’s property boundaries. The LOF described in this section incorporates information on the local topography and hydrogeology and known information on facility-related impacts, as they are understood currently. Based on this, the LOF is conservatively defined as:

- The southern subject site boundary.
- The north, east and west margins of the shop building.

8.2 Identification of Constituents of Interest

Based on the observation of gear oil in the mechanic pit, RRO was the primary constituent of interest (COI) during the site investigation. Also, the NFA determination in May 1992 recognized a pocket of DRO-impacted soil and groundwater beneath the fueling center structure that required consideration of the possibility of residual diesel-range contamination beneath the truck shop floor. Accordingly, both DRO and PAHs were added to the list of COIs.

8.3 Identification of Constituents of Potential Concern

An initial screening of COIs was performed by comparing the maximum detected concentration of each COI to SLRBCs. If the concentration of a detected constituent exceeds the listed screening level, then the constituent is considered a COPC (constituent of potential concern) in that medium and is retained for further evaluation. Note that in accord with DEQ guidance, a “non-detect” will be considered acceptable proof that the contaminant is not present, as long as commonly achievable analytical method detection limits are met by DEQ-approved analytical methods.

8.3.1 Subsurface Soil

Subsurface soil sample analytical results from previous investigations were screened in Table 1 (following Tables tab after text). Based on this initial screening, the following COPCs in subsurface soil were identified:

- Naphthalene
- DRO
- RRO

RRO initially was screened against a generic SLRBC for mineral oil.

8.3.2 Groundwater

Reconnaissance groundwater sample analytical results were screened in Table 2 (following Tables tab after text). Based on this initial screening, the following COPCs in groundwater were identified:

- DRO
- RRO

8.3.3 Air

Reconnaissance samples from groundwater and air were screened for volatiles. No volatile COPCs are present in the groundwater or soil. Further, gear oil has a very low vapor pressure and does not readily volatilize. The new mechanic's pit and concrete from the remedial action are significantly impervious to vapors. The shop bay doors are frequently open and provide significant air exchange within the building when occupied.

8.4 Conceptual Site Model

An exposure pathway is the course a constituent takes from a source to an exposed population. Exposure pathways include four elements:

- (1) the source of contamination,
- (2) the means by which a constituent will be released, retained, or travel in a given medium (e.g., air or groundwater),
- (3) a point of potential contact with a receptor, and
- (4) the means by which contact will occur (e.g., inhalation, ingestion).

If any of these elements are missing, the pathway is considered incomplete. Table 8-1 presents a summary of the pathway analysis for human receptors.

Table 8-1. Summary of Pathway Analysis for Human Receptors

Potentially Exposed Population	Exposure Route, Medium and Exposure Point	Pathway Considered	Reason for Selection or Exclusion
Surface Soil (< 3 feet bgs)			
Current/Future Occupational Worker	Soil ingestion, dermal contact, and Inhalation	YES	Surface soil beneath the shop floor contains COPCs at depths an occupational worker may encounter.
	Leaching to groundwater, followed by direct ingestion	No	Groundwater in locality of facility not in use for drinking water
Current/Future Construction Worker/ Excavation Worker	Direct ingestion, inhalation of volatiles and dermal contact with soil	YES	Surface soil contains COPCS at depths a future construction worker and/or excavation worker may encounter.
Subsurface Soil (> 3 feet bgs)			
Current/Future Occupational Worker	Soil ingestion, dermal contact, and Inhalation	No	While subsurface soil contains COPCs, this media is at a depth greater than what an occupational worker is likely to encounter
	Leaching to groundwater, followed by direct ingestion	No	Groundwater in locality of facility not in use for drinking water
Current/Future Construction Worker/ Excavation Worker	Direct ingestion, inhalation of volatiles and dermal contact with soil	YES	Subsurface soil contains COPCS at depths a construction worker and/or excavation worker may encounter.
Groundwater			
Current/Future Occupational Worker	Ingestion, and Inhalation from tap water	No	Groundwater in locality of facility not in use for drinking water
	Inhalation of volatiles	No	No volatile COPCs are present in groundwater.
Current/Future Construction Worker	GW in an excavation	YES	Groundwater impacts are within a what a construction worker is likely to encounter
Current/Future Excavation Worker		YES	Future construction and/or excavation workers may encounter groundwater at depths found at the subject site, and groundwater contains COPCs.

Based on the above discussion, a conceptual site model has been developed for the site, depicting all exposure pathways evaluated and retained for evaluation of human health risk. The conceptual site model is presented in Figure 7.

8.5 Calculation of Site-Specific RBCs for Geal Oil RRO

As allowed by DEQ guidance, site-specific RBCs were calculated using DEQ’s Calculation Noncarcinogenic RBCs for Total Petroleum Hydrocarbons spreadsheet, version RBCsTPH11a. For this calculation, soil data from sample B20-10-12 that was analyzed using methods Extractable Petroleum Hydrocarbons (by NWEPH) and Volatile Petroleum Hydrocarbons (by NWVPH) as inputted into DEQ spreadsheet, which generated site-specific RBCs for RRO based on a four-phase model. The output of this model is saved in Appendix H. These site-specific RBCs were then entered for applicable paths in Table 3 and 4 for further evaluation of potential risk (see Section 8.5).

8.6 Further Evaluation of COPCs

Each COI was further evaluated by comparing the maximum detected concentration (MDC). In accord with DEQ guidance, a “nondetect” will be considered acceptable proof that the contaminant is not present, as long as commonly achievable analytical method detection limits are met by DEQ-approved analytical methods.

8.6.1 Further Evaluation of Soil

Table 3 screens the COPCs in soil by comparing the MDC (naphthalene, DRO and RRO) for each COPC to the RBCs for applicable exposure pathways. Table 3 shows that no COPCs were retained as constituents of concern (COCs) in soil.

8.6.2 Further Evaluation of Groundwater

Table 4 screens the COPCs in groundwater by comparing the MDC for each COPC (DRO and RRO) to the RBC for applicable exposure pathways. Table 4 shows that no COPCs were retained as COCs in groundwater.

8.6.3 Risk Summary

This risk assessment identified no COCs in media of concern at the subject site.

8.7 Uncertainty Analysis

An uncertainty analysis is a discussion of uncertainties in risk estimates and their impacts in terms of underestimating or overestimating calculated potential risks.

There are inherent uncertainties in the risk characterization process. These uncertainties are associated with:

- The validity of adding risks or hazard quotients for multiple chemicals.
- The validity of adding risks or hazard quotients across pathways.
- Lack of reliable toxicological data.
- The validity of the critical underlying assumption in the dose-response model for carcinogens (linearized multistage model) that there is no threshold for carcinogenesis.
- The probability of adverse effects in a human population that is highly variable genetically and in age, activity level and lifestyle.

Uncertainty Based on Data Gaps. A sampling program was developed to target areas of likely impact, based on historical site uses and reported observations of product seepage. Therefore, samples were not collected from all areas of the subject site. It is also not practical to sample all areas of the site, given the inaccessibility of many of these areas due to the presence of site structures. However, since this justified sampling program targeted areas where impacts were likely present, the distribution of detected constituents is likely biased high. Therefore, the uncertainty in contaminant distribution would not likely change the findings of this assessment.

Not all constituents that may be associated with RRO were tested in soil and groundwater samples collected as part of this cleanup since the release was known to be gear oil and was not related to a release

of used oil. Therefore, it was justified to limit consistent testing to petroleum-related VOCs and PAHs. Therefore, this is not considered a data gap.

8.8 Ecological Exposure Assessment

DEQ regulations (OAR 340-122-244(3)) generally do not require screening for potential ecological impact if the Site is devoid of ecologically important species and habitat and if the following conditions can be demonstrated:

1. Contaminated soils are only present at depths greater than 3 feet bgs, or, if present at a shallower depth, such soils cover an area no greater than 0.125 acre,
2. Surface water has not been affected by the release,
3. Contaminated groundwater does not, and is not, reasonably likely to discharge to surface waters or otherwise reach the surface in a manner that might result in contact with ecological receptors, and
4. Contaminated groundwater does not and is not reasonably likely to come into contact with aquatic sediments (OAR 340-122-0244(3)).

Use of the site for foraging is limited for all species given the industrial land use and presence of the shop building and associated hardscape, and therefore there is no available habitat on the site. No sensitive environments exist on the site. No wetlands, surface waters, or other sensitive environments are located on the site; however, a wetland area is located north of the site, across N Marine Drive. This area is well outside of the known extent of impacts to shallow groundwater beneath the Truck Shop building. Given the distance to this area from the current groundwater plume and given that the shallow groundwater area is capped by impervious structure, the potential for ecological impacts in this area is very low.

The lack of receptors strongly suggests ecological risks are unlikely due to site related COPCs in surface and subsurface soil and groundwater. Therefore, since conditions 1 through 4 listed above are true for the site, and given the distance to natural areas from areas of shallow impacts to groundwater, and the impervious surface of the site, it is concluded that further ecological screening is not warranted. See Appendix I for Ecological Risk Screening checklist for this project.

9.0 Conclusions and Recommendations

The objective of this report and environmental work conducted at the site is to support the receipt of a “No Further Action” determination for the site from DEQ. Previous environmental investigations reviewed and included in this report began in 1989. Numerous scopes of work were conducted that included site assessment and the eventual removal of 195 tons of petroleum impacted soil from beneath the mechanic pit which was properly disposed of offsite.

A residual risk assessment was completed to evaluate risk at the site. As previously described, surface soil, subsurface soil and groundwater were identified as media of concern. After completion of a conceptual site model, it was determined no drinking water groundwater exposure pathways were complete. Following an assessment of potential risk, no COCs were identified in any media of concern.

To ensure proper handling and management of residual impacted media beneath the shop floor, it is recommended a Contaminated Media Management Plan be prepared. This document provides guidance for proper management of both impacted soil and shallow groundwater during any future construction or excavation work at the site.

Based on the information presented herein, which:

- Demonstrates an understanding of the nature and extent of residual impacts for historical operations at the subject site, and
- Presents a residual risk assessment.

AE respectfully requests DEQ issue a “No Further Action” determination for the site.

10.0 Limitations

The conclusions of this report are based on information supplied by others as well as interpretations by qualified parties. The focus of this Assessment does not extend to the presence of the following conditions unless they were the express concerns of contacted personnel, report and literature authors or the work scope:

1. Naturally occurring toxic or hazardous substances in subsurface soils, geology and water,
2. Toxicity of substances common in current habitable environments, such as stored chemicals, products, building materials and consumables,
3. Contaminants or contaminant concentrations that are not a concern now but may be under future regulatory standards,
4. Unpredictable events that may occur after AE’s site visit, such as illegal dumping or accidental spillage.

There is no practice that is thorough enough to absolutely identify the presence of all hazardous substances that may be present at a given site. AE’s and ENW’s investigation has been focused only on the potential for contamination that was specifically identified in the scope of work (SOW). Therefore, if contamination other than that specifically mentioned is present and not identified as part of a limited SOW, AE’s and ENW’s environmental investigation shall not be construed as a guaranteed absence of such materials.

We have performed our services for this project in accordance with our agreement and understanding with the client. This document and the information contained herein have been prepared solely for the use of the client and his representatives.

AE and ENW performed this study under a limited scope of services per our agreement. It is possible, despite the use of reasonable care and interpretation, that Ae and ENW may have failed to identify regulation violations related to the presence of hazardous substances other than those specifically mentioned at the closure site. AE and ENW assume no responsibility for conditions that we did not specifically evaluate or conditions that were not generally recognized as environmentally unacceptable at the time this report was prepared.

INDEPENDENT CLEANUP PATHWAY FINAL REPORT
Market Transport Terminal Facility, Portland, Oregon

Table 1 - Summary of Analytical Data, Soil

Location ID		B-1	B-2		B-3	
Date Sampled		12/18/2020	5/25/2021	5/25/2021	5/25/2021	5/25/2021
Depth Sampled (feet)		9-10	7.5-8.5	12-13	5-6	8-9
Sampled By		Aquarius	Aquarius	Aquarius	Aquarius	Aquarius
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents						
Benzene	c, v	---	---	---	---	---
1,2-Dichlorobenzene	nc, v	---	---	---	<0.339 (ND)	<0.0719 (ND)
1,4-Dichlorobenzene	c, v	---	---	---	<0.339 (ND)	<0.0719 (ND)
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---
Naphthalene	c, v	---	---	---	<0.271 (ND)	<0.0575 (ND)
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---
Semivolatile Organic Constituents						
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	nc, v	---	---	---	<0.136 (ND)	<0.0288 (ND)
Anthracene	nc, v	---	---	---	<0.136 (ND)	<0.0288 (ND)
Benz[a]anthracene	c, v	---	---	---	<0.136 (ND)	<0.0288 (ND)
Benzo[a]pyrene (BaP equivalents)	c, nv	---	---	---	<0.204 (ND)	<0.0431 (ND)
Benzo[b]fluoranthene	c, nv	---	---	---	<0.204 (ND)	<0.0431 (ND)
Benzo[k]fluoranthene	c, nv	---	---	---	<0.204 (ND)	<0.0431 (ND)
Chrysene	c, nv	---	---	---	<0.136 (ND)	<0.0288 (ND)
Dibenz[a,h]anthracene	c, nv	---	---	---	<0.136 (ND)	<0.0288 (ND)
Fluoranthene	nc, nv	---	---	---	<0.136 (ND)	<0.0288 (ND)
Fluorene	nc, v	---	---	---	<0.136 (ND)	<0.0288 (ND)
Indeno[1,2,3-cd]pyrene	c, nv	---	---	---	<0.136 (ND)	<0.0288 (ND)
Pyrene	nc, v	---	---	---	<0.136 (ND)	<0.0288 (ND)
Total Petroleum Hydrocarbons						
Generic Gasoline (GRO)	nc, v	---	---	---	---	---
Generic Diesel / Heating Oil (DRO)	nc, v	<27.8 (ND)	<47.1 (ND)	<29.2 (ND)	<250 (ND)	<42.7 (ND)
Generic Mineral Insulating Oil (RRO)	nc, nv	<55.6 (ND)	<94.3 (ND)	<58.4 (ND)	6530	168

Notes:

- mg/Kg = milligram per kilogram or parts per million (ppm).
- <# (ND) = not detected at or above the laboratory method reporting limit shown.
- NE = not established.
- = not analyzed or not applicable.
- c = carcinogenic
- nc = noncarcinogenic
- v = volatile
- nv = nonvolatile
- GRO = gasoline-range organics.
- DRO = diesel-range organics.
- RRO = residual-range organics.

Shaded concentrations exceed screening level risk-based concentrations and background concentrations, as applicable.



¹ Lowest Risk-Based Concentration for soil (screening level assumes residential use, from ODEQ RBCs dated May 2018).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

j = The result is below method reporting limits. The value reported is an estimate.

Pink shaded cells in table indicate sampled location has been subsequently removed to appropriate waste disposal/recycling location and no longer represents current conditions.



Table 1 - Summary of Analytical Data, Soil

Location ID		B-4		B-5		B-6
Date Sampled		5/25/2021	5/25/2021	5/25/2021	5/25/2021	5/25/2021
Depth Sampled (feet)		5-6	8-9	7-8	10.5-11.5	12-13
Sampled By		Aquarius	Aquarius	Aquarius	Aquarius	Aquarius
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents						
Benzene	c, v	---	---	---	---	---
1,2-Dichlorobenzene	nc, v	---	---	---	<0.426 (ND)	---
1,4-Dichlorobenzene	c, v	---	---	---	<0.426 (ND)	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---
Naphthalene	c, v	---	---	---	<0.341 (ND)	---
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---
Semivolatile Organic Constituents						
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	nc, v	---	---	---	<0.171 (ND)	---
Anthracene	nc, v	---	---	---	<0.171 (ND)	---
Benz[a]anthracene	c, v	---	---	---	<0.171 (ND)	---
Benzo[a]pyrene (BaP equivalents)	c, nv	---	---	---	<0.256 (ND)	---
Benzo[b]fluoranthene	c, nv	---	---	---	<0.256 (ND)	---
Benzo[k]fluoranthene	c, nv	---	---	---	<0.256 (ND)	---
Chrysene	c, nv	---	---	---	<0.171 (ND)	---
Dibenz[a,h]anthracene	c, nv	---	---	---	<0.171 (ND)	---
Fluoranthene	nc, nv	---	---	---	<0.171 (ND)	---
Fluorene	nc, v	---	---	---	<0.171 (ND)	---
Indeno[1,2,3-cd]pyrene	c, nv	---	---	---	<0.171 (ND)	---
Pyrene	nc, v	---	---	---	<0.171 (ND)	---
Total Petroleum Hydrocarbons						
Generic Gasoline (GRO)	nc, v	---	---	---	---	---
Generic Diesel / Heating Oil (DRO)	nc, v	<27.8 (ND)	<33.3 (ND)	<41.9 (ND)	107	<29 (ND)
Generic Mineral Insulating Oil (RRO)	nc, nv	<55.7 (ND)	<66.6 (ND)	<83.8 (ND)	1870	<58 (ND)

Notes:

- mg/Kg = milligram per kilogram or parts per million (ppm).
- <# (ND) = not detected at or above the laboratory method reporting limit shown.
- NE = not established.
- = not analyzed or not applicable.
- c = carcinogenic
- nc = noncarcinogenic
- v = volatile
- nv = nonvolatile
- GRO = gasoline-range organics.
- DRO = diesel-range organics.
- RRO = residual-range organics.

Shaded concentrations exceed screening level risk-based concentrations and background concentrations, as applicable.



¹ Lowest Risk-Based Concentration for soil (screening level assumes residential use, from ODEQ RBCs dated May 2018).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

j = The result is below method reporting limits. The value reported is an estimate.

Pink shaded cells in table indicate sampled location has been subsequently removed to appropriate waste disposal/recycling location and no longer represents current conditions.



Table 1 - Summary of Analytical Data, Soil

Location ID		B-7		B-8		B-9	
Date Sampled		5/25/2021	5/25/2021	5/25/2021	5/25/2021	5/25/2021	5/25/2021
Depth Sampled (feet)		9.5-10.5	12-13	8-9	12-13	5-6	10-11
Sampled By		Aquarius	Aquarius	Aquarius	Aquarius	Aquarius	Aquarius
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents							
Benzene	c, v	---	---	---	---	---	---
1,2-Dichlorobenzene	nc, v	---	---	---	---	---	---
1,4-Dichlorobenzene	c, v	---	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---
Naphthalene	c, v	---	---	---	---	---	---
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---	---
Semivolatile Organic Constituents							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	nc, v	---	---	---	---	---	<0.0144 (ND)
Anthracene	nc, v	---	---	---	---	---	<0.0144 (ND)
Benz[a]anthracene	c, v	---	---	---	---	---	0.0148
Benzo[a]pyrene (BaP equivalents)	c, nv	---	---	---	---	---	<0.0144 (ND)
Benzo[b]fluoranthene	c, nv	---	---	---	---	---	<0.0144 (ND)
Benzo[k]fluoranthene	c, nv	---	---	---	---	---	<0.0144 (ND)
Chrysene	c, nv	---	---	---	---	---	0.0224
Dibenz[a,h]anthracene	c, nv	---	---	---	---	---	<0.0144 (ND)
Fluoranthene	nc, nv	---	---	---	---	---	0.0491
Fluorene	nc, v	---	---	---	---	---	<0.0144 (ND)
Indeno[1,2,3-cd]pyrene	c, nv	---	---	---	---	---	<0.0144 (ND)
Pyrene	nc, v	---	---	---	---	---	0.0393
Total Petroleum Hydrocarbons							
Generic Gasoline (GRO)	nc, v	---	---	---	---	---	---
Generic Diesel / Heating Oil (DRO)	nc, v	<31.2 (ND)	<27.8 (ND)	<53.6 (ND)	<28.8 (ND)	<29.3 (ND)	<28.3 (ND)
Generic Mineral Insulating Oil (RRO)	nc, nv	<62.4 (ND)	<55.7 (ND)	<107 (ND)	<57.7 (ND)	<58.5 (ND)	299

Notes:
 mg/Kg = milligram per kilogram or parts per million (ppm).
 <# (ND) = not detected at or above the laboratory method reporting limit shown.
 NE = not established.
 — = not analyzed or not applicable.
 c = carcinogenic
 nc = noncarcinogenic
 v = volatile
 nv = nonvolatile
 GRO = gasoline-range organics.
 DRO = diesel-range organics.
 RRO = residual-range organics.

Shaded concentrations exceed screening level risk-based concentrations and background concentrations, as applicable.



¹ Lowest Risk-Based Concentration for soil (screening level assumes residential use, from ODEQ RBCs dated May 2018).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

j = The result is below method reporting limits. The value reported is an estimate.

Pink shaded cells in table indicate sampled location has been subsequently removed to appropriate waste disposal/recycling location and no longer represents current conditions.



Table 1 - Summary of Analytical Data, Soil

Location ID		B-10		B-11		B-12	
Date Sampled		1/16/2023	1/16/2023	1/16/2023	1/16/2023	1/17/2023	1/17/2023
Depth Sampled (feet)		6-7	9.5-10.5	5-6	10-11	5.5-6.5	10-11
Sampled By		Aquarius	Aquarius	Aquarius	Aquarius	Aquarius	Aquarius
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents							
Benzene	c, v	---	---	---	---	---	---
1,2-Dichlorobenzene	nc, v	---	---	---	---	---	---
1,4-Dichlorobenzene	c, v	---	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---
Naphthalene	c, v	---	<0.032 (ND)	<0.00798 (ND)	<0.00783 (ND)	<0.00784 (ND)	<0.00837 (ND)
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---	---
Semivolatile Organic Constituents							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	nc, v	<0.00399 (ND)	<0.016 (ND)	<0.004 (ND)	<0.00392 (ND)	<0.00393 (ND)	<0.00419 (ND)
Anthracene	nc, v	<0.00399 (ND)	<0.016 (ND)	<0.004 (ND)	<0.00392 (ND)	<0.00393 (ND)	<0.00419 (ND)
Benz[a]anthracene	c, v	<0.00399 (ND)	<0.016 (ND)	<0.004 (ND)	<0.00392 (ND)	<0.00393 (ND)	<0.00419 (ND)
Benzo[a]pyrene (BaP equivalents)	c, nv	<0.00598 (ND)	<0.024 (ND)	<0.00599 (ND)	<0.00587 (ND)	<0.00589 (ND)	<0.00628 (ND)
Benzo[b]fluoranthene	c, nv	<0.00598 (ND)	<0.024 (ND)	<0.00599 (ND)	<0.00587 (ND)	<0.00589 (ND)	<0.00628 (ND)
Benzo[k]fluoranthene	c, nv	<0.00598 (ND)	<0.024 (ND)	<0.00599 (ND)	<0.00587 (ND)	<0.00589 (ND)	<0.00628 (ND)
Chrysene	c, nv	<0.00399 (ND)	<0.016 (ND)	<0.004 (ND)	<0.00392 (ND)	<0.00393 (ND)	<0.00419 (ND)
Dibenz[a,h]anthracene	c, nv	<0.00399 (ND)	<0.016 (ND)	<0.004 (ND)	<0.00392 (ND)	<0.00393 (ND)	<0.00419 (ND)
Fluoranthene	nc, nv	<0.00399 (ND)	<0.016 (ND)	<0.004 (ND)	<0.00392 (ND)	<0.00393 (ND)	<0.00419 (ND)
Fluorene	nc, v	<0.00399 (ND)	<0.016 (ND)	<0.004 (ND)	<0.00392 (ND)	<0.00393 (ND)	<0.00419 (ND)
Indeno[1,2,3-cd]pyrene	c, nv	<0.00399 (ND)	<0.016 (ND)	<0.004 (ND)	<0.00392 (ND)	<0.00393 (ND)	<0.00419 (ND)
Pyrene	nc, v	<0.00399 (ND)	<0.016 (ND)	<0.004 (ND)	<0.00392 (ND)	<0.00393 (ND)	<0.00419 (ND)
Total Petroleum Hydrocarbons							
Generic Gasoline (GRO)	nc, v	---	---	---	---	---	---
Generic Diesel / Heating Oil (DRO)	nc, v	<29.2 (ND)	<29.8 (ND)	<29.9 (ND)	<28.7 (ND)	<29.7 (ND)	<31.2 (ND)
Generic Mineral Insulating Oil (RRO)	nc, nv	<58.5 (ND)	<59.5 (ND)	<59.9 (ND)	<57.5 (ND)	<59.4 (ND)	<62.3 (ND)

Notes:

- mg/Kg = milligram per kilogram or parts per million (ppm).
- <# (ND) = not detected at or above the laboratory method reporting limit shown.
- NE = not established.
- = not analyzed or not applicable.
- c = carcinogenic
- nc = noncarcinogenic
- v = volatile
- nv = nonvolatile
- GRO = gasoline-range organics.
- DRO = diesel-range organics.
- RRO = residual-range organics.

Shaded concentrations exceed screening level risk-based concentrations and background concentrations, as applicable.



¹ Lowest Risk-Based Concentration for soil (screening level assumes residential use, from ODEQ RBCs dated May 2018).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

j = The result is below method reporting limits. The value reported is an estimate.

Pink shaded cells in table indicate sampled location has been subsequently removed to appropriate waste disposal/recycling location and no longer represents current conditions.

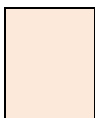


Table 1 - Summary of Analytical Data, Soil

Location ID		B-13		B-14		B-15	
Date Sampled		1/16/2023	1/16/2023	1/16/2023	1/16/2023	1/16/2023	1/16/2023
Depth Sampled (feet)		4.5-6	10-11	4-5	5.5-6.5	7-8	10-11
Sampled By		Aquarius	Aquarius	Aquarius	Aquarius	Aquarius	Aquarius
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents							
Benzene	c, v	---	---	---	---	---	---
1,2-Dichlorobenzene	nc, v	---	---	---	---	---	---
1,4-Dichlorobenzene	c, v	---	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---
Naphthalene	c, v	<0.00687 (ND)	<0.00695 (ND)	<0.00765 (ND)	<0.0075 (ND)	<0.14 (ND)	<0.00722 (ND)
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---	---
Semivolatile Organic Constituents							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	nc, v	<0.00344 (ND)	<0.00348 (ND)	<0.00383 (ND)	<0.00376 (ND)	<0.0703 (ND)	<0.00362 (ND)
Anthracene	nc, v	<0.00344 (ND)	<0.00348 (ND)	<0.00383 (ND)	<0.00376 (ND)	<0.0703 (ND)	<0.00362 (ND)
Benz[a]anthracene	c, v	<0.00344 (ND)	<0.00348 (ND)	<0.00383 (ND)	<0.00376 (ND)	<0.0703 (ND)	<0.00362 (ND)
Benzo[a]pyrene (BaP equivalents)	c, nv	<0.00515 (ND)	<0.00522 (ND)	<0.00574 (ND)	<0.00563 (ND)	<0.105 (ND)	<0.00542 (ND)
Benzo[b]fluoranthene	c, nv	0.00682	<0.00522 (ND)	<0.00574 (ND)	0.00763	<0.105 (ND)	<0.00542 (ND)
Benzo[k]fluoranthene	c, nv	<0.00515 (ND)	<0.00522 (ND)	<0.00574 (ND)	<0.00563 (ND)	<0.105 (ND)	<0.00542 (ND)
Chrysene	c, nv	0.00383	<0.00348 (ND)	<0.00383 (ND)	0.00386	<0.0703 (ND)	<0.00362 (ND)
Dibenz[a,h]anthracene	c, nv	<0.00344 (ND)	<0.00348 (ND)	<0.00383 (ND)	<0.00376 (ND)	<0.0703 (ND)	<0.00362 (ND)
Fluoranthene	nc, nv	0.00709	<0.00348 (ND)	<0.00383 (ND)	0.00712	<0.0703 (ND)	<0.00362 (ND)
Fluorene	nc, v	<0.00344 (ND)	<0.00348 (ND)	<0.00383 (ND)	<0.00376 (ND)	<0.0703 (ND)	<0.00362 (ND)
Indeno[1,2,3-cd]pyrene	c, nv	0.00386	<0.00348 (ND)	<0.00383 (ND)	0.00467	<0.0703 (ND)	<0.00362 (ND)
Pyrene	nc, v	0.00652	<0.00348 (ND)	<0.00383 (ND)	<0.00376 (ND)	<0.0703 (ND)	<0.00362 (ND)
Total Petroleum Hydrocarbons							
Generic Gasoline (GRO)	nc, v	---	---	---	---	---	---
Generic Diesel / Heating Oil (DRO)	nc, v	<25.4 (ND)	<25.9 (ND)	<28.8 (ND)	<28.5 (ND)	<50.2 (ND)	<27 (ND)
Generic Mineral Insulating Oil (RRO)	nc, nv	<50.8 (ND)	<51.8 (ND)	<57.6 (ND)	<56.9 (ND)	349	<54 (ND)

Notes:
 mg/Kg = milligram per kilogram or parts per million (ppm).
 <# (ND) = not detected at or above the laboratory method reporting limit shown.
 NE = not established.
 — = not analyzed or not applicable.
 c = carcinogenic
 nc = noncarcinogenic
 v = volatile
 nv = nonvolatile
 GRO = gasoline-range organics.
 DRO = diesel-range organics.
 RRO = residual-range organics.

Shaded concentrations exceed screening level risk-based concentrations and background concentrations, as applicable.

¹ Lowest Risk-Based Concentration for soil (screening level assumes residential use, from ODEQ RBCs dated May 2018).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

j = The result is below method reporting limits. The value reported is an estimate.

Pink shaded cells in table indicate sampled location has been subsequently removed to appropriate waste disposal/recycling location and no longer represents current conditions.

Table 1 - Summary of Analytical Data, Soil

Location ID		B-16		B-17		B-18	
Date Sampled		1/17/2023	1/17/2023	1/17/2023	1/17/2023	1/17/2023	1/17/2023
Depth Sampled (feet)		5.5-6.5	10-11	5-6	10-11	5.5-6.5	10-11
Sampled By		Aquarius	Aquarius	Aquarius	Aquarius	Aquarius	Aquarius
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents							
Benzene	c, v	---	---	---	---	---	---
1,2-Dichlorobenzene	nc, v	---	---	---	---	---	---
1,4-Dichlorobenzene	c, v	---	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---
Naphthalene	c, v	<0.00797 (ND)	<0.00856 (ND)	<0.00377 (ND)	<0.00789 (ND)	<0.32 (ND)	<0.00795 (ND)
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---	---
Semivolatile Organic Constituents							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	nc, v	<0.00399 (ND)	<0.00429 (ND)	<0.00377 (ND)	<0.00395 (ND)	<0.016 (ND)	<0.00398 (ND)
Anthracene	nc, v	<0.00399 (ND)	<0.00429 (ND)	<0.00377 (ND)	<0.00395 (ND)	<0.016 (ND)	<0.00398 (ND)
Benz[a]anthracene	c, v	<0.00399 (ND)	<0.00429 (ND)	<0.00377 (ND)	<0.00395 (ND)	<0.016 (ND)	<0.00398 (ND)
Benzo[a]pyrene (BaP equivalents)	c, nv	<0.00598 (ND)	<0.00642 (ND)	<0.00565 (ND)	<0.00592 (ND)	<0.024 (ND)	<0.00597 (ND)
Benzo[b]fluoranthene	c, nv	<0.00598 (ND)	<0.00642 (ND)	<0.00565 (ND)	<0.00592 (ND)	<0.024 (ND)	<0.00597 (ND)
Benzo[k]fluoranthene	c, nv	<0.00598 (ND)	<0.00642 (ND)	<0.00565 (ND)	<0.00592 (ND)	<0.024 (ND)	<0.00597 (ND)
Chrysene	c, nv	<0.00399 (ND)	<0.00429 (ND)	<0.00377 (ND)	<0.00395 (ND)	<0.016 (ND)	<0.00398 (ND)
Dibenz[a,h]anthracene	c, nv	<0.00399 (ND)	<0.00429 (ND)	<0.00377 (ND)	<0.00395 (ND)	<0.016 (ND)	<0.00398 (ND)
Fluoranthene	nc, nv	<0.00399 (ND)	<0.00429 (ND)	<0.00377 (ND)	<0.00395 (ND)	<0.016 (ND)	<0.00398 (ND)
Fluorene	nc, v	<0.00399 (ND)	<0.00429 (ND)	<0.00377 (ND)	<0.00395 (ND)	<0.016 (ND)	<0.00398 (ND)
Indeno[1,2,3-cd]pyrene	c, nv	<0.00399 (ND)	<0.00429 (ND)	<0.00377 (ND)	<0.00395 (ND)	<0.016 (ND)	<0.00398 (ND)
Pyrene	nc, v	<0.00399 (ND)	<0.00429 (ND)	<0.00377 (ND)	<0.00395 (ND)	<0.016 (ND)	<0.00398 (ND)
Total Petroleum Hydrocarbons							
Generic Gasoline (GRO)	nc, v	---	---	---	---	---	---
Generic Diesel / Heating Oil (DRO)	nc, v	<30.3 (ND)	<31.9 (ND)	<28.8 (ND)	<29.9 (ND)	<30 (ND)	<30.1 (ND)
Generic Mineral Insulating Oil (RRO)	nc, nv	<60.7 (ND)	<63.9 (ND)	<57.6 (ND)	<59.7 (ND)	210	<60.1 (ND)

Notes:
 mg/Kg = milligram per kilogram or parts per million (ppm).
 <# (ND) = not detected at or above the laboratory method reporting limit shown.
 NE = not established.
 — = not analyzed or not applicable.
 c = carcinogenic
 nc = noncarcinogenic
 v = volatile
 nv = nonvolatile
 GRO = gasoline-range organics.
 DRO = diesel-range organics.
 RRO = residual-range organics.

Shaded concentrations exceed screening level risk-based concentrations and background concentrations, as applicable.



¹ Lowest Risk-Based Concentration for soil (screening level assumes residential use, from ODEQ RBCs dated May 2018).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

j = The result is below method reporting limits. The value reported is an estimate.

Pink shaded cells in table indicate sampled location has been subsequently removed to appropriate waste disposal/recycling location and no longer represents current conditions.



Table 1 - Summary of Analytical Data, Soil

Location ID		B-19	B-20	B-21	B-22	B-23
Date Sampled		1/17/2023	1/17/2023	7/12/2024	7/12/2024	7/12/2024
Depth Sampled (feet)		5-6	10-11	10-12	11-13	10.5-12
Sampled By		Aquarius	Aquarius	Aquarius	Aquarius	Aquarius
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents						
Benzene	c, v	---	---	<0.0163 (ND)	<0.0169 (ND)	<0.233 (ND)
1,2-Dichlorobenzene	nc, v	---	---	---	---	---
1,4-Dichlorobenzene	c, v	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	---	<0.0816 (ND)	<0.0843 (ND)	<0.117 (ND)
EDC (1,2-dichloroethane)	c, v	---	---	<0.0408 (ND)	<0.0421 (ND)	<0.0583 (ND)
Ethylbenzene	c, v	---	---	<0.0408 (ND)	<0.0421 (ND)	<0.0583 (ND)
MTBE (methyl t-butyl ether)	c, v	---	---	<0.0816 (ND)	<0.0843 (ND)	<0.117 (ND)
Naphthalene	c, v	0.488	0.0525	<0.163 (ND)	<0.169 (ND)	<0.233 (ND)
iso-Propylbenzene (cumene)	nc, v	---	---	<0.0816 (ND)	<0.0843 (ND)	<0.117 (ND)
Toluene	nc, v	---	---	<0.0816 (ND)	<0.843 (ND)	<0.117 (ND)
1,2,4-Trimethylbenzene	nc, v	---	---	<0.0816 (ND)	<0.0843 (ND)	<0.117 (ND)
1,3,5-Trimethylbenzene	nc, v	---	---	<0.0816 (ND)	<0.0843 (ND)	<0.117 (ND)
Xylenes	nc, v	---	---	<0.122 (ND)	<0.126 (ND)	<0.175 (ND)
Semivolatile Organic Constituents						
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	nc, v	<0.156 (ND)	<0.0145 (ND)	<0.0153 (ND)	<0.00391 (ND)	<0.00388 (ND)
Anthracene	nc, v	<0.156 (ND)	<0.0145 (ND)	<0.0153 (ND)	<0.00391 (ND)	<0.00388 (ND)
Benz[a]anthracene	c, v	<0.156 (ND)	<0.0145 (ND)	<0.0153 (ND)	<0.00391 (ND)	<0.00388 (ND)
Benzo[a]pyrene (BaP equivalents)	c, nv	<0.234 (ND)	<0.0218 (ND)	<0.0229 (ND)	<0.00585 (ND)	<0.00582 (ND)
Benzo[b]fluoranthene	c, nv	<0.234 (ND)	<0.0218 (ND)	<0.0229 (ND)	<0.00585 (ND)	0.00297 J
Benzo[k]fluoranthene	c, nv	<0.234 (ND)	<0.0218 (ND)	<0.0229 (ND)	<0.00585 (ND)	<0.00582 (ND)
Chrysene	c, nv	<0.156 (ND)	<0.0145 (ND)	<0.0153 (ND)	<0.00391 (ND)	<0.00388 (ND)
Dibenz[a,h]anthracene	c, nv	<0.156 (ND)	<0.0145 (ND)	<0.0153 (ND)	<0.00391 (ND)	<0.00388 (ND)
Fluoranthene	nc, nv	<0.156 (ND)	<0.0145 (ND)	<0.0153 (ND)	<0.00391 (ND)	<0.00388 (ND)
Fluorene	nc, v	<0.156 (ND)	<0.0145 (ND)	<0.0153 (ND)	<0.00391 (ND)	<0.00388 (ND)
Indeno[1,2,3-cd]pyrene	c, nv	<0.156 (ND)	<0.0145 (ND)	<0.0153 (ND)	<0.00391 (ND)	<0.00388 (ND)
Pyrene	nc, v	<0.156 (ND)	<0.0145 (ND)	<0.0153 (ND)	<0.00391 (ND)	<0.00388 (ND)
Total Petroleum Hydrocarbons						
Generic Gasoline (GRO)	nc, v	---	---	4.57 J	<8.43 (ND)	<11.7 (ND)
Generic Diesel / Heating Oil (DRO)	nc, v	<570 (ND)	29.9	14.2	<25.6 (ND)	12.9
Generic Mineral Insulating Oil (RRO)	nc, nv	15200	2340	452	<51.2 (ND)	<51.8 (ND)

Notes:
 mg/Kg = milligram per kilogram or parts per million (ppm).
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 NE = not established.
 — = not analyzed or not applicable.
 c = carcinogenic
 nc = noncarcinogenic
 v = volatile
 nv = nonvolatile
 GRO = gasoline-range organics.
 DRO = diesel-range organics.
 RRO = residual-range organics.

Shaded concentrations exceed screening level risk-based concentrations and background concentrations, as applicable.

¹ Lowest Risk-Based Concentration for soil (screening level assumes residential use, from ODEQ RBCs dated May 2018).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

j = The result is below method reporting limits. The value reported is an estimate.

Pink shaded cells in table indicate sampled location has been subsequently removed to appropriate waste disposal/recycling location and no longer represents current conditions.

Table 1 - Summary of Analytical Data, Soil

Location ID		G-1	G-2	G-3	G-4	G-5	G-6
Date Sampled		3/31/2023	3/31/2023	3/31/2023	3/31/2023	3/31/2023	3/31/2023
Depth Sampled (feet)		5 ft 9 in	5 ft 9 in	5 ft 10 in	5 ft 10 in	7 ft 5 in	6 ft 3 in
Sampled By		Aquarius	Aquarius	Aquarius	Aquarius	Aquarius	Aquarius
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)
Volatile Organic Constituents							
Benzene	c, v	---	---	---	---	---	---
1,2-Dichlorobenzene	nc, v	---	---	---	---	---	---
1,4-Dichlorobenzene	c, v	---	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---
Naphthalene	c, v	<0.0947 (ND)	<0.0914 (ND)	<0.0939 (ND)	0.205	0.0101	<0.143 (ND)
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---	---
Semivolatile Organic Constituents							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	nc, v	<0.0474 (ND)	<0.0458 (ND)	<0.047 (ND)	<0.0512 (ND)	<0.00504 (ND)	<0.0719 (ND)
Anthracene	nc, v	<0.0474 (ND)	<0.0458 (ND)	<0.047 (ND)	<0.0512 (ND)	<0.00504 (ND)	<0.0719 (ND)
Benz[a]anthracene	c, v	<0.0474 (ND)	<0.0458 (ND)	<0.047 (ND)	<0.0512 (ND)	<0.00504 (ND)	<0.0719 (ND)
Benzo[a]pyrene (BaP equivalents)	c, nv	<0.0711 (ND)	<0.0686 (ND)	<0.0705 (ND)	<0.0768 (ND)	<0.00754 (ND)	<0.108 (ND)
Benzo[b]fluoranthene	c, nv	<0.0711 (ND)	<0.0686 (ND)	<0.0705 (ND)	<0.0768 (ND)	<0.00754 (ND)	<0.108 (ND)
Benzo[k]fluoranthene	c, nv	<0.0711 (ND)	<0.0686 (ND)	<0.0705 (ND)	<0.0768 (ND)	<0.00754 (ND)	<0.108 (ND)
Chrysene	c, nv	<0.0474 (ND)	<0.0458 (ND)	<0.047 (ND)	<0.0512 (ND)	<0.00504 (ND)	<0.0719 (ND)
Dibenz[a,h]anthracene	c, nv	<0.0474 (ND)	<0.0458 (ND)	<0.047 (ND)	<0.0512 (ND)	<0.00504 (ND)	<0.0719 (ND)
Fluoranthene	nc, nv	<0.0474 (ND)	<0.0458 (ND)	<0.047 (ND)	<0.0512 (ND)	<0.00504 (ND)	<0.0719 (ND)
Fluorene	nc, v	<0.0474 (ND)	<0.0458 (ND)	<0.047 (ND)	0.0588	<0.00504 (ND)	<0.0719 (ND)
Indeno[1,2,3-cd]pyrene	c, nv	<0.0474 (ND)	<0.0458 (ND)	<0.047 (ND)	<0.0512 (ND)	<0.00504 (ND)	<0.0719 (ND)
Pyrene	nc, v	<0.0474 (ND)	<0.0458 (ND)	<0.047 (ND)	<0.0512 (ND)	<0.00504 (ND)	<0.0719 (ND)
Total Petroleum Hydrocarbons							
Generic Gasoline (GRO)	nc, v	---	---	---	---	---	---
Generic Diesel / Heating Oil (DRO)	nc, v	<33.7 (ND)	<33.2 (ND)	<35.2 (ND)	<37 (ND)	<36.6 (ND)	<53.3 (ND)
Generic Mineral Insulating Oil (RRO)	nc, nv	<67.3 (ND)	<66.4 (ND)	117	<74 (ND)	<73.2 (ND)	160

Notes:
 mg/Kg = milligram per kilogram or parts per million (ppm).
 <# (ND) = not detected at or above the laboratory method reporting limit shown.
 NE = not established.
 — = not analyzed or not applicable.
 c = carcinogenic
 nc = noncarcinogenic
 v = volatile
 nv = nonvolatile
 GRO = gasoline-range organics.
 DRO = diesel-range organics.
 RRO = residual-range organics.

Shaded concentrations exceed screening level risk-based concentrations and background concentrations, as applicable.



¹ Lowest Risk-Based Concentration for soil (screening level assumes residential use, from ODEQ RBCs dated May 2018).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

j = The result is below method reporting limits. The value reported is an estimate.

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Table 1 - Summary of Analytical Data, Soil

Location ID		G-7	G-8	Maximum Soil Concentration (remaining soil)	Soil Matrix Cleanup Level	ODEQs Screening-Level Risk-Based Concentrations SLRBCs ¹ (Soil)	Exceeds ODEQs Screening-Level SLRBCs (Soil) and/or Soil Matrix Cleanup Level
Date Sampled		3/31/2023	3/31/2023				
Depth Sampled (feet)		6 ft 4 in	6 ft 3 in				
Sampled By		Aquarius	Aquarius				
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)			TRUE OR FALSE OR N
Volatile Organic Constituents							
Benzene	c, v	---	---	<0.233 (ND)	NE	0.023	(Y)
1,2-Dichlorobenzene	nc, v	---	---	<0.426 (ND)	NE	36	N
1,4-Dichlorobenzene	c, v	---	---	<0.426 (ND)	NE	0.057	(Y)
EDB (1,2-dibromoethane)	c, v	---	---	<0.117 (ND)	NE	0.00012	(Y)
EDC (1,2-dichloroethane)	c, v	---	---	<0.0583 (ND)	NE	0.0028	(Y)
Ethylbenzene	c, v	---	---	0.0583	NE	0.22	N
MTBE (methyl t-butyl ether)	c, v	---	---	<0.117 (ND)	NE	0.11	(Y)
Naphthalene	c, v	<0.123 (ND)	<0.114 (ND)	0.205	NE	0.077	Y
iso-Propylbenzene (cumene)	nc, v	---	---	<0.117 (ND)	NE	96	N
Toluene	nc, v	---	---	<0.843 (ND)	NE	83	N
1,2,4-Trimethylbenzene	nc, v	---	---	<0.117 (ND)	NE	10	N
1,3,5-Trimethylbenzene	nc, v	---	---	<0.117 (ND)	NE	11	N
Xylenes	nc, v	---	---	<0.175 (ND)	NE	23	N
Semivolatile Organic Constituents							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	nc, v	<0.0615 (ND)	<0.0572 (ND)	<0.171 (ND)	NE	770	N
Anthracene	nc, v	<0.0615 (ND)	<0.0572 (ND)	<0.171 (ND)	NE	8200	N
Benz[a]anthracene	c, v	<0.0615 (ND)	<0.0572 (ND)	0.015	NE	1.1	N
Benzo[a]pyrene (BaP equivalents)	c, nv	<0.0921 (ND)	<0.0857 (ND)	<0.256 (ND)	NE	0.11	(Y)
Benzo[b]fluoranthene	c, nv	<0.0921 (ND)	<0.0857 (ND)	0.00763	NE	1.1	N
Benzo[k]fluoranthene	c, nv	<0.0921 (ND)	<0.0857 (ND)	<0.256 (ND)	NE	11	N
Chrysene	c, nv	<0.0615 (ND)	<0.0572 (ND)	0.0224	NE	110	N
Dibenz[a,h]anthracene	c, nv	<0.0615 (ND)	<0.0572 (ND)	<0.171 (ND)	NE	0.11	(Y)
Fluoranthene	nc, nv	<0.0615 (ND)	<0.0572 (ND)	0.0491	NE	2400	N
Fluorene	nc, v	<0.0615 (ND)	<0.0572 (ND)	0.0588	NE	770	N
Indeno[1,2,3-cd]pyrene	c, nv	<0.0615 (ND)	<0.0572 (ND)	0.00467	NE	1.1	N
Pyrene	nc, v	<0.0615 (ND)	<0.0572 (ND)	0.0393	NE	1800	N
Total Petroleum Hydrocarbons							
Generic Gasoline (GRO)	nc, v	---	---	11.7 J	80	31	N
Generic Diesel / Heating Oil (DRO)	nc, v	<44.9 (ND)	<43.5 (ND)	570	500	1100	N
Generic Mineral Insulating Oil (RRO)	nc, nv	2230	1250	15200		2800	Y

Notes:
 mg/Kg = milligram per kilogram or parts per million (ppm).
 <# (ND) = not detected at or above the laboratory method reporting limit shown.
 NE = not established.
 --- = not analyzed or not applicable.
 c = carcinogenic
 nc = noncarcinogenic
 v = volatile
 nv = nonvolatile
 GRO = gasoline-range organics.
 DRO = diesel-range organics.
 RRO = residual-range organics.

Shaded concentrations exceed screening level risk-based concentrations and background concentrations, as applicable.

¹ Lowest Risk-Based Concentration for soil (screening level assumes residential use, from ODEQ RBCs dated May 2018).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

j = The result is below method reporting limits. The value reported is an estimate.

Pink shaded cells in table indicate sampled location has been subsequently removed to appropriate waste disposal/recycling location and no longer represents current conditions.

Table 2 - Summary of Analytical Data, Reconnaissance Ground Water

Location ID		B-2	B-3	B-4	B-5	B-6	B-7
Date Sampled		12/18/20	12/18/20	12/18/20	12/18/20	12/18/20	5/21/21
Sampled By		Aquarius	Aquarius	Aquarius	Aquarius	Aquarius	Aquarius
Constituent of Interest	Note	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)
Volatile Organic Constituents							
Benzene	c, v	---	---	---	---	---	---
1,2-Dichlorobenzene	nc, v	---	<0.505 (ND)	---	<0.0505 (ND)	---	---
1,4-Dichlorobenzene	c, v	---	<0.505 (ND)	---	<0.0505 (ND)	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---
Naphthalene	c, v	---	<0.404 (ND)	---	0.0472	---	---
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---	---
Semivolatile Organic Constituents							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	nc, v	---	<0.202 (ND)	---	<0.0202 (ND)	---	---
Anthracene	nc, v	---	<0.202 (ND)	---	<0.0202 (ND)	---	---
Benz[a]anthracene	c, v	---	<0.202 (ND)	---	<0.0202 (ND)	---	---
Benzo[a]pyrene (BaP equivalents)	c, nv	---	<0.303 (ND)	---	<0.303 (ND)	---	---
Benzo[b]fluoranthene	c, nv	---	<0.303 (ND)	---	<0.303 (ND)	---	---
Benzo[k]fluoranthene	c, nv	---	<0.303 (ND)	---	<0.303 (ND)	---	---
Chrysene	c, nv	---	<0.202 (ND)	---	<0.0202 (ND)	---	---
Dibenz[a,h]anthracene	c, nv	---	<0.202 (ND)	---	<0.0202 (ND)	---	---
Fluoranthene	nc, nv	---	<0.202 (ND)	---	<0.0202 (ND)	---	---
Fluorene	nc, v	---	<0.202 (ND)	---	0.0298	---	---
Indeno[1,2,3-cd]pyrene	c, nv	---	<0.202 (ND)	---	<0.0202 (ND)	---	---
Pyrene	nc, v	---	<0.202 (ND)	---	<0.0202 (ND)	---	---
Total Petroleum Hydrocarbons							
Generic Gasoline (GRO)	nc, v	---	---	---	---	---	---
Generic Diesel / Heating Oil (DRO)	nc, v	<74.8 (ND)	236	<95.2 (ND)	<80.8 (ND)	<80.8 (ND)	<194 (ND)
Generic Mineral Insulating Oil (RRO)	nc, nv	<150 (ND)	1860	<190 (ND)	169	<162 (ND)	<388 (ND)

Notes:

ug/L = micrograms per Liter or parts per billion (ppb).

<# (ND) = not detected at or above the laboratory method reporting limit shown.

NE = not established.

¹ Lowest Risk-Based Concentration for ground water (screening level assumes residential use, from ODEQ RBCs dated May 2018).

— = not analyzed or not applicable.

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Shaded concentrations exceed screening level risk-based concentrations and background concentrations, as applicable.



¹ Lowest Risk-Based Concentration for ground water (screening level).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

J = indicates the internal standard associated with the analyte is out of control limits; the reported concentration is an estimate.

Table 2 - Summary of Analytical Data, Reconnaissance Ground Water

Location ID		B-8	B-9	B-10	B-15	B-17	B-18
Date Sampled		5/21/21	5/21/21	1/16/23	1/16/23	1/17/23	1/17/23
Sampled By		Aquarius	Aquarius	Aquarius	Aquarius	Aquarius	Aquarius
Constituent of Interest	Note	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)
Volatile Organic Constituents							
Benzene	c, v	---	---	---	---	---	---
1,2-Dichlorobenzene	nc, v	---	---	---	---	---	---
1,4-Dichlorobenzene	c, v	---	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	---	---	---	---	---
EDC (1,2-dichloroethane)	c, v	---	---	---	---	---	---
Ethylbenzene	c, v	---	---	---	---	---	---
MTBE (methyl t-butyl ether)	c, v	---	---	---	---	---	---
Naphthalene	c, v	---	---	<0.127 (ND)	---	<0.162 (ND)	<0.16 (ND)
iso-Propylbenzene (cumene)	nc, v	---	---	---	---	---	---
Toluene	nc, v	---	---	---	---	---	---
1,2,4-Trimethylbenzene	nc, v	---	---	---	---	---	---
1,3,5-Trimethylbenzene	nc, v	---	---	---	---	---	---
Xylenes	nc, v	---	---	---	---	---	---
Semivolatile Organic Constituents							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	nc, v	---	---	<0.0196 (ND)	<0.0808 (ND)	<0.0808 (ND)	<0.08 (ND)
Anthracene	nc, v	---	---	<0.0196 (ND)	<0.0808 (ND)	<0.0808 (ND)	<0.08 (ND)
Benz[a]anthracene	c, v	---	---	<0.0196 (ND)	<0.0808 (ND)	<0.0808 (ND)	<0.08 (ND)
Benzo[a]pyrene (BaP equivalents)	c, nv	---	---	<0.0294 (ND)	<0.121 (ND)	<0.121 (ND)	<0.12 (ND)
Benzo[b]fluoranthene	c, nv	---	---	<0.0294 (ND)	<0.121 (ND)	<0.121 (ND)	<0.12 (ND)
Benzo[k]fluoranthene	c, nv	---	---	<0.0294 (ND)	<0.121 (ND)	<0.121 (ND)	<0.12 (ND)
Chrysene	c, nv	---	---	<0.0196 (ND)	<0.0808 (ND)	<0.0808 (ND)	<0.08 (ND)
Dibenz[a,h]anthracene	c, nv	---	---	<0.0196 (ND)	<0.0808 (ND)	<0.0808 (ND)	<0.08 (ND)
Fluoranthene	nc, nv	---	---	<0.0196 (ND)	<0.0808 (ND)	<0.0808 (ND)	<0.08 (ND)
Fluorene	nc, v	---	---	<0.0196 (ND)	<0.0808 (ND)	<0.0808 (ND)	<0.08 (ND)
Indeno[1,2,3-cd]pyrene	c, nv	---	---	<0.0196 (ND)	<0.0808 (ND)	<0.0808 (ND)	<0.08 (ND)
Pyrene	nc, v	---	---	<0.0196 (ND)	<0.0808 (ND)	<0.0808 (ND)	<0.08 (ND)
Total Petroleum Hydrocarbons							
Generic Gasoline (GRO)	nc, v	---	---	---	---	---	---
Generic Diesel / Heating Oil (DRO)	nc, v	<215 (ND)	<215 (ND)	<202 (ND)	<202 (ND)	<211 (ND)	<204 (ND)
Generic Mineral Insulating Oil (RRO)	nc, nv	<430 (ND)	<430 (ND)	<404 (ND)	673	<421 (ND)	<408 (ND)

Notes:

ug/L = micrograms per Liter or parts per billion (ppb).

<# (ND) = not detected at or above the laboratory method reporting limit shown.

NE = not established.

¹ Lowest Risk-Based Concentration for ground water (screening level assumes residential use, from ODEQ RBCs dated May 2018).

— = not analyzed or not applicable.

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Shaded concentrations exceed screening level risk-based concentrations and background concentrations, as applicable.



¹ Lowest Risk-Based Concentration for ground water (screening level).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

J = indicates the internal standard associated with the analyte is out of control limits; the reported concentration is an estimate.

Table 2 - Summary of Analytical Data, Reconnaissance Ground Water

Location ID		B-19	B-20	B-21	B-22	B-23
Date Sampled		1/17/23	7/12/24	7/12/24	7/12/24	7/12/24
Sampled By		Aquarius	Aquarius	Aquarius	Aquarius	Aquarius
Constituent of Interest	Note	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)	µg/L (ppb)
Volatile Organic Constituents						
Benzene	c, v	---	<0.2 (ND)	<0.2 (ND)	<0.2 (ND)	<0.2 (ND)
1,2-Dichlorobenzene	nc, v	---	---	---	---	---
1,4-Dichlorobenzene	c, v	---	---	---	---	---
EDB (1,2-dibromoethane)	c, v	---	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)
EDC (1,2-dichloroethane)	c, v	---	<0.4 (ND)	<0.4 (ND)	<0.4 (ND)	<0.4 (ND)
Ethylbenzene	c, v	---	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)
MTBE (methyl t-butyl ether)	c, v	---	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)
Naphthalene	c, v	<0.162 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)
iso-Propylbenzene (cumene)	nc, v	---	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)
Toluene	nc, v	---	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)
1,2,4-Trimethylbenzene	nc, v	---	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)
1,3,5-Trimethylbenzene	nc, v	---	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)
Xylenes	nc, v	---	<1.5 (ND)	<1.5 (ND)	<1.5 (ND)	<1.5 (ND)
Semivolatile Organic Constituents						
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	nc, v	<0.0808 (ND)	<0.0755 (ND)	<0.0187 (ND)	<0.0196 (ND)	<0.0187 (ND)
Anthracene	nc, v	<0.0808 (ND)	<0.0755 (ND)	<0.0187 (ND)	<0.0196 (ND)	<0.0187 (ND)
Benz[a]anthracene	c, v	<0.0808 (ND)	<0.0755 (ND)	<0.0187 (ND)	<0.0196 (ND)	<0.0187 (ND)
Benzo[a]pyrene (BaP equivalents)	c, nv	<0.121 (ND)	<0.113 (ND)	<0.028 (ND)	<0.0294 (ND)	<0.028 (ND)
Benzo[b]fluoranthene	c, nv	<0.121 (ND)	<0.113 (ND)	<0.028 (ND)	0.027 J	<0.028 (ND)
Benzo[k]fluoranthene	c, nv	<0.121 (ND)	<0.113 (ND)	<0.028 (ND)	0.0147 J	<0.028 (ND)
Chrysene	c, nv	<0.0808 (ND)	<0.0755 (ND)	<0.0187 (ND)	0.0137 J	<0.0187 (ND)
Dibenz[a,h]anthracene	c, nv	<0.0808 (ND)	<0.0755 (ND)	<0.0187 (ND)	<0.0196 (ND)	<0.0187 (ND)
Fluoranthene	nc, nv	<0.0808 (ND)	<0.0755 (ND)	<0.0187 (ND)	0.0301	<0.0187 (ND)
Fluorene	nc, v	<0.0808 (ND)	<0.0755 (ND)	<0.0187 (ND)	<0.0196 (ND)	<0.0187 (ND)
Indeno[1,2,3-cd]pyrene	c, nv	<0.0808 (ND)	<0.0755 (ND)	<0.0187 (ND)	0.0133 J	<0.0187 (ND)
Pyrene	nc, v	<0.0808 (ND)	<0.0755 (ND)	<0.0187 (ND)	<0.0196 (ND)	<0.0187 (ND)
Total Petroleum Hydrocarbons						
Generic Gasoline (GRO)	nc, v	---	< 100 (ND)	< 100 (ND)	< 100 (ND)	< 100 (ND)
Generic Diesel / Heating Oil (DRO)	nc, v	<213 (ND)	291	174	102	<192 (ND)
Generic Mineral Insulating Oil (RRO)	nc, nv	<426 (ND)	<388 (ND)	<385 (ND)	<388 (ND)	<385 (ND)

Notes:

ug/L = micrograms per Liter or parts per billion (ppb).

<# (ND) = not detected at or above the laboratory method reporting limit shown.

NE = not established.

¹ Lowest Risk-Based Concentration for ground water (screening level assumes residential use, from ODEQ RBCs dated May 2018).

— = not analyzed or not applicable.

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Shaded concentrations exceed screening level risk-based concentrations and background concentrations, as applicable.



¹ Lowest Risk-Based Concentration for ground water (screening level).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

J = indicates the internal standard associated with the analyte is out of control limits; the reported concentration is an estimate.

Table 2 - Summary of Analytical Data, Reconnaissance Ground Water

Location ID		Maximum Ground Water Concentration	ODEQs Screening-level Risk-Based Concentrations (SLRBCs) ¹	Exceeds Background Concentrations (metals)?	COPC?
Date Sampled					
Sampled By					
Constituent of Interest	Note	µg/L (ppb)		TRUE OR Y FALSE OR N	TRUE OR Y FALSE OR N
Volatile Organic Constituents					
Benzene	c, v	<0.2 (ND)	0.46	N	N
1,2-Dichlorobenzene	nc, v	---	300	N	(Y)
1,4-Dichlorobenzene	c, v	---	0.48	N	(Y)
EDB (1,2-dibromoethane)	c, v	<0.5 (ND)	0.0075	N	(Y)
EDC (1,2-dichloroethane)	c, v	<0.4 (ND)	0.17	N	(Y)
Ethylbenzene	c, v	<0.5 (ND)	1.5	N	N
MTBE (methyl t-butyl ether)	c, v	<1 (ND)	14	N	N
Naphthalene	c, v	<0.5 (ND)	0.17	N	(Y)
iso-Propylbenzene (cumene)	nc, v	<1 (ND)	440	N	N
Toluene	nc, v	<1 (ND)	1100	N	N
1,2,4-Trimethylbenzene	nc, v	<1 (ND)	54	N	N
1,3,5-Trimethylbenzene	nc, v	<1 (ND)	59	N	N
Xylenes	nc, v	<1.5 (ND)	190	N	N
Semivolatile Organic Constituents					
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	nc, v	<0.0808 (ND)	510	N	N
Anthracene	nc, v	<0.0808 (ND)	>S	N	N
Benz[a]anthracene	c, v	<0.0808 (ND)	0.03	N	(Y)
Benzo[a]pyrene (BaP equivalents)	c, nv	<0.121 (ND)	0.025	N	(Y)
Benzo[b]fluoranthene	c, nv	0.027 j	0.25	N	N
Benzo[k]fluoranthene	c, nv	0.0147 j	2.5	N	N
Chrysene	c, nv	0.0137 j	25	N	N
Dibenz[a,h]anthracene	c, nv	<0.0808 (ND)	0.025	N	(Y)
Fluoranthene	nc, nv	0.0301	800	N	N
Fluorene	nc, v	<0.0808 (ND)	280	N	N
Indeno[1,2,3-cd]pyrene	c, nv	<0.0808 (ND)	0.25	N	N
Pyrene	nc, v	<0.0808 (ND)	110	N	N
Total Petroleum Hydrocarbons					
Generic Gasoline (GRO)	nc, v	<100 (ND)	110	N	N
Generic Diesel / Heating Oil (DRO)	nc, v	291	100	N	Y
Generic Mineral Insulating Oil (RRO)	nc, nv	673	300	N	Y

Notes:

ug/L = micrograms per Liter or parts per billion (ppb).

<# (ND) = not detected at or above the laboratory method reporting limit shown.

NE = not established.

¹ Lowest Risk-Based Concentration for ground water (screening level assumes residential use, from ODEQ RBCs dated May 2018).

— = not analyzed or not applicable.

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

GRO = gasoline-range organics.

DRO = diesel-range organics.

RRO = residual-range organics.

Shaded concentrations exceed screening level risk-based concentrations and background concentrations, as applicable.



¹ Lowest Risk-Based Concentration for ground water (screening level).

(Y) indicates analyte not detected, but detection limit is above screening concentration.

J = indicates the internal standard associated with the analyte is out of control limits; the reported concentration is an estimate.

Table 3. Further Evaluation of COPCs in Soil

Contaminated Medium		SOIL mg/Kg (ppm)						Maximum Detected Concentration	Lowest Applicable RBC (Soil)	Constituent of Concern (COC)?
Exposure Pathway		Soil Ingestion, Dermal Contact, and Inhalation								
Receptor Scenario		RBC _{ss}								
Direct or Indirect Pathway (see notes)		Occupational		Construction Worker		Excavation Worker				
Contaminant of Concern		Note	Note	Note	Note	Note	Note	mg/Kg (ppm)	mg/Kg (ppm)	Y/N
Volatil Organic Constituents										
Naphthalene	c, v	23		580	>Csat	16000	>Csat	0.205	23	N
Total Petroleum Hydrocarbons										
Generic Diesel / Heating Oil (DRO)	nc, v	14000		4600		-	>Max	570	4600	N
Gear Oil RRO (Site-Specific)	nc, nv	-	>Max	46000		-	>Max	15200	46000	N

Notes:

— = not analyzed or not applicable.

mg/kg = milligrams per kilogram or parts per million (ppm)

c = carcinogenic

nc = noncarcinogenic

v = volatile

nv = nonvolatile

RRO = residual-range organics.

<Csat = This soil RBC exceeds the limit of three-phase equilibrium partitioning.

<Max = The constituent RBC for this pathway is greater than 100,000 mg/kg. The Department believes it is highly unlikely that such concentrations will ever be encountered.

Table 4. Further Evaluation of COPCs, Reconnaissance Ground Water

Contaminated Medium		GROUND WATER µg/L (ppb)		Maximum Detected Concentration	Lowest Applicable RBC (Ground Water) ¹	Constituent of Concern (COC)?
Exposure Pathway		GW in Excavation RBC _{we}				
Receptor Scenario		Construction & Excavation Worker				
Direct or Indirect Pathway (see notes)		DS				
Contaminant of Concern	Note		Note	µg/L (ppb)	µg/L (ppb)	Y/N
Total Petroleum Hydrocarbons						
Generic Diesel / Heating Oil (DRO)	nc, v	-	>S	291	>S	N
Gear Oil RRO (Site-Specific)	nc, nv	-	>S	673	>S	N

Notes:

— = not analyzed or not applicable.

ug/L = micrograms per Liter or parts per billion (ppb).

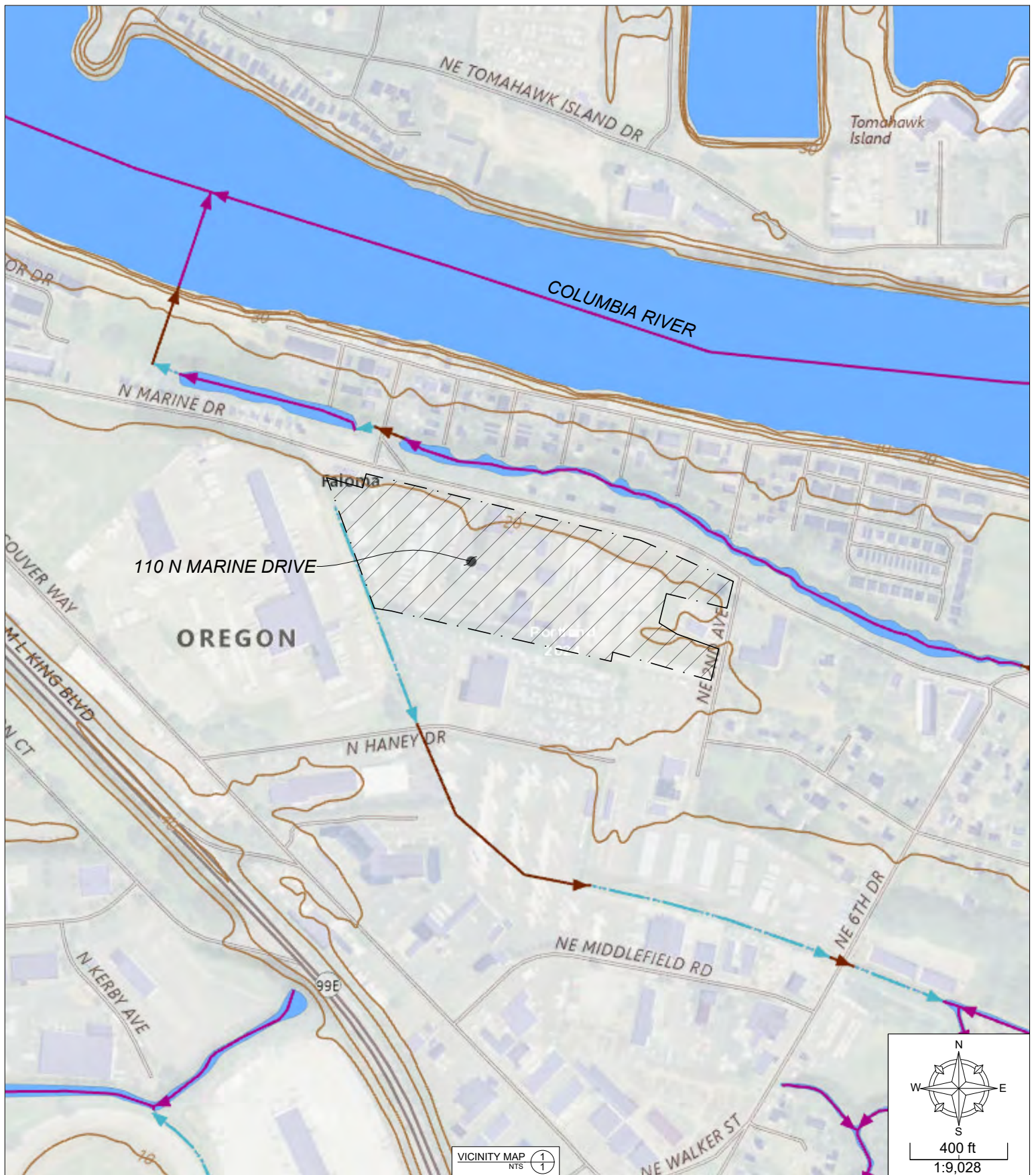
nc = noncarcinogenic

nv = nonvolatile

DRO = diesel-range organics.

RRO = residual-range organics.

<S = This groundwater RBC exceeds the solubility limit.



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- 1. MAP PROVIDED BY USGS NATIONAL MAP VIEWER. [HTTPS://APPS.NATIONALMAP.GOV/VIEWER/](https://apps.nationalmap.gov/viewer/)
- 2. AQUARIUS ENVIRONMENTAL CLAIMS NO RESPONSIBILITY FOR INACCURACIES THAT MAY BECOME APPARENT IN THE FUTURE. WHILE THIS INFORMATION IS DEEMED RELIABLE, NO GUARANTEE OF THE ACCURACY OF THIS INFORMATION IS MADE.

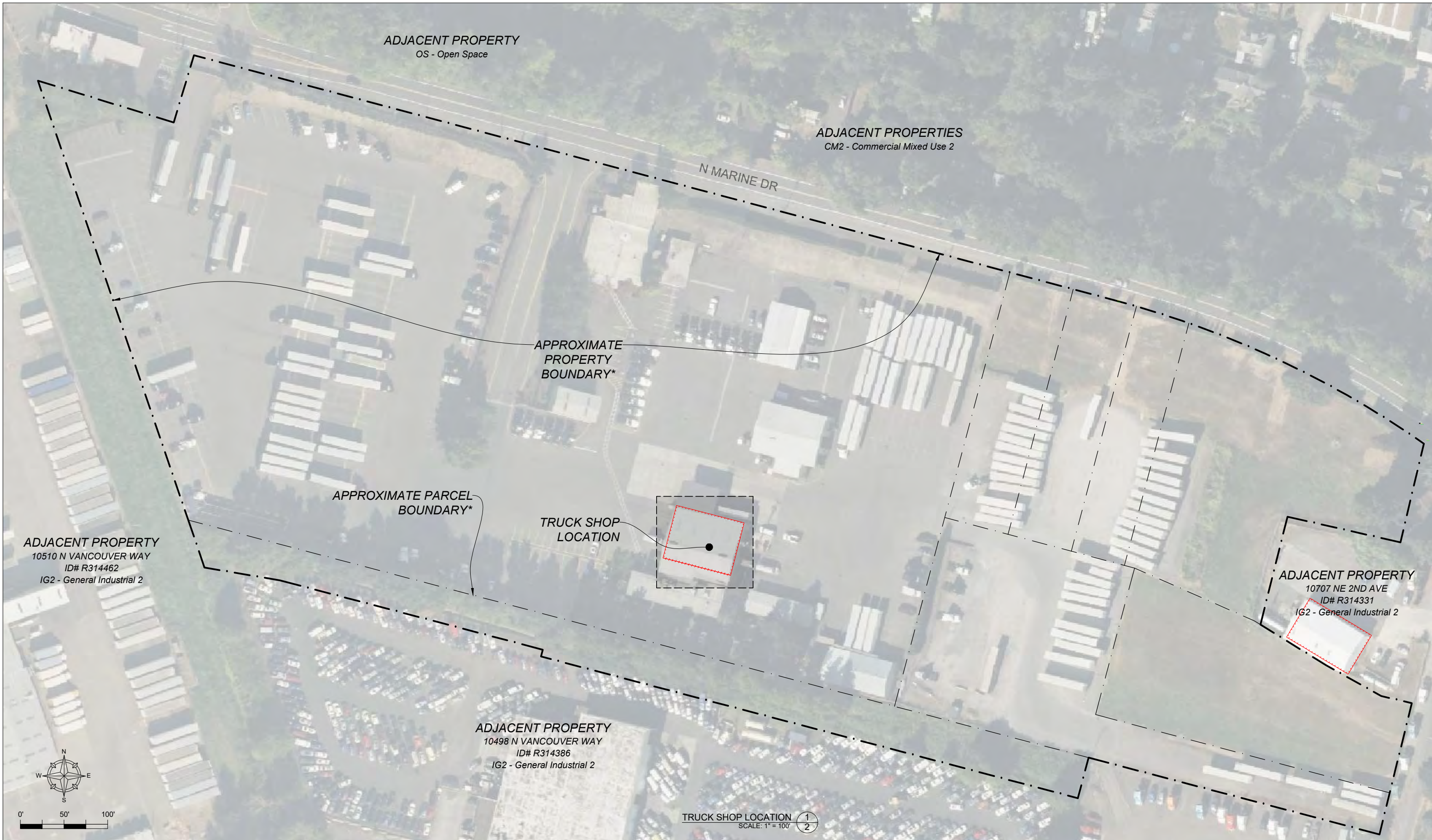
FIGURE	REVISIONS		
	Rev	Date	Description
1			

110 N MARINE DR, PORTLAND, OR 97217
 GENERAL LOCATION (VICINITY) MAPS

Designed:	N/A
Drawn:	KK
Checked:	
Date:	10/5/24
Scale:	AS NOTED



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GENERAL NOTES & DISCLAIMERS

1. INFORMATION WAS COMPILED FROM VARIOUS RESOURCES INCLUDING HISTORIC MAPS & DOCUMENTS, PUBLIC GIS MAPS, AND 2024 MICROSOFT CORP MAXAR CNES DISTRIBUTION AIRBUS DS (AERIAL IMAGE).
2. WHILE THIS INFORMATION IS DEEMED RELIABLE, NO GUARANTEE OF THE ACCURACY OF THIS INFORMATION IS MADE.
3. *THE PROPERTY CONTAINS MULTIPLE PARCELS. PROPERTY BOUNDARY (INCLUDING ALL PARCELS) IS INDICATED.

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY



110 N MARINE DRIVE
PORTLAND, OR 97217

SITE PLAN

FIGURE
2
PROJECT NO.
0013

KEY

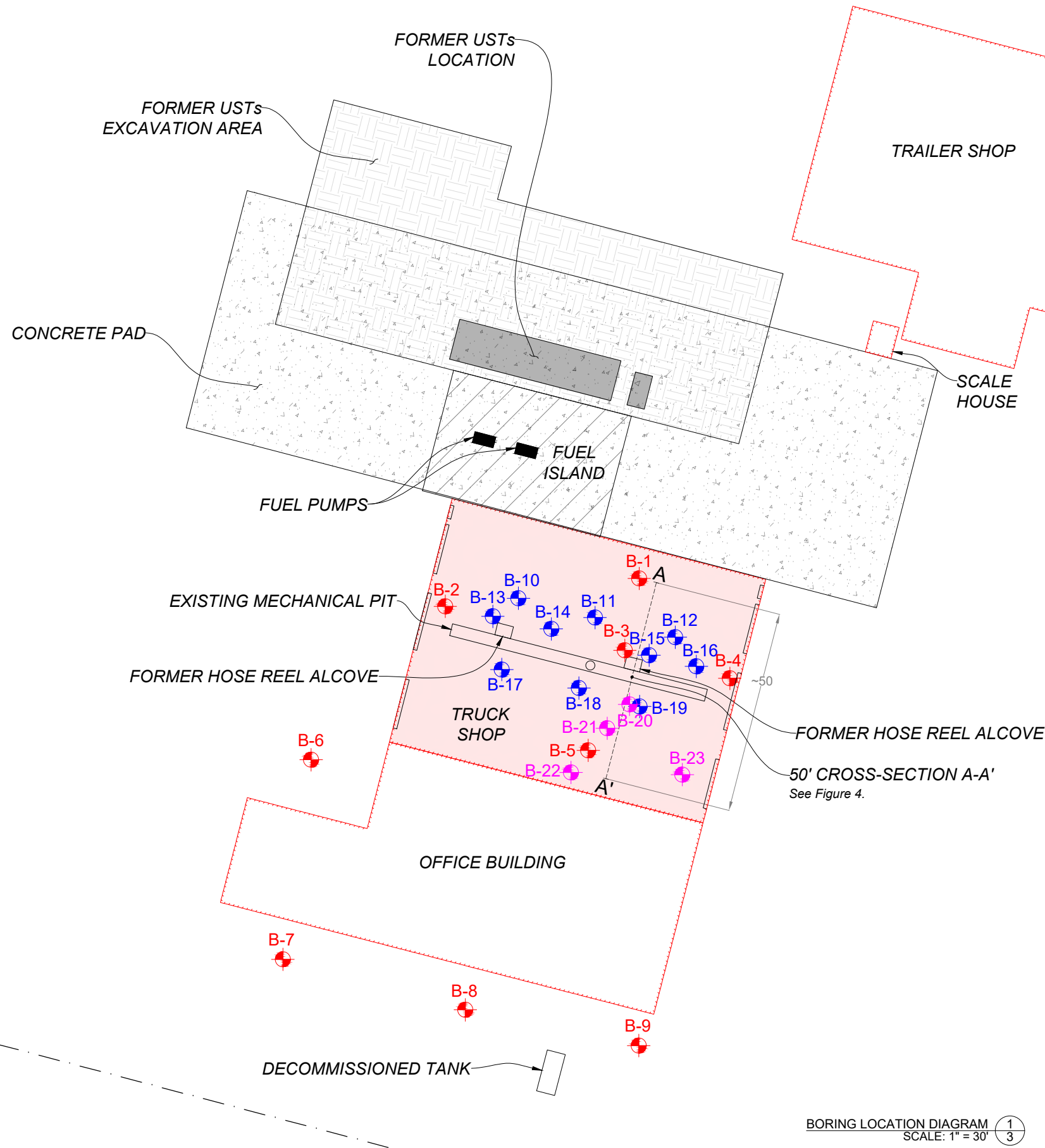
BORING LOCATION = B-1 or B-10 or B-20

B-1 THROUGH B-6 (12/18/20)

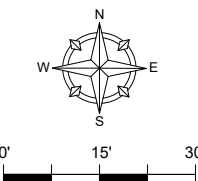
B-7 THROUGH B-9 (5/25/21)

B-10 THROUGH B-19 (1/16/23 & 1/17/23)

B-20 THROUGH B-23 (7/12/24)



BORING LOCATION DIAGRAM 1/3
SCALE: 1" = 30'



GENERAL NOTES & DISCLAIMERS

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2. WHILE THIS INFORMATION IS DEEMED RELIABLE, NO GUARANTEE OF THE ACCURACY OF THIS INFORMATION IS MADE.

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

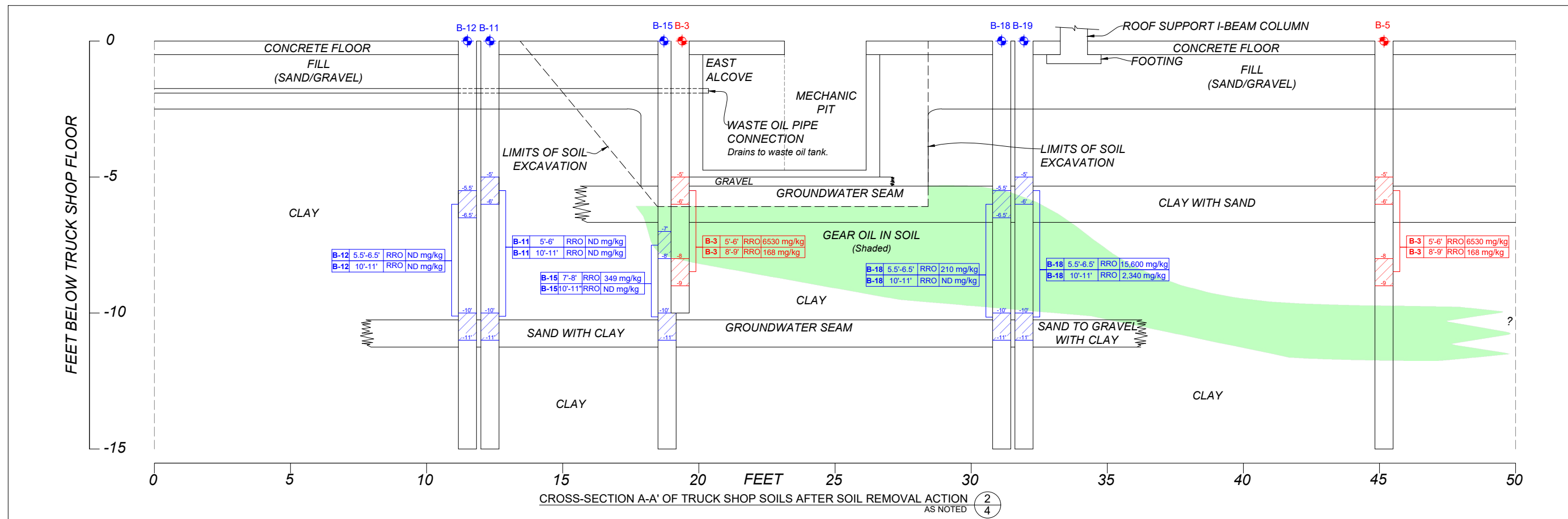
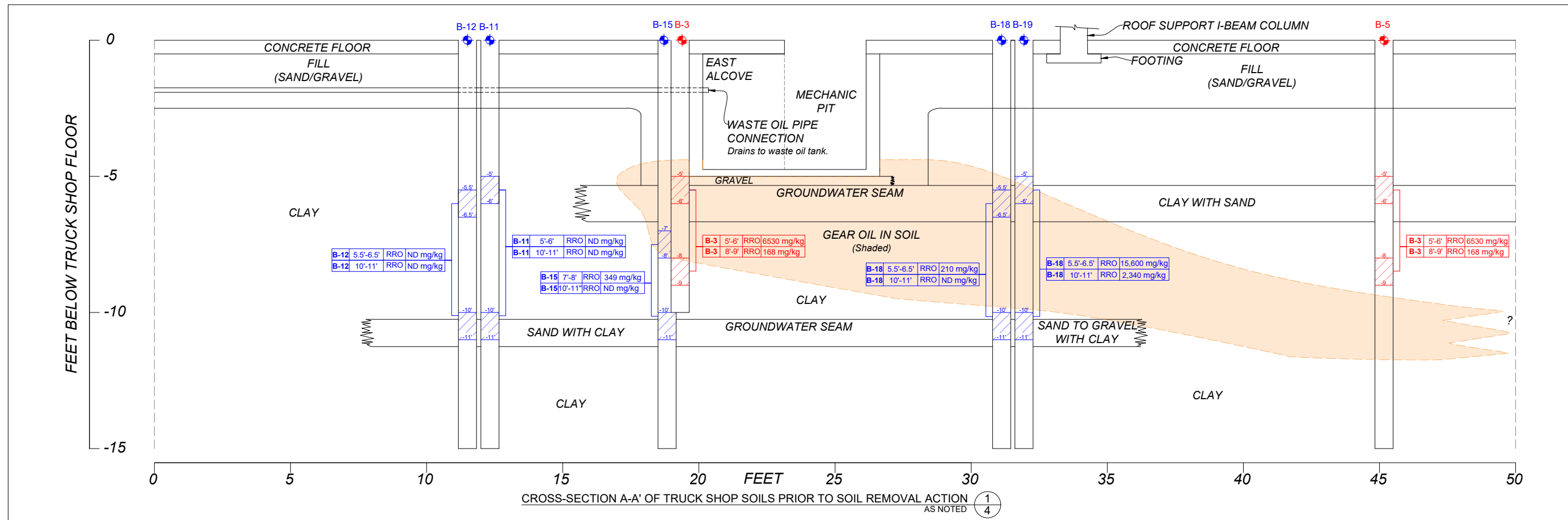


110 N MARINE DR
PORTLAND, OR 97217
BORING LOCATION DIAGRAM

FIGURE 3
PROJECT NO. 0013

NOTES:

- VIEWS OF CROSS-SECTIONS A-A' ARE GENERALLY NORTH TO SOUTH (i.e., PERPENDICULAR TO THE CROSS-SECTION PROFILE). SEE FIGURE 8.
- LUBRICANT PIPING WAS OBSERVED IN THE GRAVEL BASE BENEATH THE MECHANIC PIT. GRAVEL WAS COATED WITH OIL AND APPEARS TO HAVE BEEN THE RESERVOIR FOR GEAR OIL RELEASE AS A PLUME (AS DEPICTED IN CROSS-SECTIONS A-A').
- GENERAL CROSS-SECTION OF GEAR OIL PLUME WAS ESTIMATED FROM SOIL CONCENTRATIONS. SEE FIGURE 5.



REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY



110 N MARINE DR
 PORTLAND, OR 97217
 CROSS-SECTION A-A' OF TRUCK SHOP SOILS
 PRIOR TO AND AFTER FOCUSED SOIL REMOVAL ACTION

KEY

BORING LOCATION

- B-1 THROUGH B-6 (12/18/20)**
- B-7 THROUGH B-9 (5/25/21)***
- B-10 THROUGH B-19 (1/16/23 & 1/17/23)**
- B-20 THROUGH B-23 (7/12/24)**



GRAB SAMPLE LOCATION^

- G-1 THROUGH G-8 (3/31/23)**

*Borings on south side of the building (not shown).
 ^Grab samples of soil below the original mechanic pit. See this Figure (top right) for table of grab sample depths. Grab samples collected following cleanup activities.

GRAB SAMPLE DEPTHS

Grab Sample Location	Grab Sample Depth
G-1	5'9"
G-2	5'9"
G-3	5'10"
G-4	5'10"
G-5	7'5"
G-6	6'3"
G-7	6'4"
G-8	5'11"

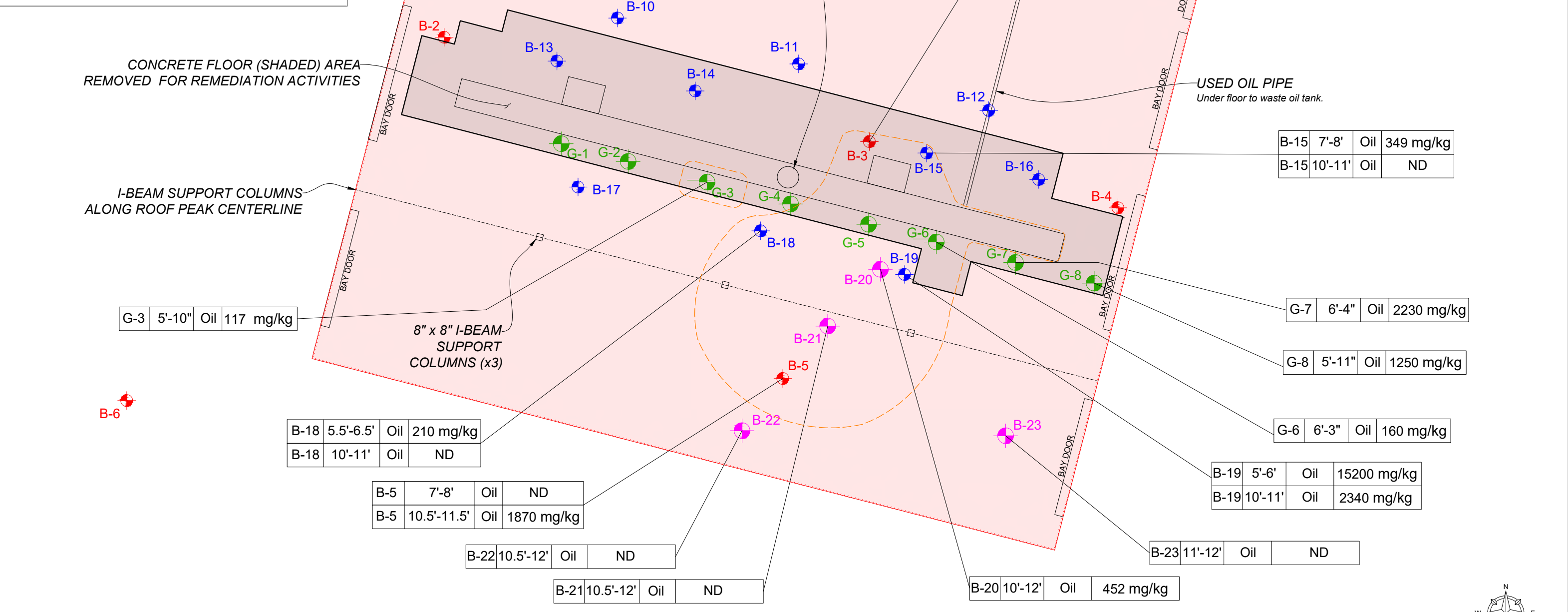
CONCRETE FLOOR (SHADED) AREA REMOVED FOR REMEDIATION ACTIVITIES

I-BEAM SUPPORT COLUMNS ALONG ROOF PEAK CENTERLINE

8" x 8" I-BEAM SUPPORT COLUMNS (x3)

COVERED DRAIN (SUMP)
 4'-8" PIT DEPTH (down to top of metal drain cover)

USED OIL PIPE
 Under floor to waste oil tank.

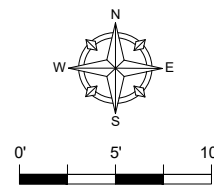


NOTE:

1. GEAR OIL WAS DETECTED IN SOIL AT THE LOCATIONS AND SAMPLES IDENTIFIED ON THIS FIGURE.

APPROXIMATE AREA WITH GEAR OIL REMAINING IN SOIL AT DEPTH > 5 FEET BGS =

AREA OF FOCUSED SOIL REMOVAL ACTION 1/5
 SCALE: 1" = 10'



GENERAL NOTES & DISCLAIMERS

1. INFORMATION WAS COMPILED FROM VARIOUS RESOURCES INCLUDING HISTORIC MAPS & DOCUMENTS, PUBLIC GIS MAPS, AND 2020 MICROSOFT CORP MAXAR CNES DISTRIBUTION AIRBUS DS (AERIAL IMAGE).
2. WHILE THIS INFORMATION IS DEEMED RELIABLE, NO GUARANTEE OF THE ACCURACY OF THIS INFORMATION IS MADE.

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY



110 N MARINE DR
 PORTLAND, OR 97217
 AREA OF FOCUSED SOIL REMOVAL ACTION

FIGURE
5
 PROJECT NO.
 0013

KEY

BORING LOCATION =



- B-1 THROUGH B-6 (12/18/20)**
- B-7 THROUGH B-9 (5/25/21)***
- B-10 THROUGH B-19 (1/16/23 & 1/17/23)**
- B-20 THROUGH B-23 (7/12/24)**

ESTIMATED ISOCONCENTRATION
CONTOURS FOR GEAR OIL (µg/L)

*South side of the building (not shown).

Diesel	236 µg/L
Oil	1860 µg/L

Diesel	ND
Oil	ND

Diesel	ND
Oil	673 µg/L

Diesel	ND
Oil	ND

Diesel	291
Oil	ND

Diesel	ND
Oil	ND

Diesel	174
Oil	ND

Diesel	ND
Oil	169 µg/L

Diesel	ND
Oil	ND

Diesel	102
Oil	ND

CONCRETE FLOOR (SHADED) AREA
REMOVED FOR REMEDIATION ACTIVITIES

FORMER HOSE REEL ALCOVE

I-BEAM SUPPORT COLUMNS
ALONG ROOF PEAK CENTERLINE

8" x 8" I-BEAM
SUPPORT
COLUMNS (x3)

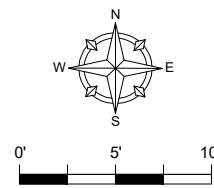
FORMER HOSE REEL ALCOVE

USED OIL PIPE
Under floor to waste oil tank.

NOTES:

- METHOD NWTPH-DX WAS USED TO MEASURE THE CONCENTRATION OF GEAR OIL AND DIESEL IN GROUNDWATER.
- GROUNDWATER CONCENTRATIONS DETERMINED FROM SAMPLES COLLECTED ON 12/18/20 AND 1/16/23.
- DIESEL DETECTED AT B-3 IS LIKELY FROM AN HISTORIC RELEASE FROM FORMER UNDERGROUND STORAGE TANKS AT THE FUEL CENTER ADJACENT TO THE NORTH WALL OF THE THE TRUCK SHOP. OREGON DEQ ISSUED A CONDITIONAL "NO FURTHER ACTION" DETERMINATION ALLOWING RESIDUAL DIESEL CONTAMINATION TO REMAIN IN PLACE UNDER THE FUEL CENTER CANOPY STRUCTURE.

ESTIMATED EXTENT OF RESIDUAL RRO IMPACTS TO GROUNDWATER (1/6)
SCALE: 1" = 10'



GENERAL NOTES & DISCLAIMERS

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REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

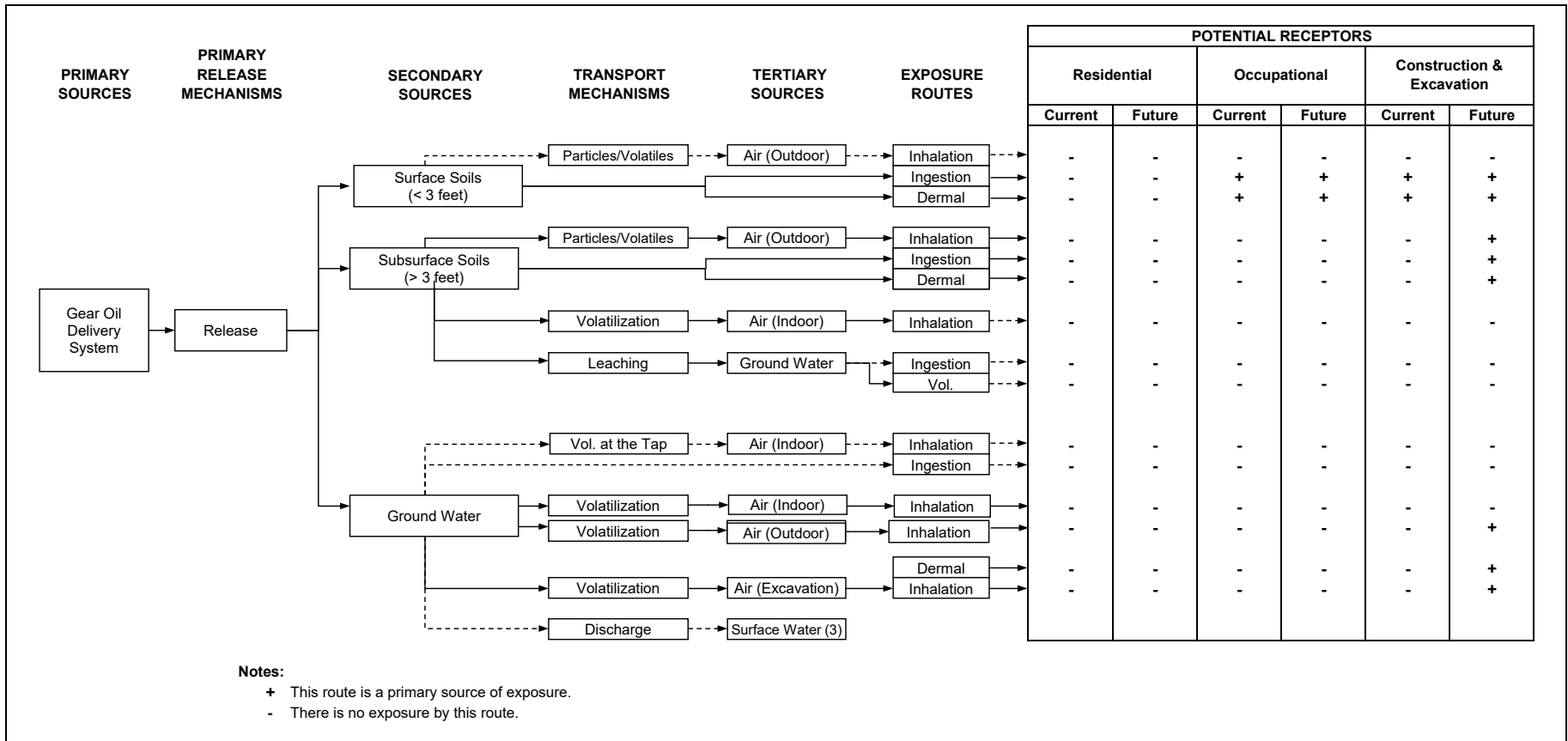


110 N MARINE DR
PORTLAND, OR 97217

ESTIMATED EXTENT OF RESIDUAL RRO IMPACTS
TO GROUNDWATER

FIGURE
6
PROJECT NO.
0013

Figure 7. Conceptual Site Model (Human Health)



Appendix A

Boring Logs



BORING LOG

B-1

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 7822DT
OPERATOR: Duncan / Austin
CONTRACTOR: Stratus Corporation

BORING START	BORING FINISH
Time: 0822	Time: 0840
Date: 18-Dec-20	Date: 18-Dec-20

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
										SOIL DESCRIPTION
										Concrete - Floor slab
						1				Sand, yellow brown, dry, grading to clay, no odor
						2				Gravel with clay, dark gray, dry, no odor
						3				Clay with sand, gray-brown, dry, no odor
						4				
						5				
						6				
						7				Clay, minor sand, gray-brown, moist, plastic, tight, no odor, no sheen
						8				
						9				Collect Sample B-1-9-10
				<27.8 (ND)	<55.6 (ND)					
						10				End of boring

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG B-2

PROJECT: Wilson Logistics Truck Shop (Former DSV / Market Transport Terminal) 110 N. Marine Drive, Portland, Oregon	LOGGER:	Gary Walvatne	BORING START	BORING FINISH
	SAMPLING METHOD:	Push probe	Time: 0822	Time: 0840
	EQUIPMENT TYPE:	Geoprobe 7822DT	Date: 18-Dec-20	Date: 18-Dec-20
	OPERATOR:	Duncan / Austin		
	CONTRACTOR:	Stratus Corporation		
PROJECT No.:				

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
										SOIL DESCRIPTION
										Concrete - Floor slab
						1				Sand with minor gravel, yellow brown, moist
						2				Gravel with clay, dark gray, dry, no odor
						3				Clay, brown-gray, dry, no odor
						4				
						5				AA
						6				Clay with sand, yellow-brown, moist
						7				Clay, gray-brown, moist
				<47.1 (ND)	<94.3 (ND)	8				AA, Grade to darker brown Collect Sample B-2-7.5-8.5
						9				Clay, gray, moist
						10				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-2

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 7822DT
OPERATOR: Duncan / Austin
CONTRACTOR: Stratus Corporation

BORING START	BORING FINISH
Time: 0822	Time: 0840
Date: 18-Dec-20	Date: 18-Dec-20

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
										SOIL DESCRIPTION
						11				AA - continue to third core
						12				Wet -- possible groundwater
				<29.2 (ND)	<58.4 (ND)					Collect Sample B-2-12-13 AA, but with brown staining -- no sheen, brown, no odor
						13				
						14				Clay with minor fine sand, brown-gray, moist, plastic, no odor
						15				End of boring
						16				
						17				
						18				
						19				
						20				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-3

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 7822DT
OPERATOR: Duncan / Austin
CONTRACTOR: Stratus Corporation

BORING START	BORING FINISH
Time: 0845	Time: 0905
Date: 18-Dec-20	Date: 18-Dec-20

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
										SOIL DESCRIPTION
						1				Concrete - Floor slab
										Void
										Sand with gravel, yellow-brown, dry, no odor
						2				
										AA, wet
						3				
										Sand, gray, wet, oil, petroleum (gear oil) odor
						4				Gravel plugged the drive shoe. Minor recovery, but as noted continues to the second core at 5 ft bgs
				<250 (ND)	6,530	5				Collect Sample B-3-5-6
										AA, Sand, gray, wet with gear oil, petroleum (gear oil) odor
						6				
										Clay, brown-gray, minor staining to 8 ft bgs, tight, dry
						7				
				<42.7 (ND)	168	8				Collect Sample B-3-8-9
						9				
						10				End of boring

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-4

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 7822DT
OPERATOR: Duncan / Austin
CONTRACTOR: Stratus Corporation

BORING START	BORING FINISH
Time: 0950	Time: 1025
Date: 18-Dec-20	Date: 18-Dec-20

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
										SOIL DESCRIPTION
						1				Concrete - Floor slab
										Sand with gravel, dark gray, moist, no odor
										Gravel with clay, 3/4- gravel, yellow-brown, dry, no odor
						2				Gravel with clay, dark gray, dry, no odor
						3				Clay, brown, plastic, no odor
						4				
						5				Clay, gray, moist, no sheen, no odor
				<27.8 (ND)	<55.7 (ND)					Collect Sample B-4-5-6
						6				
						7				
										Clay, gray with brown staining to end of core, dry
						8				
				<33.3 (ND)	<66.6 (ND)					Collect Sample B-4-8-9
						9				
						10				End of boring

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-5

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 7822DT
OPERATOR: Duncan / Austin
CONTRACTOR: Stratus Corporation

BORING START	BORING FINISH
Time: 1045	Time: 1110
Date: 18-Dec-20	Date: 18-Dec-20

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
										SOIL DESCRIPTION
						1				Concrete - Floor slab
										Sand with silt, dark gray, dry, no odor
						2				Gravel with sand, silt; dark gray, dry, no odor
										Clay, brown-gray, stiff, dry
						3				Clay, brown-gray, dry, no odor
						4				
						5				AA, petroleum (gear oil) odor
										AA, no sheen
						6				Clay with sand, yellow-brown, moist
										Clay, gray with brown staining, moist
						7				
				<41.9 (ND)	<83.8 (ND)					Sample B-5-7-8 AA, No sheen
						8				
						9				
						10				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-5

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 7822DT
OPERATOR: Duncan / Austin
CONTRACTOR: Stratus Corporation

BORING START	BORING FINISH
Time: 1045	Time: 1110
Date: 18-Dec-20	Date: 18-Dec-20

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
				107	1,870	11				AA - continue to third core
						12				Collect Sample B-5-10.5-11.5 AA, clay, gray with pronounced brown staining, plastic
						13				AA, palstic, no odor
						14				
						15				End of boring
						16				
						17				
						18				
						19				
						20				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-6

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 7822DT
OPERATOR: Duncan / Austin
CONTRACTOR: Stratus Corporation

BORING START	BORING FINISH
Time: 1115	Time: 1145
Date: 18-Dec-20	Date: 18-Dec-20

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
										SOIL DESCRIPTION
										Asphalt
						1				Gravel with sand, dark gray
						2				
						3				Clay, brown-gray, tight, dry
						4				AA, moist, plastic
						5				
						6				Sand with minor gravel, brown, dry
						7				Clay, brown, tight, dry
						8				
						9				
						10				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-6

PROJECT: Wilson Logistics Truck Shop (Former DSV / Market Transport Terminal) 110 N. Marine Drive, Portland, Oregon	LOGGER:	Gary Walvatne	BORING START	BORING FINISH
	SAMPLING METHOD:	Push probe	Time: 1115	Time: 1145
	EQUIPMENT TYPE:	Geoprobe 7822DT	Date: 18-Dec-20	Date: 18-Dec-20
	OPERATOR:	Duncan / Austin		
	CONTRACTOR:	Stratus Corporation		
PROJECT No.:				

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
										SOIL DESCRIPTION
						11				AA - continue to third core
										Sand with minor gravel, gray, dry
						12				Clay, brown-gray, moist, no odor
				<29.0 (ND)	<58.0 (ND)					Collect Sample B-6-12-13
						13				AA
						14				
						15				Clay, gray, moist
						16				End of boring
						17				
						18				
						19				
						20				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-7

PROJECT: Wilson Logistics Truck Shop (Former DSV / Market Transport Terminal) 110 N. Marine Drive, Portland, Oregon	LOGGER: Gary Walvatne	BORING START	BORING FINISH
	SAMPLING METHOD: Push probe	Time: 1020	Time: 1040
	EQUIPMENT TYPE: Geoprobe 7822DT	Date: 25-May-21	Date: 25-May-21
	OPERATOR: Thomas / Dean		
	CONTRACTOR: Stratus Corporation		
PROJECT No.:			

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
SOIL DESCRIPTION										
										Asphalt
						1				Parking Area Base -- 3/4"-minus gravel
						2				
						3				Clay, brown, stiff, dry Static groundwater in borehole at 2.46 ft bgs
						4				
						5				
						6				AA, occasional pebbles
						7				
						8				
						9				
				<31.2 (ND)	<62.4 (ND)	10				Collect Sample B-7-9.5-10.5 Clay, brown, moist

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-7

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 7822DT
OPERATOR: Thomas / Dean
CONTRACTOR: Stratus Corporation

BORING START	BORING FINISH
Time: 1020	Time: 1040
Date: 25-May-21	Date: 25-May-21

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
										SOIL DESCRIPTION
				<27.8 (ND)	<55.7 (ND)	11				AA - continue to third core
										Silt, brown, moist
										Collect Sample B-7-11-12
						12				
						13				
										AA, grading to dry at bottom
						14				
						15				End of boring
						16				
						17				
						18				
						19				
						20				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-8

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 7822DT
OPERATOR: Thomas / Dean
CONTRACTOR: Stratus Corporation

BORING START	BORING FINISH
Time: 0915	Time: 0935
Date: 25-May-21	Date: 25-May-21

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
						1				Asphalt
										Parking Area Base -- 3/4"-minus gravel
						2				Clay, brown, stiff, dry
						3				Static groundwater in borehole at 2.80 ft bgs
						4				
						5				Clay, brown, stiff
						6				Sand with pebbles, brown, dry
										Clay, brown, plastic
						7				
										Visible water on soil surface at bottom of soil core
				<53.6 (ND)	<107 (ND)	8				Collect Sample B-8-8-9
						9				
						10				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-8

PROJECT: Wilson Logistics Truck Shop (Former DSV / Market Transport Terminal) 110 N. Marine Drive, Portland, Oregon	LOGGER:	Gary Walvatne	BORING START	BORING FINISH
	SAMPLING METHOD:	Push probe	Time: 0915	Time: 0935
	EQUIPMENT TYPE:	Geoprobe 7822DT	Date: 25-May-21	Date: 25-May-21
	OPERATOR:	Thomas / Dean		
	CONTRACTOR:	Stratus Corporation		
PROJECT No.:				

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
										SOIL DESCRIPTION
										AA - continue to third core
						11				AA - thin layers of sand pebbles
						12				Collect Sample B-8-12-13
				<28.8 (ND)	<57.7 (ND)					Silt, brown, moist grading to dry, stiff
						13				
						14				
						15				End of boring
						16				
						17				
						18				
						19				
						20				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-9

PROJECT: Wilson Logistics Truck Shop (Former DSV / Market Transport Terminal) 110 N. Marine Drive, Portland, Oregon	LOGGER:	Gary Walvatne	BORING START	BORING FINISH
	SAMPLING METHOD:	Push probe	Time: 0850	Time: 0910
	EQUIPMENT TYPE:	Geoprobe 7822DT	Date: 25-May-21	Date: 25-May-21
	OPERATOR:	Thomas / Dean		
	CONTRACTOR:	Stratus Corporation		
PROJECT No.:				

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
										SOIL DESCRIPTION
						1				Asphalt
										Parking Area Base -- 3/4"-minus gravel
						2				Clay, brown, stiff, dry, no odor
						3				Static groundwater in borehole at 2.80 ft bgs
						4				
						5				Collect Sample B-9-5-6. Clay, brown, stiff
				<29.3 (ND)	<58.5 (ND)					Clay, moist, plastic
						6				Sand with pebbles, brown, dry, approximately 2" thick
										Clay, brown, plastic
						7				
						8				AA - Grading to organic clay, darker color
						9				
						10				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-9

PROJECT: Wilson Logistics Truck Shop (Former DSV / Market Transport Terminal) 110 N. Marine Drive, Portland, Oregon	LOGGER:	Gary Walvatne	BORING START	BORING FINISH
	SAMPLING METHOD:	Push probe	Time: 0850	Time: 0910
	EQUIPMENT TYPE:	Geoprobe 7822DT	Date: 25-May-21	Date: 25-May-21
	OPERATOR:	Thomas / Dean		
	CONTRACTOR:	Stratus Corporation		
PROJECT No.:				

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
				<28.3 (ND)	299					Collect Sample B-9-10-11 Clay, brown, moist, no odor
						11				
						12				
						13				
						14				Clay, brown, stiff
						15				End of boring
						16				
						17				
						18				
						19				
						20				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-10

PROJECT: Wilson Logistics Truck Shop (Former DSV / Market Transport Terminal) 110 N. Marine Drive, Portland, Oregon	LOGGER: Gary Walvatne	BORING START	BORING FINISH
	SAMPLING METHOD: Push probe	Time: 1026	Time: 1040
	EQUIPMENT TYPE: Geoprobe 6610DT	Date: 16-Jan-23	Date: 16-Jan-23
	OPERATOR: Tariq Barakas / Caleb Trusty		
PROJECT No.:	CONTRACTOR: Cascade Environmental		

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
										SOIL DESCRIPTION
						1				Concrete - Floor slab
										Sand with gravel, dark gray, moist, no odor
										Gravel with clay, 3/4- gravel, yellow-brown, dry, no odor
						2				Gravel with clay, dark gray, dry, no odor
						3				Clay, brown, plastic, no odor (Water level at 3.0 ft bgs in borehole prior to collection of water Sample B-10, apparently artesian flow from band of groundwater at 9.5 to 10.5 ft bgs)
						4				
						5				Clay, gray, moist, no sheen, no odor
						6				Clay with sand, yellow-brown, moist, no odor Collect Sample B-10-6-7
				<29.2 (ND)	<58.5 (ND)					Clay, gray, moist, no odor
						7				
										AA. Grade to darker brown
						8				
						9				Clay, gray, moist, no odor
						10				Sand, fine, gray, wet, no odor. Band of groundwater at 9.5 - 10.5. Collect Sample B-10-9.5-10.5

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-10

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 6610DT
OPERATOR: Tariq Barakas / Caleb Trusty
CONTRACTOR: Cascade Environmental

BORING START	BORING FINISH
Time: 1026	Time: 1040
Date: 16-Jan-23	Date: 16-Jan-23

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS: SURFACE ELEVATION: SOIL DESCRIPTION
						11				AA - continue Sample B-10-9.5-10.5 to third core (Wet, possible groundwater at 9.5 to 10.5 ft bgs) Clay, gray, plastic, no odor
						12				
						13				
						14				
						15				End of boring
						16				
						17				
						18				
						19				
						20				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-11

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 6610DT
OPERATOR: Tariq Barakas / Caleb Trusty
CONTRACTOR: Cascade Environmental

BORING START	BORING FINISH
Time: 1332	Time: 1346
Date: 16-Jan-23	Date: 16-Jan-23

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS: SURFACE ELEVATION: SOIL DESCRIPTION
						1				Concrete - Floor slab
										Sand with gravel, dark gray, moist, no odor
										Gravel with clay, 3/4- gravel, gray, dry, no odor
						2				Clay, brown, dry, no odor
						3				
						4				AA, plastic, no odor
						5				Clay, gray, moist, no sheen, no odor
				<29.9 (ND)	<59.9 (ND)					AA. Collect Sample B-11-5-6.
						6				
										Sand, yellow-brown, with gravel
						7				Clay, brown, dry
						8				
						9				AA, plastic grading to moist
						10				Sand with clay, brown-gray, moist

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-11

PROJECT: Wilson Logistics Truck Shop (Former DSV / Market Transport Terminal) 110 N. Marine Drive, Portland, Oregon	LOGGER:	Gary Walvatne	BORING START	BORING FINISH
	SAMPLING METHOD:	Push probe	Time: 1332	Time: 1346
	EQUIPMENT TYPE:	Geoprobe 6610DT	Date: 16-Jan-23	Date: 16-Jan-23
	OPERATOR:	Tariq Barakas / Caleb Trusty		
	CONTRACTOR:	Cascade Environmental		
PROJECT No.:				

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
				<28.7 (ND)	<57.5 (ND)					SURFACE ELEVATION:
						11				SOIL DESCRIPTION
										AA, groundwater seam. Collect Sample B-11-10-11
						12				AA, transition from wet to moist
						13				Clay with minor fine sand, brown-gray, moist, plastic, no odor
						14				
						15				End of boring
						16				
						17				
						18				
						19				
						20				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-12

PROJECT: Wilson Logistics Truck Shop (Former DSV / Market Transport Terminal) 110 N. Marine Drive, Portland, Oregon	LOGGER: Gary Walvatne	BORING START	BORING FINISH
	SAMPLING METHOD: Push probe	Time: 0846	Time: 0858
	EQUIPMENT TYPE: Geoprobe 6610DT	Date: 17-Jan-23	Date: 17-Jan-23
	OPERATOR: Tariq Barakas / Caleb Trusty		
PROJECT No.:	CONTRACTOR: Cascade Environmental		

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS: SURFACE ELEVATION: SOIL DESCRIPTION
						1				Concrete - Floor slab
										Sand with silt, dark gray, dry, no odor
										3/4- gravel, gray, dry, no odor
						2				Clay, brown-gray, stiff, dry, slight odor (gear oil)
						3				
						4				AA, plastic, no odor
						5				Clay, brown, plastic, gear oil odor
										Clay, gray, plastic, gear oil odor
				<29.7 (ND)	<59.4 (ND)	6				AA. Collect Sample B-12-5.5-6.5.
						7				Clay, brown, stiff, gear oil odor
						8				Clay, brown, plastic, gear oil odor
						9				
						10				Clay with sand, gray, moist, gear oil odor

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-12

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon
PROJECT No.:

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 6610DT
OPERATOR: Tariq Barakas / Caleb Trusty
CONTRACTOR: Cascade Environmental

BORING START	BORING FINISH
Time: 0846	Time: 0858
Date: 17-Jan-23	Date: 17-Jan-23

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS: SURFACE ELEVATION: SOIL DESCRIPTION
				<31.2 (ND)	<62.3 (ND)					AA, groundwater. Collect Sample B-12-10-11.
						11				AA, wet, less soft, grading to plastic
						12				AA, moist, plastic
						13				
						14				AA, brown-gray
						15				End of boring
						16				
						17				
						18				
						19				
						20				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-13

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 6610DT
OPERATOR: Tariq Barakas / Caleb Trusty
CONTRACTOR: Cascade Environmental

BORING START	BORING FINISH
Time: 1128	Time: 1140
Date: 16-Jan-23	Date: 16-Jan-23

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
										SOIL DESCRIPTION
										Concrete - Floor slab
						1				Sand, yellow brown, moist
										Transition from sand to clay
						2				Clay, yellow-brown to gray, dry, no odor
						3				
						4				
				<25.4 (ND)	<50.8 (ND)	5				Sand, yellow brown, wet. Collect Sample B-13-4.5-6
										Sand, brown to gray, wet, no odor. Possible groundwater seam.
						6				
										Clay, gray-brown, semi-plastic, no odor
										Clay, dark brown, dry, no odor
						7				
										AA, moist, no odor
						8				
						9				
						10				Clay with sand, gray, moist, no odor

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-13

PROJECT: Wilson Logistics Truck Shop (Former DSV / Market Transport Terminal) 110 N. Marine Drive, Portland, Oregon	LOGGER:	Gary Walvatne	BORING START	BORING FINISH
	SAMPLING METHOD:	Push probe	Time: 1128	Time: 1140
	EQUIPMENT TYPE:	Geoprobe 6610DT	Date: 16-Jan-23	Date: 16-Jan-23
	OPERATOR:	Tariq Barakas / Caleb Trusty		
	CONTRACTOR:	Cascade Environmental		
PROJECT No.:				

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT	LAB RESULT	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
				NWTPH-Dx, Diesel Range (mg/kg)	NWTPH-Dx, Oil Range (mg/kg)					SURFACE ELEVATION:
										SOIL DESCRIPTION
				<25.9 (ND)	<51.8 (ND)					Sand, gray, groundwater seam, no odor Collect Sample B-13-10-11
						11				
						12				Clay with minor fine sand, gray, moist, plastic, no odor
						13				Clay, gray with brown staining, plastic, no odor
						14				
						15				AA, gray
						16				End of boring
						17				
						18				
						19				
						20				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-14

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 6610DT
OPERATOR: Tariq Barakas / Caleb Trusty
CONTRACTOR: Cascade Environmental

BORING START	BORING FINISH
Time: 1158	Time: 1210
Date: 16-Jan-23	Date: 16-Jan-23

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS: SURFACE ELEVATION: SOIL DESCRIPTION
										Concrete - Floor slab
						1				Sand, yellow brown, moist
										Gravel, 3/4-" fill
						2				Clay, brown-gray, stiff, dry, no odor
						3				
						4				
				<28.8 (ND)	<57.6 (ND)					AA. Collect Sample B-14-4.5.
						5				
										Clay, brown-gray, moist, semi-plastic, no odor
										Collect Sample B-14-5.5-6.5
				<28.5 (ND)	<56.9 (ND)	6				Clay, gray-brown, semi-plastic, no odor
						7				Clay, dark brown, dry, no odor
						8				Clay, brown, moist, semi-plastic to plastic, no odor
						9				
						10				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-14

PROJECT: Wilson Logistics Truck Shop (Former DSV / Market Transport Terminal) 110 N. Marine Drive, Portland, Oregon	LOGGER:	Gary Walvatne	BORING START	BORING FINISH
	SAMPLING METHOD:	Push probe	Time: 1158	Time: 1210
	EQUIPMENT TYPE:	Geoprobe 6610DT	Date: 16-Jan-23	Date: 16-Jan-23
	OPERATOR:	Tariq Barakas / Caleb Trusty		
	CONTRACTOR:	Cascade Environmental		
PROJECT No.:				

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
										SOIL DESCRIPTION
						11				Sand, gray, groundwater seam, no odor
						12				Clay with minor fine sand, gray, moist, plastic, no odor
						13				Clay, gray, semi-plastic, no odor
						14				Clay, gray with brown staining, semi-plastic, no odor
						15				End of boring
						16				
						17				
						18				
						19				
						20				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-15

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 6610DT
OPERATOR: Tariq Barakas / Caleb Trusty
CONTRACTOR: Cascade Environmental

BORING START	BORING FINISH
Time: 1405	Time: 1420
Date: 16-Jan-23	Date: 16-Jan-23

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
						1				SURFACE ELEVATION:
						2				SOIL DESCRIPTION
										Concrete - Floor slab
										Sand with gravel, yellow-brown, dry, no odor
										Gravel plugged the drive shoe.
										No recovery for the core from 1.5 to 5 ft bgs (Possibly due to the backfill along the wall of the east alcove of the mechanic pit)
						3				
						4				
						5				
						6				Gravel with sand, gray, wet with gear oil, petroleum (gear oil) odor. Gravel likely the base rock below the east alcove for the mechanic pit. AA, sand to clay with minor gravel
				<50.2 (ND)	349	7				Clay, gray-brown, plastic, petroleum (gear oil) odor Collect Sample B-15-7-8
						8				Collect semivolatiles sample from 8-10 ft bgs Collect EPH / VPH 5035 Sample at 8.5 ft bgs
						9				
						10				Collect EPH / VPH 5035 Sample at 9.5 ft bgs

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-15

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 6610DT
OPERATOR: Tariq Barakas / Caleb Trusty
CONTRACTOR: Cascade Environmental

BORING START	BORING FINISH
Time: 1405	Time: 1420
Date: 16-Jan-23	Date: 16-Jan-23

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
				<27.0 (ND)	<54.0 (ND)					SURFACE ELEVATION:
										SOIL DESCRIPTION
						11				Clay with sand, gray with brown staining, wet, groundwater seam Collect Sample B-15-10-11
						12				Clay, gray, plastic.
						13				Clay, brown-gray, semi-plastic
						14				
						15				End of boring
						16				
						17				
						18				
						19				
						20				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-16

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 6610DT
OPERATOR: Tariq Barakas / Caleb Trusty
CONTRACTOR: Cascade Environmental

BORING START	BORING FINISH
Time: 0908	Time: 0922
Date: 17-Jan-23	Date: 17-Jan-23

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
										SOIL DESCRIPTION
						1				Concrete - Floor slab
										Sand with gravel, yellow-brown, dry, no odor
										3/4- Gravel, dark gray, dry, slight odor
						2				Clay, brown-gray, stiff, dry
						3				
						4				
										AA, plastic
						5				Clay with sand, brown, wet, gear oil odor
										Clay, brown, plastic to soft, gear oil odor
						6				Collect Sample B-16-5.5-6.5
				<30.3 (ND)	<60.7 (ND)					
						7				Clay, dark brown, dry, stiff, gear oil odor
						8				Clay, brown, grading to plastic, slightly moist, gear oil odor
						9				
						10				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-16

PROJECT: Wilson Logistics Truck Shop (Former DSV / Market Transport Terminal) 110 N. Marine Drive, Portland, Oregon	LOGGER: Gary Walvatne	BORING START	BORING FINISH
	SAMPLING METHOD: Push probe	Time: 0908	Time: 0922
	EQUIPMENT TYPE: Geoprobe 6610DT	Date: 17-Jan-23	Date: 17-Jan-23
	OPERATOR: Tariq Barakas / Caleb Trusty		
PROJECT No.:	CONTRACTOR: Cascade Environmental		

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
				<31.9 (ND)	<63.9 (ND)					SURFACE ELEVATION:
										SOIL DESCRIPTION
						11				Silty sand, fine, gray, wet, groundwater seam, no odor Collect Sample B-16-10-11
						12				Clay, brown-gray, moist, plastic, no odor
						13				
						14				AA, stiff, dry, no odor
						15				End of boring
						16				
						17				
						18				
						19				
						20				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-17

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 6610DT
OPERATOR: Tariq Barakas / Caleb Trusty
CONTRACTOR: Cascade Environmental

BORING START	BORING FINISH
Time: 1355	Time: 1408
Date: 17-Jan-23	Date: 17-Jan-23

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
						1				Concrete - Floor slab
										Sand with gravel, yellow-brown, dry, no odor
										3/4- Gravel, dark gray, dry, slight odor
						2				Clay, brown-gray, stiff, dry
										Clay, brown, dry, stiff, no odor, grading to gray (Water level at 2.35 ft bgs in borehole prior to collection of water Sample B-17, apparently artesian flow but no distinct groundwater seam was observed as in other boreholes. See description at 11.25 - 12.5 ft bgs.)
						3				
						4				
						5				Clay, gray, plastic, no odor Collect Sample B-17-5-6
				<28.8 (ND)	<57.6 (ND)	6				Clay, gray-brown, stiffer than above, no odor
						7				
						8				Clay, brown, moist, plastic, no odor
						9				
						10				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-17

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 6610DT
OPERATOR: Tariq Barakas / Caleb Trusty
CONTRACTOR: Cascade Environmental

BORING START	BORING FINISH
Time: 1355	Time: 1408
Date: 17-Jan-23	Date: 17-Jan-23

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
				<29.9 (ND)	<59.7 (ND)					SURFACE ELEVATION:
						11				SOIL DESCRIPTION
										Clay, brown-gray, moist, plastic, no odor Collect Sample B-17-10-11
						12				Clay, brown, drier than above, stiff, no odor Clay, brown-gray, plastic, moist, custard-like, no odor Possible source of groundwater at this depth, but no free water in core.
						13				Clay, brown-gray, moist, plastic, no odor
						14				
						15				End of boring
						16				
						17				
						18				
						19				
						20				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-18

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 6610DT
OPERATOR: Tariq Barakas / Caleb Trusty
CONTRACTOR: Cascade Environmental

BORING START	BORING FINISH
Time: 1216	Time: 1230
Date: 17-Jan-23	Date: 17-Jan-23

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
										SURFACE ELEVATION:
										SOIL DESCRIPTION
						1				Concrete - Floor slab
										Sand with gravel, dark gray, moist, strong gear oil odor
										3/4- Gravel, dark gray, moist, gear oil odor
						2				
										Clay, brown, dry, stiff, gear oil odor
										(Water level at 2.35 ft bgs in borehole prior to collection of water Sample B-18, apparently artesian flow from band of groundwater at 10 to 11.5 ft bgs)
						3				AA, plastic, gear oil odor
						4				
										Clay, dark brown, stiff, dry, gear oil odor
						5				
				<30.0 (ND)	210	6				Clay with minor gravel, brown, moist, plastic, gear oil odor
										Collect Sample B-18-5.5-6.5
						7				Clay, dark brown, dry, gear oil odor
						8				Clay with minor gravel, brown, moist, plastic, gear oil odor
						9				
						10				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-18

PROJECT: Wilson Logistics Truck Shop (Former DSV / Market Transport Terminal) 110 N. Marine Drive, Portland, Oregon	LOGGER:	Gary Walvatne	BORING START	BORING FINISH
	SAMPLING METHOD:	Push probe	Time: 1216	Time: 1230
	EQUIPMENT TYPE:	Geoprobe 6610DT	Date: 17-Jan-23	Date: 17-Jan-23
	OPERATOR:	Tariq Barakas / Caleb Trusty		
	CONTRACTOR:	Cascade Environmental		
PROJECT No.:				

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
				<30.0 (ND)	<60.1 (ND)					SURFACE ELEVATION:
										SOIL DESCRIPTION
						11				Gravel with clay, gray, moist, gear oil odor Clay, gray, soft, wet, semi-colloidal, gear oil odor Collect Sample B-18-10-11
						12				AA, slightly stiffer, plastic, wet grading to moist
						13				
						14				AA, grading from gray to brown, plastic
						15				End of boring
						16				
						17				
						18				
						19				
						20				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-19

PROJECT:
Wilson Logistics Truck Shop
(Former DSV / Market Transport Terminal)
110 N. Marine Drive, Portland, Oregon

LOGGER: Gary Walvatne
SAMPLING METHOD: Push probe
EQUIPMENT TYPE: Geoprobe 6610DT
OPERATOR: Tariq Barakas / Caleb Trusty
CONTRACTOR: Cascade Environmental

BORING START	BORING FINISH
Time: 1022	Time: 1037
Date: 17-Jan-23	Date: 17-Jan-23

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
						1				Concrete - Floor slab Gear oil present on the bottom side of the concrete core Sand with gravel, dark gray, moist, strong gear oil odor
						2				3/4- Gravel, gray, dry, stiff, gear oil odor
						3				Clay, brown, dry, stiff, gear oil odor (Water level at 2.3 ft bgs in borehole prior to collection of water Sample B-19, apparently artesian flow but a groundwater seam was not clearly identified.)
						4				AA, plastic, gear oil odor
				<570 (ND)	15,200	5				AA, stiffer, gear oil odor Collect Sample B-19-5-6
						6				Clay with sand, brown, moist, plastic, gear oil odor
						7				Clay, dark brown, dry, gear oil odor
						8				
						9				Clay, brown, moist, plastic, gear oil odor
						10				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration



BORING LOG

B-19

PROJECT: Wilson Logistics Truck Shop (Former DSV / Market Transport Terminal) 110 N. Marine Drive, Portland, Oregon	LOGGER:	Gary Walvatne	BORING START	BORING FINISH
	SAMPLING METHOD:	Push probe	Time: 1022	Time: 1037
	EQUIPMENT TYPE:	Geoprobe 6610DT	Date: 17-Jan-23	Date: 17-Jan-23
	OPERATOR:	Tariq Barakas / Caleb Trusty		
	CONTRACTOR:	Cascade Environmental		
PROJECT No.:				

ABANDONMENT DETAILS	SAMPLE NUMBER *	TIME	HEADSPACE (ppm)	LAB RESULT NWTPH-Dx, Diesel Range (mg/kg)	LAB RESULT NWTPH-Dx, Oil Range (mg/kg)	DEPTH (feet bgs)	GROUNDWATER	IMPACTED ZONE	STRATA (USCS)	COMMENTS:
				29.9	2,340					SURFACE ELEVATION:
										SOIL DESCRIPTION
						11				AA, gray Sand with clay, gray, moist, gear oil odor Clay with minor gravel, gray-brown, plastic, gear oil odor Collect Sample B-19-10-11
						12				Clay with fine sand, brown, moist, plastic, gear oil odor
						13				Clay, brown grading to gray at bottom, plastic, gear oil odor
						14				
						15				End of boring
						16				
						17				
						18				
						19				
						20				

*Sample Prefix

AA = as above

OSD + odor, sheen by sheen test, discoloration

Appendix B
Photographic Log



Photo 1. View east of the truck shop. Attached office building is visible at far right of view. Fueling center is shown along the left (north) side of the truck shop.



Photo 2. View west of truck shop. Attached office building is visible at far left of view. Fueling center is shown along the right (north) side of the truck shop.



Photo 3. View east of the concrete cores for Borings B-10, B-11, B-13, and B-14. Mechanic pit at right in the center bay of the truck shop. Soil borings supported final planning of soil removal.



Photo 4. View east of drilling Boring B-15 adjacent to the east alcove in the mechanic pit. Note seepage of gear oil at the wall-floor joint on the pit floor.

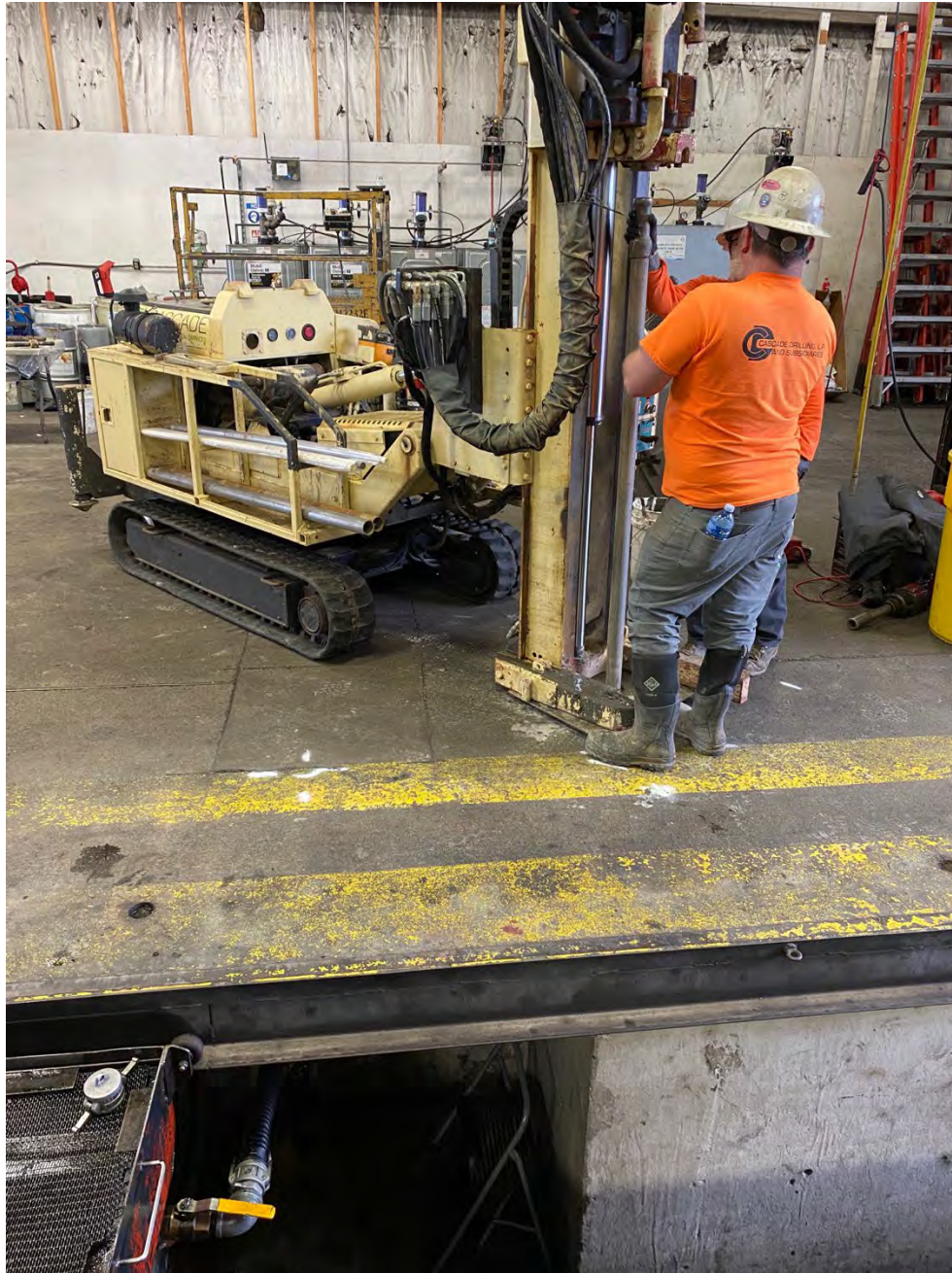


Photo 5. View north of drilling at the Boring B-15 location adjacent to the east alcove of the mechanic pit. Note oil drain pan and hose connection (lower left) to piping that transfers waste oil to a tank located at the fueling center (on the opposite side of the wall in the background). Note the concrete patch leading from the east alcove to the wall, covering the waste oil pipe trench; the drill rig is sitting directly over the concrete patch.

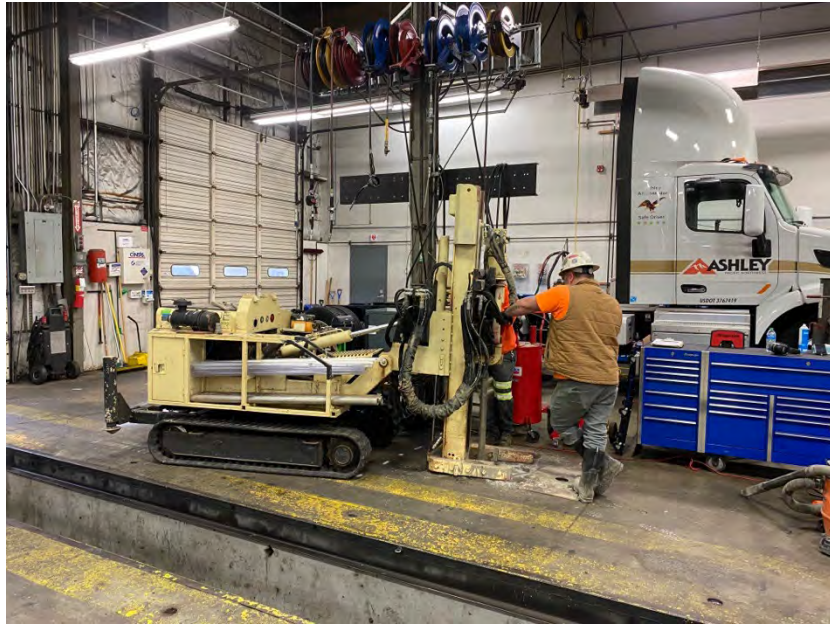


Photo 6. View south of drilling at the Boring B-19 location. Note I-beam roof column, directly behind the drill rig, which supports the current configuration of lubricant hose reels.

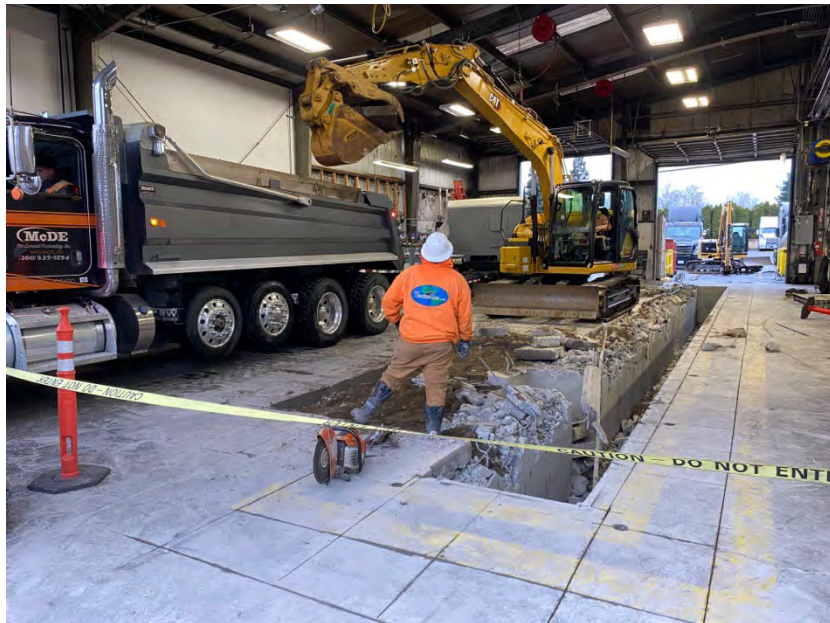


Photo 7. View east of the initial removal of concrete floor around the mechanic pit in the center bay of the truck shop.



Photo 8. View east of concrete floor removal and initial demolition of the mechanic pit.

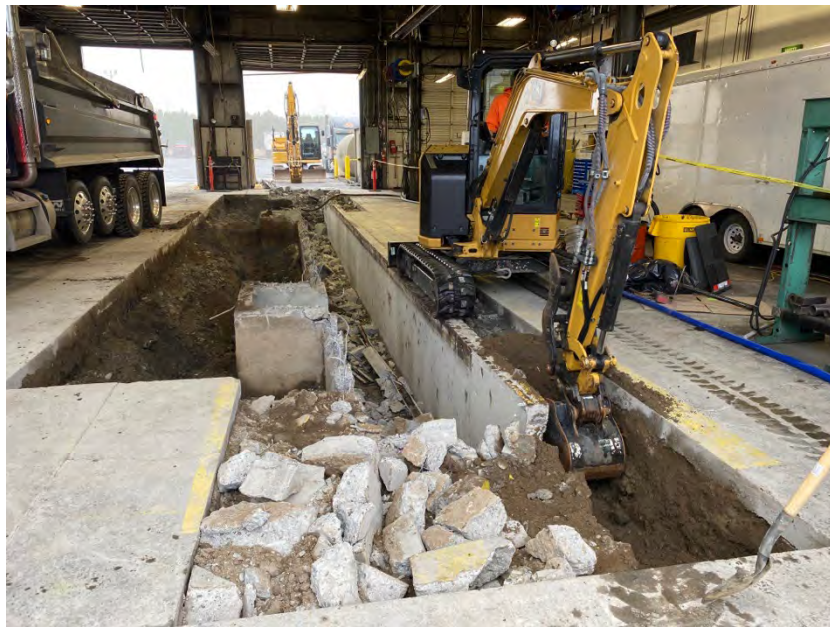


Photo 9. View east of the excavation of soil along the south side of the mechanic pit. Due to City of Portland building structural requirements, the excavation could not advance further south.



Photo 10. View southwest of the east end of the mechanic pit and east alcove (under the trackhoe). Groundwater seepage was pumped to portable storage tanks. See Photo 28.



Photo 11. View east of the demolition of the mechanic pit and the west alcove. Note sloped excavation as required by geotechnical assessment.



Photo 12. View east of the demolition of the north wall of the mechanic pit.

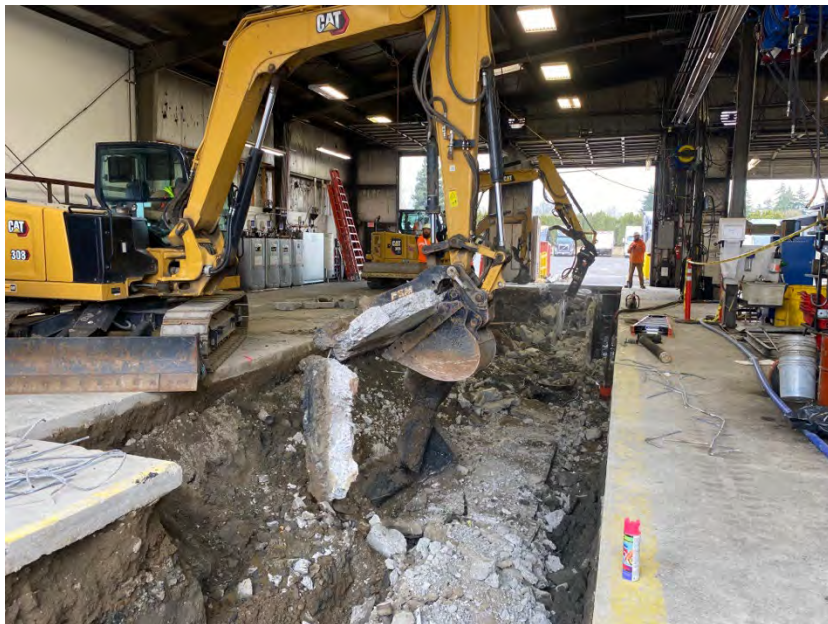


Photo 13. View east of the removal of the south wall of the mechanic pit.



Photo 14. View west of the mechanic pit demolition. In foreground, note the wiring bundle, which was for a former tank monitoring system; the wiring was removed.



Photo 15. View of the sump for the mechanic pit. The concrete floor was removed exposing the gravel and tubing beneath. The dark stain is due to the gear oil release into the gravel.



Photo 16. View east of removal of floor at the east end of the mechanic pit. Dark staining is due to release of gear oil in the gravel beneath the pit floor.



Photo 17. View of a section of concrete floor from the mechanic pit as it is being placed in a dump truck. Note gear-oil stained gravel on the base of the slab.



Photo 18. View of the broken-up slabs of the mechanic pit floor. Note the dark gear-oil stain on the slab bottom, as well as the tubing that transferred lubricants to the former hose reel alcoves.



Photo 19. View west of the removal of the saw-cut concrete floor section adjacent to the roof column. See Photos 20-22 of the probing of the footing for the roof column.



Photo 20. View of probing for the roof column footing to approximate dimensions for structural assessment. Footing was not large enough to support further soil removal to the south of the pit.



Photo 21. View showing probe length to the roof column footing.



Photo 22. View showing the approximate outline of the footing for the roof column. Footing thickness below the concrete floor was estimated to be 6-8 inches.



Photo 23. View of concrete pit floor slabs showing gear oil staining and lubricant tubing that was installed beneath the floor.



Photo 24. View west showing removal of the sump that was at the center of the mechanic pit.



Photo 25. View west of the excavation where the mechanic pit and soil were removed. Note the waste oil pipe, on the right side of the excavation, which will be connected to the new pit alcove.



Photo 26. View east of red-flagged locations for the soil grab samples collected from the final excavation bottom. The flag in the foreground identifies the location of Sample G-1.



Photo 27. View east from the excavation center shows the red-flagged locations for soil grab samples. The flag adjacent to the groundwater sump identifies the location of Sample G-5.



Photo 28. View east of the Baker tanks for collection and temporary storage of groundwater pumped from the excavation. Hose transfers tested water to a City of Portland sanitary sewer.



Photo 29. View of the meter that records the volume of tested groundwater approved for discharge to City of Portland sanitary sewer.



Photo 30. View north of the Baker tanks and the discharge hose along the west side of the truck shop and office building.



Photo 31. View east of the hose that carried water from the Baker tanks to the City of Portland sanitary sewer manhole located east of the office building.



Photo 32. View of water from the Baker tanks approved for transfer to a City of Portland sanitary sewer.



Photo 33. View west of the transfer hose from the Baker tanks to the City of Portland sanitary sewer.



Photo 34. View east of the geonet placed in the excavation prior to rebuilding the mechanic pit.



Photo 35. View west of the gravel bedding and geonet placed in the excavation..



Photo 36. View east of the construction of the new mechanical pit. Forms for the north pit wall are in place.



Photo 37. View west of the construction of the new mechanical pit. The north pit wall is in place. The south wall form is in place and ready for a pour.



Photo 38. View east of pouring cement for the south pit wall. Due to lack of space for safe access, this wall is the full thickness from the pit interior wall to the soil wall.



Photo 39. View east of the finished pour of the floor adjacent to the south pit wall.



Photo 40. View west of the controlled density fill (CDF) approved for backfill along the north side of the excavation. Note the waste oil pipe connected to the new pit alcove.



Photo 41. View west of the CDF backfill and the rebar for the final pour of the remaining floor.



Photo 42. View east of the new mechanic pit.



Photo 43. View west of the new mechanic pit.

Appendix C

*Laboratory Reports, Soil and Groundwater Samples,
Borings B-10 to B-23*



ANALYTICAL REPORT

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

Monday, January 30, 2023
Gary Walvatne
Aquarius Environmental LLC
2117 NE Oregon St, Suite 502
Portland, OR 97232

RE: A3A0524 - DSV North Marine Dr. - [none]

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A3A0524, which was received by the laboratory on 1/16/2023 at 6:02:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: cobrien@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Default Cooler 3.9 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-10-6-7	A3A0524-01	Soil	01/16/23 10:50	01/16/23 18:02
B-10-9.5-10.5	A3A0524-02	Soil	01/16/23 10:55	01/16/23 18:02
B-11-5-6	A3A0524-03	Soil	01/16/23 13:50	01/16/23 18:02
B-11-10-11	A3A0524-04	Soil	01/16/23 13:56	01/16/23 18:02
B-13-4.5-6	A3A0524-05	Soil	01/16/23 11:52	01/16/23 18:02
B-13-10-11	A3A0524-06	Soil	01/16/23 11:55	01/16/23 18:02
B-14-4-5	A3A0524-07	Soil	01/16/23 12:15	01/16/23 18:02
B-14-5.5-6.5	A3A0524-08	Soil	01/16/23 12:20	01/16/23 18:02
B-15-7-8	A3A0524-09	Soil	01/16/23 14:35	01/16/23 18:02
B-15-10-11	A3A0524-10	Soil	01/16/23 14:45	01/16/23 18:02
B-10	A3A0524-11	Water	01/16/23 11:03	01/16/23 18:02
B-15	A3A0524-12	Water	01/16/23 15:48	01/16/23 18:02

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-10-6-7 (A3A0524-01)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	29.2	mg/kg dry	1	01/20/23 20:57	NWTPH-Dx/SG	
Oil	ND	---	58.5	mg/kg dry	1	01/20/23 20:57	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 70 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/20/23 20:57</i>	<i>NWTPH-Dx/SG</i>
B-10-9.5-10.5 (A3A0524-02)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	29.8	mg/kg dry	1	01/20/23 21:37	NWTPH-Dx/SG	
Oil	ND	---	59.5	mg/kg dry	1	01/20/23 21:37	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 80 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/20/23 21:37</i>	<i>NWTPH-Dx/SG</i>
B-11-5-6 (A3A0524-03)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	29.9	mg/kg dry	1	01/20/23 21:58	NWTPH-Dx/SG	
Oil	ND	---	59.9	mg/kg dry	1	01/20/23 21:58	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 75 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/20/23 21:58</i>	<i>NWTPH-Dx/SG</i>
B-11-10-11 (A3A0524-04)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	28.7	mg/kg dry	1	01/20/23 22:18	NWTPH-Dx/SG	
Oil	ND	---	57.5	mg/kg dry	1	01/20/23 22:18	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 83 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/20/23 22:18</i>	<i>NWTPH-Dx/SG</i>
B-13-4.5-6 (A3A0524-05)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	25.4	mg/kg dry	1	01/20/23 22:39	NWTPH-Dx/SG	
Oil	ND	---	50.8	mg/kg dry	1	01/20/23 22:39	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 80 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/20/23 22:39</i>	<i>NWTPH-Dx/SG</i>
B-13-10-11 (A3A0524-06)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	25.9	mg/kg dry	1	01/20/23 22:59	NWTPH-Dx/SG	
Oil	ND	---	51.8	mg/kg dry	1	01/20/23 22:59	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 81 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/20/23 22:59</i>	<i>NWTPH-Dx/SG</i>
B-14-4-5 (A3A0524-07)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	28.8	mg/kg dry	1	01/20/23 23:19	NWTPH-Dx/SG	
Oil	ND	---	57.6	mg/kg dry	1	01/20/23 23:19	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 75 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/20/23 23:19</i>	<i>NWTPH-Dx/SG</i>
B-14-5.5-6.5 (A3A0524-08)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	28.5	mg/kg dry	1	01/20/23 23:39	NWTPH-Dx/SG	

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-14-5.5-6.5 (A3A0524-08)				Matrix: Soil		Batch: 23A0717		
Oil	ND	---	56.9	mg/kg dry	1	01/20/23 23:39	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 79 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/20/23 23:39</i>	<i>NWTPH-Dx/SG</i>
B-15-7-8 (A3A0524-09)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	50.2	mg/kg dry	1	01/21/23 00:00	NWTPH-Dx/SG	
Oil	349	---	100	mg/kg dry	1	01/21/23 00:00	NWTPH-Dx/SG	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 90 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/21/23 00:00</i>	<i>NWTPH-Dx/SG</i>
B-15-10-11 (A3A0524-10)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	27.0	mg/kg dry	1	01/20/23 20:16	NWTPH-Dx/SG	
Oil	ND	---	54.0	mg/kg dry	1	01/20/23 20:16	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 76 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/20/23 20:16</i>	<i>NWTPH-Dx/SG</i>
B-10 (A3A0524-11)				Matrix: Water		Batch: 23A0580		
Diesel	ND	---	202	ug/L	1	01/17/23 22:14	NWTPH-Dx/SG	
Oil	ND	---	404	ug/L	1	01/17/23 22:14	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 92 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/17/23 22:14</i>	<i>NWTPH-Dx/SG</i>
B-15 (A3A0524-12)				Matrix: Water		Batch: 23A0580		
Diesel	ND	---	202	ug/L	1	01/17/23 22:34	NWTPH-Dx/SG	
Oil	673	---	404	ug/L	1	01/17/23 22:34	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/17/23 22:34</i>	<i>NWTPH-Dx/SG</i>

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC	Project: DSV North Marine Dr.	
2117 NE Oregon St, Suite 502	Project Number: [none]	Report ID:
Portland, OR 97232	Project Manager: Gary Walvatne	A3A0524 - 01 30 23 1729

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
B-10-6-7 (A3A0524-01RE1)				Matrix: Soil		Batch: 23A0626			
Acenaphthene	ND	---	0.00399	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
Acenaphthylene	ND	---	0.00399	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
Anthracene	ND	---	0.00399	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
Benz(a)anthracene	ND	---	0.00399	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
Benzo(a)pyrene	ND	---	0.00598	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
Benzo(b)fluoranthene	ND	---	0.00598	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
Benzo(k)fluoranthene	ND	---	0.00598	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
Benzo(g,h,i)perylene	ND	---	0.00399	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
Chrysene	ND	---	0.00399	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
Dibenz(a,h)anthracene	ND	---	0.00399	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
Fluoranthene	ND	---	0.00399	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
Fluorene	ND	---	0.00399	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
Indeno(1,2,3-cd)pyrene	ND	---	0.00399	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
1-Methylnaphthalene	ND	---	0.00797	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
2-Methylnaphthalene	ND	---	0.00797	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
Naphthalene	ND	---	0.00797	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
Phenanthrene	ND	---	0.00399	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
Pyrene	ND	---	0.00399	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
Dibenzofuran	ND	---	0.00399	mg/kg dry	1	01/18/23 19:57	EPA 8270E		
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 90 %</i>		<i>Limits: 37-122 %</i>		<i>1</i>	<i>01/18/23 19:57</i>	<i>EPA 8270E</i>	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>		<i>73 %</i>		<i>44-120 %</i>		<i>1</i>	<i>01/18/23 19:57</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>		<i>75 %</i>		<i>33-122 %</i>		<i>1</i>	<i>01/18/23 19:57</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>		<i>78 %</i>		<i>54-127 %</i>		<i>1</i>	<i>01/18/23 19:57</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>		<i>84 %</i>		<i>35-120 %</i>		<i>1</i>	<i>01/18/23 19:57</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>		<i>90 %</i>		<i>39-132 %</i>		<i>1</i>	<i>01/18/23 19:57</i>	<i>EPA 8270E</i>	

B-10-9.5-10.5 (A3A0524-02)				Matrix: Soil		Batch: 23A0626		R-04
Acenaphthene	ND	---	0.0160	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
Acenaphthylene	ND	---	0.0160	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
Anthracene	ND	---	0.0160	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
Benz(a)anthracene	ND	---	0.0160	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
Benzo(a)pyrene	ND	---	0.0240	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.0240	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.0240	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.0160	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
Chrysene	ND	---	0.0160	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.0160	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
Fluoranthene	ND	---	0.0160	mg/kg dry	4	01/18/23 19:27	EPA 8270E	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-10-9.5-10.5 (A3A0524-02)				Matrix: Soil		Batch: 23A0626		R-04
Fluorene	ND	---	0.0160	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.0160	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
1-Methylnaphthalene	ND	---	0.0320	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
2-Methylnaphthalene	ND	---	0.0320	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
Naphthalene	ND	---	0.0320	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
Phenanthrene	ND	---	0.0160	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
Pyrene	ND	---	0.0160	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
Dibenzofuran	ND	---	0.0160	mg/kg dry	4	01/18/23 19:27	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 74 %</i>	<i>Limits: 37-122 %</i>	<i>4</i>	<i>01/18/23 19:27</i>	<i>EPA 8270E</i>	
<i>2-Fluorobiphenyl (Surr)</i>			<i>76 %</i>	<i>44-120 %</i>	<i>4</i>	<i>01/18/23 19:27</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>			<i>75 %</i>	<i>33-122 %</i>	<i>4</i>	<i>01/18/23 19:27</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>			<i>91 %</i>	<i>54-127 %</i>	<i>4</i>	<i>01/18/23 19:27</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>			<i>76 %</i>	<i>35-120 %</i>	<i>4</i>	<i>01/18/23 19:27</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>			<i>79 %</i>	<i>39-132 %</i>	<i>4</i>	<i>01/18/23 19:27</i>	<i>EPA 8270E</i>	
B-11-5-6 (A3A0524-03RE1)				Matrix: Soil		Batch: 23A0626		
Acenaphthene	ND	---	0.00400	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
Acenaphthylene	ND	---	0.00400	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
Anthracene	ND	---	0.00400	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
Benz(a)anthracene	ND	---	0.00400	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
Benzo(a)pyrene	ND	---	0.00599	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.00599	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.00599	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.00400	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
Chrysene	ND	---	0.00400	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.00400	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
Fluoranthene	ND	---	0.00400	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
Fluorene	ND	---	0.00400	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.00400	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
1-Methylnaphthalene	ND	---	0.00798	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
2-Methylnaphthalene	ND	---	0.00798	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
Naphthalene	ND	---	0.00798	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
Phenanthrene	ND	---	0.00400	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
Pyrene	ND	---	0.00400	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
Dibenzofuran	ND	---	0.00400	mg/kg dry	1	01/19/23 17:24	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 95 %</i>	<i>Limits: 37-122 %</i>	<i>1</i>	<i>01/19/23 17:24</i>	<i>EPA 8270E</i>	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>			<i>75 %</i>	<i>44-120 %</i>	<i>1</i>	<i>01/19/23 17:24</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>			<i>79 %</i>	<i>33-122 %</i>	<i>1</i>	<i>01/19/23 17:24</i>	<i>EPA 8270E</i>	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
			Matrix: Soil			Batch: 23A0626		
<i>Surrogate: p-Terphenyl-d14 (Surr)</i>			Recovery: 82 %	Limits: 54-127 %	1	01/19/23 17:24	EPA 8270E	
<i>2-Fluorophenol (Surr)</i>			87 %	35-120 %	1	01/19/23 17:24	EPA 8270E	
<i>2,4,6-Tribromophenol (Surr)</i>			90 %	39-132 %	1	01/19/23 17:24	EPA 8270E	

			Matrix: Soil			Batch: 23A0626		
Acenaphthene	ND	---	0.00392	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
Acenaphthylene	ND	---	0.00392	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
Anthracene	ND	---	0.00392	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
Benz(a)anthracene	ND	---	0.00392	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
Benzo(a)pyrene	ND	---	0.00587	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.00587	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.00587	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.00392	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
Chrysene	ND	---	0.00392	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.00392	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
Fluoranthene	ND	---	0.00392	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
Fluorene	ND	---	0.00392	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.00392	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
1-Methylnaphthalene	ND	---	0.00783	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
2-Methylnaphthalene	ND	---	0.00783	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
Naphthalene	ND	---	0.00783	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
Phenanthrene	ND	---	0.00392	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
Pyrene	ND	---	0.00392	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
Dibenzofuran	ND	---	0.00392	mg/kg dry	1	01/19/23 17:58	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			Recovery: 94 %	Limits: 37-122 %	1	01/19/23 17:58	EPA 8270E	Q-41
<i>2-Fluorobiphenyl (Surr)</i>			74 %	44-120 %	1	01/19/23 17:58	EPA 8270E	
<i>Phenol-d6 (Surr)</i>			76 %	33-122 %	1	01/19/23 17:58	EPA 8270E	
<i>p-Terphenyl-d14 (Surr)</i>			84 %	54-127 %	1	01/19/23 17:58	EPA 8270E	
<i>2-Fluorophenol (Surr)</i>			81 %	35-120 %	1	01/19/23 17:58	EPA 8270E	
<i>2,4,6-Tribromophenol (Surr)</i>			92 %	39-132 %	1	01/19/23 17:58	EPA 8270E	

			Matrix: Soil			Batch: 23A0626		
Acenaphthene	ND	---	0.00344	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
Acenaphthylene	ND	---	0.00344	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
Anthracene	ND	---	0.00344	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
Benz(a)anthracene	ND	---	0.00344	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
Benzo(a)pyrene	ND	---	0.00515	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
Benzo(b)fluoranthene	0.00682	---	0.00515	mg/kg dry	1	01/19/23 18:32	EPA 8270E	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-13-4.5-6 (A3A0524-05RE1)				Matrix: Soil		Batch: 23A0626		
Benzo(k)fluoranthene	ND	---	0.00515	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
Benzo(g,h,i)perylene	0.00462	---	0.00344	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
Chrysene	0.00383	---	0.00344	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.00344	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
Fluoranthene	0.00709	---	0.00344	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
Fluorene	ND	---	0.00344	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
Indeno(1,2,3-cd)pyrene	0.00386	---	0.00344	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
1-Methylnaphthalene	ND	---	0.00687	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
2-Methylnaphthalene	ND	---	0.00687	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
Naphthalene	ND	---	0.00687	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
Phenanthrene	0.00547	---	0.00344	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
Pyrene	0.00652	---	0.00344	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
Dibenzofuran	ND	---	0.00344	mg/kg dry	1	01/19/23 18:32	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 97 %</i>	<i>Limits: 37-122 %</i>	<i>1</i>	<i>01/19/23 18:32</i>	<i>EPA 8270E</i>	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>			<i>75 %</i>	<i>44-120 %</i>	<i>1</i>	<i>01/19/23 18:32</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>			<i>76 %</i>	<i>33-122 %</i>	<i>1</i>	<i>01/19/23 18:32</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>			<i>79 %</i>	<i>54-127 %</i>	<i>1</i>	<i>01/19/23 18:32</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>			<i>85 %</i>	<i>35-120 %</i>	<i>1</i>	<i>01/19/23 18:32</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>			<i>94 %</i>	<i>39-132 %</i>	<i>1</i>	<i>01/19/23 18:32</i>	<i>EPA 8270E</i>	

B-13-10-11 (A3A0524-06RE1)				Matrix: Soil		Batch: 23A0626		
Acenaphthene	ND	---	0.00348	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
Acenaphthylene	ND	---	0.00348	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
Anthracene	ND	---	0.00348	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
Benz(a)anthracene	ND	---	0.00348	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
Benzo(a)pyrene	ND	---	0.00522	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.00522	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.00522	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.00348	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
Chrysene	ND	---	0.00348	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.00348	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
Fluoranthene	ND	---	0.00348	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
Fluorene	ND	---	0.00348	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.00348	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
1-Methylnaphthalene	ND	---	0.00695	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
2-Methylnaphthalene	ND	---	0.00695	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
Naphthalene	ND	---	0.00695	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
Phenanthrene	ND	---	0.00348	mg/kg dry	1	01/19/23 19:05	EPA 8270E	
Pyrene	ND	---	0.00348	mg/kg dry	1	01/19/23 19:05	EPA 8270E	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
B-13-10-11 (A3A0524-06RE1)				Matrix: Soil		Batch: 23A0626			
Dibenzofuran	ND	---	0.00348	mg/kg dry	1	01/19/23 19:05	EPA 8270E		
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery:</i>		<i>98 %</i>	<i>Limits: 37-122 %</i>	<i>1</i>	<i>01/19/23 19:05</i>	<i>EPA 8270E</i>	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>				<i>68 %</i>	<i>44-120 %</i>	<i>1</i>	<i>01/19/23 19:05</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>				<i>77 %</i>	<i>33-122 %</i>	<i>1</i>	<i>01/19/23 19:05</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>				<i>71 %</i>	<i>54-127 %</i>	<i>1</i>	<i>01/19/23 19:05</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>				<i>83 %</i>	<i>35-120 %</i>	<i>1</i>	<i>01/19/23 19:05</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>				<i>87 %</i>	<i>39-132 %</i>	<i>1</i>	<i>01/19/23 19:05</i>	<i>EPA 8270E</i>	
B-14-4-5 (A3A0524-07RE1)				Matrix: Soil		Batch: 23A0626			
Acenaphthene	ND	---	0.00383	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
Acenaphthylene	ND	---	0.00383	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
Anthracene	ND	---	0.00383	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
Benz(a)anthracene	ND	---	0.00383	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
Benzo(a)pyrene	ND	---	0.00574	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
Benzo(b)fluoranthene	ND	---	0.00574	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
Benzo(k)fluoranthene	ND	---	0.00574	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
Benzo(g,h,i)perylene	ND	---	0.00383	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
Chrysene	ND	---	0.00383	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
Dibenz(a,h)anthracene	ND	---	0.00383	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
Fluoranthene	ND	---	0.00383	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
Fluorene	ND	---	0.00383	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
Indeno(1,2,3-cd)pyrene	ND	---	0.00383	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
1-Methylnaphthalene	ND	---	0.00765	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
2-Methylnaphthalene	ND	---	0.00765	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
Naphthalene	ND	---	0.00765	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
Phenanthrene	ND	---	0.00383	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
Pyrene	ND	---	0.00383	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
Dibenzofuran	ND	---	0.00383	mg/kg dry	1	01/19/23 19:39	EPA 8270E		
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery:</i>		<i>91 %</i>	<i>Limits: 37-122 %</i>	<i>1</i>	<i>01/19/23 19:39</i>	<i>EPA 8270E</i>	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>				<i>68 %</i>	<i>44-120 %</i>	<i>1</i>	<i>01/19/23 19:39</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>				<i>77 %</i>	<i>33-122 %</i>	<i>1</i>	<i>01/19/23 19:39</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>				<i>73 %</i>	<i>54-127 %</i>	<i>1</i>	<i>01/19/23 19:39</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>				<i>82 %</i>	<i>35-120 %</i>	<i>1</i>	<i>01/19/23 19:39</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>				<i>84 %</i>	<i>39-132 %</i>	<i>1</i>	<i>01/19/23 19:39</i>	<i>EPA 8270E</i>	
B-14-5.5-6.5 (A3A0524-08RE1)				Matrix: Soil		Batch: 23A0626			
Acenaphthene	ND	---	0.00376	mg/kg dry	1	01/19/23 22:59	EPA 8270E		
Acenaphthylene	ND	---	0.00376	mg/kg dry	1	01/19/23 22:59	EPA 8270E		

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-14-5.5-6.5 (A3A0524-08RE1)			Matrix: Soil		Batch: 23A0626			
Anthracene	ND	---	0.00376	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
Benz(a)anthracene	ND	---	0.00376	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
Benzo(a)pyrene	ND	---	0.00563	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
Benzo(b)fluoranthene	0.00763	---	0.00563	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.00563	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
Benzo(g,h,i)perylene	0.00554	---	0.00376	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
Chrysene	0.00386	---	0.00376	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.00376	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
Fluoranthene	0.00712	---	0.00376	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
Fluorene	ND	---	0.00376	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
Indeno(1,2,3-cd)pyrene	0.00467	---	0.00376	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
1-Methylnaphthalene	0.0164	---	0.00750	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
2-Methylnaphthalene	0.0162	---	0.00750	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
Naphthalene	ND	---	0.00750	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
Phenanthrene	0.00771	---	0.00376	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
Pyrene	0.00664	---	0.00376	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
Dibenzofuran	ND	---	0.00376	mg/kg dry	1	01/19/23 22:59	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 89 %</i>		<i>Limits: 37-122 %</i>	<i>1</i>	<i>01/19/23 22:59</i>	<i>EPA 8270E</i>	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>		<i>69 %</i>		<i>44-120 %</i>	<i>1</i>	<i>01/19/23 22:59</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>		<i>73 %</i>		<i>33-122 %</i>	<i>1</i>	<i>01/19/23 22:59</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>		<i>79 %</i>		<i>54-127 %</i>	<i>1</i>	<i>01/19/23 22:59</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>		<i>79 %</i>		<i>35-120 %</i>	<i>1</i>	<i>01/19/23 22:59</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>		<i>87 %</i>		<i>39-132 %</i>	<i>1</i>	<i>01/19/23 22:59</i>	<i>EPA 8270E</i>	

B-15-7-8 (A3A0524-09RE1)			Matrix: Soil		Batch: 23A0626			R-04
Acenaphthene	ND	---	0.0703	mg/kg dry	10	01/19/23 20:13	EPA 8270E	
Acenaphthylene	ND	---	0.0703	mg/kg dry	10	01/19/23 20:13	EPA 8270E	
Anthracene	ND	---	0.0703	mg/kg dry	10	01/19/23 20:13	EPA 8270E	
Benz(a)anthracene	ND	---	0.0703	mg/kg dry	10	01/19/23 20:13	EPA 8270E	
Benzo(a)pyrene	ND	---	0.105	mg/kg dry	10	01/19/23 20:13	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.105	mg/kg dry	10	01/19/23 20:13	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.105	mg/kg dry	10	01/19/23 20:13	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.0703	mg/kg dry	10	01/19/23 20:13	EPA 8270E	
Chrysene	ND	---	0.0703	mg/kg dry	10	01/19/23 20:13	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.0703	mg/kg dry	10	01/19/23 20:13	EPA 8270E	
Fluoranthene	ND	---	0.0703	mg/kg dry	10	01/19/23 20:13	EPA 8270E	
Fluorene	ND	---	0.0703	mg/kg dry	10	01/19/23 20:13	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.0703	mg/kg dry	10	01/19/23 20:13	EPA 8270E	
1-Methylnaphthalene	ND	---	0.140	mg/kg dry	10	01/19/23 20:13	EPA 8270E	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes		
B-15-7-8 (A3A0524-09RE1)			Matrix: Soil		Batch: 23A0626		R-04			
2-Methylnaphthalene	ND	---	0.140	mg/kg dry	10	01/19/23 20:13	EPA 8270E			
Naphthalene	ND	---	0.140	mg/kg dry	10	01/19/23 20:13	EPA 8270E			
Phenanthrene	ND	---	0.0703	mg/kg dry	10	01/19/23 20:13	EPA 8270E			
Pyrene	ND	---	0.0703	mg/kg dry	10	01/19/23 20:13	EPA 8270E			
Dibenzofuran	ND	---	0.0703	mg/kg dry	10	01/19/23 20:13	EPA 8270E			
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery:</i>		<i>96 %</i>	<i>Limits:</i>	<i>37-122 %</i>	<i>10</i>	<i>01/19/23 20:13</i>	<i>EPA 8270E</i>	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>				<i>78 %</i>	<i>44-120 %</i>	<i>10</i>	<i>01/19/23 20:13</i>	<i>EPA 8270E</i>		
<i>Phenol-d6 (Surr)</i>				<i>77 %</i>	<i>33-122 %</i>	<i>10</i>	<i>01/19/23 20:13</i>	<i>EPA 8270E</i>		
<i>p-Terphenyl-d14 (Surr)</i>				<i>82 %</i>	<i>54-127 %</i>	<i>10</i>	<i>01/19/23 20:13</i>	<i>EPA 8270E</i>		
<i>2-Fluorophenol (Surr)</i>				<i>75 %</i>	<i>35-120 %</i>	<i>10</i>	<i>01/19/23 20:13</i>	<i>EPA 8270E</i>		
<i>2,4,6-Tribromophenol (Surr)</i>				<i>93 %</i>	<i>39-132 %</i>	<i>10</i>	<i>01/19/23 20:13</i>	<i>EPA 8270E</i>		
B-15-10-11 (A3A0524-10RE1)			Matrix: Soil		Batch: 23A0626					
Acenaphthene	ND	---	0.00362	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
Acenaphthylene	ND	---	0.00362	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
Anthracene	ND	---	0.00362	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
Benz(a)anthracene	ND	---	0.00362	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
Benzo(a)pyrene	ND	---	0.00542	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
Benzo(b)fluoranthene	ND	---	0.00542	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
Benzo(k)fluoranthene	ND	---	0.00542	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
Benzo(g,h,i)perylene	ND	---	0.00362	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
Chrysene	ND	---	0.00362	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
Dibenz(a,h)anthracene	ND	---	0.00362	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
Fluoranthene	ND	---	0.00362	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
Fluorene	ND	---	0.00362	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
Indeno(1,2,3-cd)pyrene	ND	---	0.00362	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
1-Methylnaphthalene	ND	---	0.00722	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
2-Methylnaphthalene	ND	---	0.00722	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
Naphthalene	ND	---	0.00722	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
Phenanthrene	ND	---	0.00362	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
Pyrene	ND	---	0.00362	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
Dibenzofuran	ND	---	0.00362	mg/kg dry	1	01/19/23 23:33	EPA 8270E			
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery:</i>		<i>77 %</i>	<i>Limits:</i>	<i>37-122 %</i>	<i>1</i>	<i>01/19/23 23:33</i>	<i>EPA 8270E</i>	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>				<i>47 %</i>	<i>44-120 %</i>	<i>1</i>	<i>01/19/23 23:33</i>	<i>EPA 8270E</i>		
<i>Phenol-d6 (Surr)</i>				<i>69 %</i>	<i>33-122 %</i>	<i>1</i>	<i>01/19/23 23:33</i>	<i>EPA 8270E</i>		
<i>p-Terphenyl-d14 (Surr)</i>				<i>44 %</i>	<i>54-127 %</i>	<i>1</i>	<i>01/19/23 23:33</i>	<i>EPA 8270E</i>	<i>S-06</i>	
<i>2-Fluorophenol (Surr)</i>				<i>77 %</i>	<i>35-120 %</i>	<i>1</i>	<i>01/19/23 23:33</i>	<i>EPA 8270E</i>		
<i>2,4,6-Tribromophenol (Surr)</i>				<i>62 %</i>	<i>39-132 %</i>	<i>1</i>	<i>01/19/23 23:33</i>	<i>EPA 8270E</i>		

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
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503-718-2323
ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-10 (A3A0524-11)			Matrix: Water			Batch: 23A0724		
Acenaphthene	ND	---	0.0196	ug/L	1	01/24/23 14:29	EPA 8270E	
Acenaphthylene	ND	---	0.0196	ug/L	1	01/24/23 14:29	EPA 8270E	
Anthracene	ND	---	0.0196	ug/L	1	01/24/23 14:29	EPA 8270E	
Benz(a)anthracene	ND	---	0.0196	ug/L	1	01/24/23 14:29	EPA 8270E	
Benzo(a)pyrene	ND	---	0.0294	ug/L	1	01/24/23 14:29	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.0294	ug/L	1	01/24/23 14:29	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.0294	ug/L	1	01/24/23 14:29	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.0196	ug/L	1	01/24/23 14:29	EPA 8270E	
Chrysene	ND	---	0.0196	ug/L	1	01/24/23 14:29	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.0196	ug/L	1	01/24/23 14:29	EPA 8270E	
Fluoranthene	ND	---	0.0196	ug/L	1	01/24/23 14:29	EPA 8270E	
Fluorene	ND	---	0.0196	ug/L	1	01/24/23 14:29	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.0196	ug/L	1	01/24/23 14:29	EPA 8270E	
1-Methylnaphthalene	ND	---	0.0588	ug/L	1	01/24/23 14:29	EPA 8270E	B-07
2-Methylnaphthalene	ND	---	0.0882	ug/L	1	01/24/23 14:29	EPA 8270E	B-07
Naphthalene	ND	---	0.127	ug/L	1	01/24/23 14:29	EPA 8270E	A-01
Phenanthrene	ND	---	0.0196	ug/L	1	01/24/23 14:29	EPA 8270E	
Pyrene	ND	---	0.0196	ug/L	1	01/24/23 14:29	EPA 8270E	
Dibenzofuran	ND	---	0.0196	ug/L	1	01/24/23 14:29	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 104 %</i>	<i>Limits: 44-120 %</i>	<i>1</i>	<i>01/24/23 14:29</i>	<i>EPA 8270E</i>	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>			<i>75 %</i>	<i>44-120 %</i>	<i>1</i>	<i>01/24/23 14:29</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>			<i>25 %</i>	<i>10-133 %</i>	<i>1</i>	<i>01/24/23 14:29</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>			<i>75 %</i>	<i>50-134 %</i>	<i>1</i>	<i>01/24/23 14:29</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>			<i>54 %</i>	<i>19-120 %</i>	<i>1</i>	<i>01/24/23 14:29</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>			<i>114 %</i>	<i>43-140 %</i>	<i>1</i>	<i>01/24/23 14:29</i>	<i>EPA 8270E</i>	

B-15 (A3A0524-12RE1)			Matrix: Water			Batch: 23A0724		R-04
Acenaphthene	ND	---	0.0808	ug/L	4	01/24/23 15:03	EPA 8270E	
Acenaphthylene	ND	---	0.0808	ug/L	4	01/24/23 15:03	EPA 8270E	
Anthracene	ND	---	0.0808	ug/L	4	01/24/23 15:03	EPA 8270E	
Benz(a)anthracene	ND	---	0.0808	ug/L	4	01/24/23 15:03	EPA 8270E	
Benzo(a)pyrene	ND	---	0.121	ug/L	4	01/24/23 15:03	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.121	ug/L	4	01/24/23 15:03	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.121	ug/L	4	01/24/23 15:03	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.0808	ug/L	4	01/24/23 15:03	EPA 8270E	
Chrysene	ND	---	0.0808	ug/L	4	01/24/23 15:03	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.0808	ug/L	4	01/24/23 15:03	EPA 8270E	
Fluoranthene	ND	---	0.0808	ug/L	4	01/24/23 15:03	EPA 8270E	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
---	--	--

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
B-15 (A3A0524-12RE1)			Matrix: Water		Batch: 23A0724		R-04		
Fluorene	ND	---	0.0808	ug/L	4	01/24/23 15:03	EPA 8270E		
Indeno(1,2,3-cd)pyrene	ND	---	0.0808	ug/L	4	01/24/23 15:03	EPA 8270E		
1-Methylnaphthalene	ND	---	0.162	ug/L	4	01/24/23 15:03	EPA 8270E		
2-Methylnaphthalene	ND	---	0.162	ug/L	4	01/24/23 15:03	EPA 8270E		
Naphthalene	ND	---	0.162	ug/L	4	01/24/23 15:03	EPA 8270E		
Phenanthrene	ND	---	0.0808	ug/L	4	01/24/23 15:03	EPA 8270E		
Pyrene	ND	---	0.0808	ug/L	4	01/24/23 15:03	EPA 8270E		
Dibenzofuran	ND	---	0.0808	ug/L	4	01/24/23 15:03	EPA 8270E		
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 104 %</i>		<i>Limits: 44-120 %</i>		<i>4</i>	<i>01/24/23 15:03</i>	<i>EPA 8270E</i>	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>		<i>90 %</i>		<i>44-120 %</i>		<i>4</i>	<i>01/24/23 15:03</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>		<i>24 %</i>		<i>10-133 %</i>		<i>4</i>	<i>01/24/23 15:03</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>		<i>87 %</i>		<i>50-134 %</i>		<i>4</i>	<i>01/24/23 15:03</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>		<i>53 %</i>		<i>19-120 %</i>		<i>4</i>	<i>01/24/23 15:03</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>		<i>109 %</i>		<i>43-140 %</i>		<i>4</i>	<i>01/24/23 15:03</i>	<i>EPA 8270E</i>	

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ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-10-6-7 (A3A0524-01)				Matrix: Soil		Batch: 23A0574		
% Solids	66.1	---	1.00	%	1	01/18/23 05:25	EPA 8000D	
B-10-9.5-10.5 (A3A0524-02)				Matrix: Soil		Batch: 23A0574		
% Solids	65.7	---	1.00	%	1	01/18/23 05:25	EPA 8000D	
B-11-5-6 (A3A0524-03)				Matrix: Soil		Batch: 23A0574		
% Solids	66.7	---	1.00	%	1	01/18/23 05:25	EPA 8000D	
B-11-10-11 (A3A0524-04)				Matrix: Soil		Batch: 23A0574		
% Solids	68.0	---	1.00	%	1	01/18/23 05:25	EPA 8000D	
B-13-4.5-6 (A3A0524-05)				Matrix: Soil		Batch: 23A0574		
% Solids	76.9	---	1.00	%	1	01/18/23 05:25	EPA 8000D	
B-13-10-11 (A3A0524-06)				Matrix: Soil		Batch: 23A0574		
% Solids	75.6	---	1.00	%	1	01/18/23 05:25	EPA 8000D	
B-14-4-5 (A3A0524-07)				Matrix: Soil		Batch: 23A0574		
% Solids	69.3	---	1.00	%	1	01/18/23 05:25	EPA 8000D	
B-14-5.5-6.5 (A3A0524-08)				Matrix: Soil		Batch: 23A0574		
% Solids	69.2	---	1.00	%	1	01/18/23 05:25	EPA 8000D	
B-15-7-8 (A3A0524-09)				Matrix: Soil		Batch: 23A0574		
% Solids	38.0	---	1.00	%	1	01/18/23 05:25	EPA 8000D	
B-15-10-11 (A3A0524-10)				Matrix: Soil		Batch: 23A0574		
% Solids	70.9	---	1.00	%	1	01/18/23 05:25	EPA 8000D	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 23A0580 - EPA 3510C (Fuels/Acid Ext.) w/Silica Gel + Acid						Water							
Blank (23A0580-BLK1)		Prepared: 01/17/23 12:21			Analyzed: 01/17/23 20:33								
<u>NWTPH-Dx/SG</u>													
Diesel	ND	---	200	ug/L	1	---	---	---	---	---	---		
Oil	ND	---	400	ug/L	1	---	---	---	---	---	---		
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 95 %</i>			<i>Limits: 50-150 %</i>			<i>Dilution: 1x</i>					
LCS (23A0580-BS1)		Prepared: 01/17/23 12:21			Analyzed: 01/17/23 20:53								
<u>NWTPH-Dx/SG</u>													
Diesel	1050	---	200	ug/L	1	1250	---	84	36 - 132%	---	---		
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 96 %</i>			<i>Limits: 50-150 %</i>			<i>Dilution: 1x</i>					
LCS Dup (23A0580-BSD1)		Prepared: 01/17/23 12:21			Analyzed: 01/17/23 21:13								Q-19
<u>NWTPH-Dx/SG</u>													
Diesel	1040	---	200	ug/L	1	1250	---	83	36 - 132%	0.7	30%		
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 95 %</i>			<i>Limits: 50-150 %</i>			<i>Dilution: 1x</i>					
Batch 23A0717 - EPA 3546 w/SG+Acid (NWTPH)						Soil							
Blank (23A0717-BLK1)		Prepared: 01/20/23 06:45			Analyzed: 01/20/23 20:16								
<u>NWTPH-Dx/SG</u>													
Diesel	ND	---	20.0	mg/kg wet	1	---	---	---	---	---	---		
Oil	ND	---	40.0	mg/kg wet	1	---	---	---	---	---	---		
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 93 %</i>			<i>Limits: 50-150 %</i>			<i>Dilution: 1x</i>					
LCS (23A0717-BS1)		Prepared: 01/20/23 06:45			Analyzed: 01/20/23 20:36								
<u>NWTPH-Dx/SG</u>													
Diesel	134	---	20.0	mg/kg wet	1	125	---	107	38 - 132%	---	---		
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 90 %</i>			<i>Limits: 50-150 %</i>			<i>Dilution: 1x</i>					
Duplicate (23A0717-DUP1)		Prepared: 01/20/23 06:45			Analyzed: 01/20/23 21:17								
<u>QC Source Sample: B-10-6-7 (A3A0524-01)</u>													
<u>NWTPH-Dx/SG</u>													
Diesel	ND	---	29.7	mg/kg dry	1	---	ND	---	---	---	30%		
Oil	ND	---	59.3	mg/kg dry	1	---	ND	---	---	---	30%		

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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	% REC Limits	RPD RPD	RPD Limit	Notes
Batch 23A0717 - EPA 3546 w/SG+Acid (NWTPH)						Soil						
Duplicate (23A0717-DUP1)		Prepared: 01/20/23 06:45 Analyzed: 01/20/23 21:17										
QC Source Sample: B-10-6-7 (A3A0524-01)												
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 74 %			Limits: 50-150 %			Dilution: 1x				

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	RPD RPD	Notes
Batch 23A0626 - EPA 3546						Soil				
Blank (23A0626-BLK1)		Prepared: 01/18/23 10:14 Analyzed: 01/18/23 17:06								
EPA 8270E										
Acenaphthene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Acenaphthylene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Anthracene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Benz(a)anthracene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Benzo(a)pyrene	ND	---	0.00400	mg/kg wet	1	---	---	---	---	---
Benzo(b)fluoranthene	ND	---	0.00400	mg/kg wet	1	---	---	---	---	---
Benzo(k)fluoranthene	ND	---	0.00400	mg/kg wet	1	---	---	---	---	---
Benzo(g,h,i)perylene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Chrysene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Dibenz(a,h)anthracene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Fluoranthene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Fluorene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
1-Methylnaphthalene	ND	---	0.00533	mg/kg wet	1	---	---	---	---	---
2-Methylnaphthalene	ND	---	0.00533	mg/kg wet	1	---	---	---	---	---
Naphthalene	ND	---	0.00533	mg/kg wet	1	---	---	---	---	---
Phenanthrene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Pyrene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Carbazole	ND	---	0.00400	mg/kg wet	1	---	---	---	---	---
Dibenzofuran	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 1x</i>		Q-41		
<i>2-Fluorobiphenyl (Surr)</i>		<i>76 %</i>		<i>44-120 %</i>		<i>"</i>				
<i>Phenol-d6 (Surr)</i>		<i>70 %</i>		<i>33-122 %</i>		<i>"</i>				
<i>p-Terphenyl-d14 (Surr)</i>		<i>87 %</i>		<i>54-127 %</i>		<i>"</i>				
<i>2-Fluorophenol (Surr)</i>		<i>83 %</i>		<i>35-120 %</i>		<i>"</i>				
<i>2,4,6-Tribromophenol (Surr)</i>		<i>84 %</i>		<i>39-132 %</i>		<i>"</i>				

LCS (23A0626-BS1)		Prepared: 01/18/23 10:14 Analyzed: 01/18/23 17:40								
EPA 8270E										
Acenaphthene	0.480	---	0.0107	mg/kg wet	4	0.533	---	90	40 - 123%	---
Acenaphthylene	0.530	---	0.0107	mg/kg wet	4	0.533	---	99	32 - 132%	---
Anthracene	0.520	---	0.0107	mg/kg wet	4	0.533	---	97	47 - 123%	---
Benz(a)anthracene	0.519	---	0.0107	mg/kg wet	4	0.533	---	97	49 - 126%	---

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

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503-718-2323
ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23A0626 - EPA 3546						Soil						
LCS (23A0626-BS1)			Prepared: 01/18/23 10:14 Analyzed: 01/18/23 17:40									
Benzo(a)pyrene	0.539	---	0.0160	mg/kg wet	4	0.533	---	101	45 - 129%	---	---	
Benzo(b)fluoranthene	0.532	---	0.0160	mg/kg wet	4	0.533	---	100	45 - 132%	---	---	
Benzo(k)fluoranthene	0.535	---	0.0160	mg/kg wet	4	0.533	---	100	47 - 132%	---	---	
Benzo(g,h,i)perylene	0.521	---	0.0107	mg/kg wet	4	0.533	---	98	43 - 134%	---	---	
Chrysene	0.497	---	0.0107	mg/kg wet	4	0.533	---	93	50 - 124%	---	---	
Dibenz(a,h)anthracene	0.511	---	0.0107	mg/kg wet	4	0.533	---	96	45 - 134%	---	---	
Fluoranthene	0.531	---	0.0107	mg/kg wet	4	0.533	---	100	50 - 127%	---	---	
Fluorene	0.470	---	0.0107	mg/kg wet	4	0.533	---	88	43 - 125%	---	---	
Indeno(1,2,3-cd)pyrene	0.514	---	0.0107	mg/kg wet	4	0.533	---	96	45 - 133%	---	---	
1-Methylnaphthalene	0.490	---	0.0213	mg/kg wet	4	0.533	---	92	40 - 120%	---	---	
2-Methylnaphthalene	0.521	---	0.0213	mg/kg wet	4	0.533	---	98	38 - 122%	---	---	
Naphthalene	0.491	---	0.0213	mg/kg wet	4	0.533	---	92	35 - 123%	---	---	
Phenanthrene	0.480	---	0.0107	mg/kg wet	4	0.533	---	90	50 - 121%	---	---	
Pyrene	0.513	---	0.0107	mg/kg wet	4	0.533	---	96	47 - 127%	---	---	
Carbazole	0.493	---	0.0160	mg/kg wet	4	0.533	---	92	50 - 123%	---	---	
Dibenzofuran	0.497	---	0.0107	mg/kg wet	4	0.533	---	93	44 - 120%	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 4x</i>		Q-41				
<i>2-Fluorobiphenyl (Surr)</i>		<i>90 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>81 %</i>		<i>33-122 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>99 %</i>		<i>54-127 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>92 %</i>		<i>35-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>85 %</i>		<i>39-132 %</i>		<i>"</i>						

Duplicate (23A0626-DUP1) Prepared: 01/18/23 10:14 Analyzed: 01/18/23 20:31

QC Source Sample: B-10-6-7 (A3A0524-01RE1)

EPA 8270E												
Acenaphthene	ND	---	0.00400	mg/kg dry	1	---	ND	---	---	---	30%	
Acenaphthylene	ND	---	0.00400	mg/kg dry	1	---	ND	---	---	---	30%	
Anthracene	ND	---	0.00400	mg/kg dry	1	---	ND	---	---	---	30%	
Benz(a)anthracene	ND	---	0.00400	mg/kg dry	1	---	ND	---	---	---	30%	
Benzo(a)pyrene	ND	---	0.00600	mg/kg dry	1	---	ND	---	---	---	30%	
Benzo(b)fluoranthene	ND	---	0.00600	mg/kg dry	1	---	0.00366	---	---	---	***	30%
Benzo(k)fluoranthene	ND	---	0.00600	mg/kg dry	1	---	ND	---	---	---	30%	
Benzo(g,h,i)perylene	ND	---	0.00400	mg/kg dry	1	---	ND	---	---	---	30%	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 23A0626 - EPA 3546						Soil							
Duplicate (23A0626-DUP1)		Prepared: 01/18/23 10:14 Analyzed: 01/18/23 20:31											
QC Source Sample: B-10-6-7 (A3A0524-01RE1)													
Chrysene	ND	---	0.00400	mg/kg dry	1	---	ND	---	---	---	30%		
Dibenz(a,h)anthracene	ND	---	0.00400	mg/kg dry	1	---	ND	---	---	---	30%		
Fluoranthene	ND	---	0.00400	mg/kg dry	1	---	ND	---	---	---	30%		
Fluorene	ND	---	0.00400	mg/kg dry	1	---	0.00226	---	---	***	30%	Q-05	
Indeno(1,2,3-cd)pyrene	ND	---	0.00400	mg/kg dry	1	---	ND	---	---	---	30%		
1-Methylnaphthalene	ND	---	0.00799	mg/kg dry	1	---	ND	---	---	---	30%		
2-Methylnaphthalene	ND	---	0.00799	mg/kg dry	1	---	ND	---	---	---	30%		
Naphthalene	ND	---	0.00799	mg/kg dry	1	---	ND	---	---	---	30%		
Phenanthrene	ND	---	0.00400	mg/kg dry	1	---	0.00203	---	---	***	30%	Q-05	
Pyrene	ND	---	0.00400	mg/kg dry	1	---	ND	---	---	---	30%		
Carbazole	ND	---	0.00600	mg/kg dry	1	---	ND	---	---	---	30%		
Dibenzofuran	ND	---	0.00400	mg/kg dry	1	---	ND	---	---	---	30%		
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 88 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 1x</i>							Q-41
<i>2-Fluorobiphenyl (Surr)</i>		<i>70 %</i>		<i>44-120 %</i>		<i>"</i>							
<i>Phenol-d6 (Surr)</i>		<i>71 %</i>		<i>33-122 %</i>		<i>"</i>							
<i>p-Terphenyl-d14 (Surr)</i>		<i>76 %</i>		<i>54-127 %</i>		<i>"</i>							
<i>2-Fluorophenol (Surr)</i>		<i>74 %</i>		<i>35-120 %</i>		<i>"</i>							
<i>2,4,6-Tribromophenol (Surr)</i>		<i>84 %</i>		<i>39-132 %</i>		<i>"</i>							

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ANALYTICAL REPORT

Apex Laboratories, LLC

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503-718-2323
ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
---	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23A0724 - EPA 3510C (Acid Extraction)						Water						
Blank (23A0724-BLK1)		Prepared: 01/20/23 08:38			Analyzed: 01/20/23 19:26							
EPA 8270E												
Acenaphthene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Anthracene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Chrysene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Fluoranthene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Fluorene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
1-Methylnaphthalene	0.0578	---	0.0400	ug/L	1	---	---	---	---	---	---	B
2-Methylnaphthalene	0.109	---	0.0400	ug/L	1	---	---	---	---	---	---	B
Naphthalene	0.103	---	0.0400	ug/L	1	---	---	---	---	---	---	B
Phenanthrene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	B-02
Pyrene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Carbazole	ND	---	0.0300	ug/L	1	---	---	---	---	---	---	
Dibenzofuran	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 94 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>					Q-41	
<i>2-Fluorobiphenyl (Surr)</i>		<i>65 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>21 %</i>		<i>10-133 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>67 %</i>		<i>50-134 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>43 %</i>		<i>19-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>84 %</i>		<i>43-140 %</i>		<i>"</i>						

LCS (23A0724-BS1)						Prepared: 01/20/23 08:38 Analyzed: 01/20/23 20:00						
EPA 8270E												
Acenaphthene	3.27	---	0.0800	ug/L	4	4.00	---	82	47 - 122%	---	---	
Acenaphthylene	3.56	---	0.0800	ug/L	4	4.00	---	89	41 - 130%	---	---	
Anthracene	3.69	---	0.0800	ug/L	4	4.00	---	92	57 - 123%	---	---	
Benz(a)anthracene	3.71	---	0.0800	ug/L	4	4.00	---	93	58 - 125%	---	---	

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Cameron O'Brien, Project Manager



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ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
---	--	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 23A0724 - EPA 3510C (Acid Extraction)						Water							
LCS (23A0724-BS1)			Prepared: 01/20/23 08:38		Analyzed: 01/20/23 20:00								
Benzo(a)pyrene	3.86	---	0.120	ug/L	4	4.00	---	96	54 - 128%	---	---		
Benzo(b)fluoranthene	3.92	---	0.120	ug/L	4	4.00	---	98	53 - 131%	---	---		
Benzo(k)fluoranthene	3.74	---	0.120	ug/L	4	4.00	---	94	57 - 129%	---	---		
Benzo(g,h,i)perylene	4.00	---	0.0800	ug/L	4	4.00	---	100	50 - 134%	---	---		
Chrysene	3.63	---	0.0800	ug/L	4	4.00	---	91	59 - 123%	---	---		
Dibenz(a,h)anthracene	3.74	---	0.0800	ug/L	4	4.00	---	94	51 - 134%	---	---		
Fluoranthene	3.75	---	0.0800	ug/L	4	4.00	---	94	57 - 128%	---	---		
Fluorene	3.23	---	0.0800	ug/L	4	4.00	---	81	52 - 124%	---	---		
Indeno(1,2,3-cd)pyrene	3.85	---	0.0800	ug/L	4	4.00	---	96	52 - 134%	---	---		
1-Methylnaphthalene	3.17	---	0.160	ug/L	4	4.00	---	79	41 - 120%	---	---	B	
2-Methylnaphthalene	3.22	---	0.160	ug/L	4	4.00	---	80	40 - 121%	---	---	B	
Naphthalene	3.13	---	0.160	ug/L	4	4.00	---	78	40 - 121%	---	---	B	
Phenanthrene	3.38	---	0.0800	ug/L	4	4.00	---	84	59 - 120%	---	---	B-02	
Pyrene	3.69	---	0.0800	ug/L	4	4.00	---	92	57 - 126%	---	---		
Carbazole	3.49	---	0.120	ug/L	4	4.00	---	87	60 - 122%	---	---		
Dibenzofuran	3.35	---	0.0800	ug/L	4	4.00	---	84	53 - 120%	---	---		
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 102 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 4x</i>							Q-41
<i>2-Fluorobiphenyl (Surr)</i>		<i>81 %</i>		<i>44-120 %</i>		<i>"</i>							
<i>Phenol-d6 (Surr)</i>		<i>26 %</i>		<i>10-133 %</i>		<i>"</i>							
<i>p-Terphenyl-d14 (Surr)</i>		<i>90 %</i>		<i>50-134 %</i>		<i>"</i>							
<i>2-Fluorophenol (Surr)</i>		<i>48 %</i>		<i>19-120 %</i>		<i>"</i>							
<i>2,4,6-Tribromophenol (Surr)</i>		<i>82 %</i>		<i>43-140 %</i>		<i>"</i>							

LCS Dup (23A0724-BSD1)						Q-19						
EPA 8270E												
Acenaphthene	3.56	---	0.0800	ug/L	4	4.00	---	89	47 - 122%	8	30%	
Acenaphthylene	3.83	---	0.0800	ug/L	4	4.00	---	96	41 - 130%	7	30%	
Anthracene	3.89	---	0.0800	ug/L	4	4.00	---	97	57 - 123%	5	30%	
Benz(a)anthracene	4.10	---	0.0800	ug/L	4	4.00	---	102	58 - 125%	10	30%	
Benzo(a)pyrene	4.03	---	0.120	ug/L	4	4.00	---	101	54 - 128%	4	30%	
Benzo(b)fluoranthene	4.10	---	0.120	ug/L	4	4.00	---	103	53 - 131%	4	30%	
Benzo(k)fluoranthene	4.14	---	0.120	ug/L	4	4.00	---	104	57 - 129%	10	30%	
Benzo(g,h,i)perylene	4.28	---	0.0800	ug/L	4	4.00	---	107	50 - 134%	7	30%	
Chrysene	3.92	---	0.0800	ug/L	4	4.00	---	98	59 - 123%	8	30%	

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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23A0724 - EPA 3510C (Acid Extraction)						Water						
LCS Dup (23A0724-BSD1)	Prepared: 01/20/23 08:38					Analyzed: 01/23/23 11:30					Q-19	
Dibenz(a,h)anthracene	3.99	---	0.0800	ug/L	4	4.00	---	100	51 - 134%	6	30%	
Fluoranthene	4.00	---	0.0800	ug/L	4	4.00	---	100	57 - 128%	6	30%	
Fluorene	3.49	---	0.0800	ug/L	4	4.00	---	87	52 - 124%	8	30%	
Indeno(1,2,3-cd)pyrene	4.16	---	0.0800	ug/L	4	4.00	---	104	52 - 134%	8	30%	
1-Methylnaphthalene	3.58	---	0.160	ug/L	4	4.00	---	90	41 - 120%	12	30%	B
2-Methylnaphthalene	3.68	---	0.160	ug/L	4	4.00	---	92	40 - 121%	13	30%	B
Naphthalene	3.49	---	0.160	ug/L	4	4.00	---	87	40 - 121%	11	30%	B
Phenanthrene	3.68	---	0.0800	ug/L	4	4.00	---	92	59 - 120%	9	30%	B-02
Pyrene	3.86	---	0.0800	ug/L	4	4.00	---	97	57 - 126%	4	30%	
Carbazole	3.82	---	0.120	ug/L	4	4.00	---	95	60 - 122%	9	30%	
Dibenzofuran	3.62	---	0.0800	ug/L	4	4.00	---	90	53 - 120%	8	30%	
<i>Surr: Nitrobenzene-d5 (Surr)</i>	<i>Recovery:</i>		<i>103 %</i>	<i>Limits:</i>		<i>44-120 %</i>	<i>Dilution:</i>		<i>4x</i>			
<i>2-Fluorobiphenyl (Surr)</i>			<i>87 %</i>			<i>44-120 %</i>			<i>"</i>			
<i>Phenol-d6 (Surr)</i>			<i>25 %</i>			<i>10-133 %</i>			<i>"</i>			
<i>p-Terphenyl-d14 (Surr)</i>			<i>97 %</i>			<i>50-134 %</i>			<i>"</i>			
<i>2-Fluorophenol (Surr)</i>			<i>52 %</i>			<i>19-120 %</i>			<i>"</i>			
<i>2,4,6-Tribromophenol (Surr)</i>			<i>88 %</i>			<i>43-140 %</i>			<i>"</i>			

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QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23A0574 - Total Solids (Dry Weight)						Soil						

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

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SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Prep: EPA 3510C (Fuels/Acid Ext.) w/Silica Gel + Acid

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 23A0580</u>							
A3A0524-11	Water	NWTPH-Dx/SG	01/16/23 11:03	01/17/23 12:21	990mL/5mL	1000mL/5mL	1.01
A3A0524-12	Water	NWTPH-Dx/SG	01/16/23 15:48	01/17/23 12:21	990mL/5mL	1000mL/5mL	1.01

Prep: EPA 3546 w/SG+Acid (NWTPH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 23A0717</u>							
A3A0524-01	Soil	NWTPH-Dx/SG	01/16/23 10:50	01/20/23 06:45	10.36g/5mL	10g/5mL	0.97
A3A0524-02	Soil	NWTPH-Dx/SG	01/16/23 10:55	01/20/23 06:45	10.22g/5mL	10g/5mL	0.98
A3A0524-03	Soil	NWTPH-Dx/SG	01/16/23 13:50	01/20/23 06:45	10.02g/5mL	10g/5mL	1.00
A3A0524-04	Soil	NWTPH-Dx/SG	01/16/23 13:56	01/20/23 06:45	10.23g/5mL	10g/5mL	0.98
A3A0524-05	Soil	NWTPH-Dx/SG	01/16/23 11:52	01/20/23 06:45	10.23g/5mL	10g/5mL	0.98
A3A0524-06	Soil	NWTPH-Dx/SG	01/16/23 11:55	01/20/23 06:45	10.21g/5mL	10g/5mL	0.98
A3A0524-07	Soil	NWTPH-Dx/SG	01/16/23 12:15	01/20/23 06:45	10.02g/5mL	10g/5mL	1.00
A3A0524-08	Soil	NWTPH-Dx/SG	01/16/23 12:20	01/20/23 06:45	10.16g/5mL	10g/5mL	0.98
A3A0524-09	Soil	NWTPH-Dx/SG	01/16/23 14:35	01/20/23 06:45	10.5g/5mL	10g/5mL	0.95
A3A0524-10	Soil	NWTPH-Dx/SG	01/16/23 14:45	01/20/23 06:45	10.45g/5mL	10g/5mL	0.96

Selected Semivolatile Organic Compounds by EPA 8270E

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 23A0724</u>							
A3A0524-11	Water	EPA 8270E	01/16/23 11:03	01/20/23 08:38	1020mL/1mL	1000mL/1mL	0.98
A3A0524-12RE1	Water	EPA 8270E	01/16/23 15:48	01/20/23 08:38	990mL/1mL	1000mL/1mL	1.01

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 23A0626</u>							
A3A0524-01RE1	Soil	EPA 8270E	01/16/23 10:50	01/18/23 10:14	15.19g/2mL	15g/2mL	0.99
A3A0524-02	Soil	EPA 8270E	01/16/23 10:55	01/18/23 10:14	15.21g/2mL	15g/2mL	0.99
A3A0524-03RE1	Soil	EPA 8270E	01/16/23 13:50	01/18/23 10:14	15.02g/2mL	15g/2mL	1.00
A3A0524-04RE1	Soil	EPA 8270E	01/16/23 13:56	01/18/23 10:14	15.02g/2mL	15g/2mL	1.00
A3A0524-05RE1	Soil	EPA 8270E	01/16/23 11:52	01/18/23 10:14	15.13g/2mL	15g/2mL	0.99
A3A0524-06RE1	Soil	EPA 8270E	01/16/23 11:55	01/18/23 10:14	15.21g/2mL	15g/2mL	0.99
A3A0524-07RE1	Soil	EPA 8270E	01/16/23 12:15	01/18/23 10:14	15.09g/2mL	15g/2mL	0.99
A3A0524-08RE1	Soil	EPA 8270E	01/16/23 12:20	01/18/23 10:14	15.42g/2mL	15g/2mL	0.97

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SAMPLE PREPARATION INFORMATION

Selected Semivolatile Organic Compounds by EPA 8270E

<u>Prep: EPA 3546</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
A3A0524-09RE1	Soil	EPA 8270E	01/16/23 14:35	01/18/23 10:14	15.01g/2mL	15g/2mL	1.00
A3A0524-10RE1	Soil	EPA 8270E	01/16/23 14:45	01/18/23 10:14	15.61g/2mL	15g/2mL	0.96

Percent Dry Weight

<u>Prep: Total Solids (Dry Weight)</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23A0574</u>							
A3A0524-01	Soil	EPA 8000D	01/16/23 10:50	01/17/23 11:49			NA
A3A0524-02	Soil	EPA 8000D	01/16/23 10:55	01/17/23 11:49			NA
A3A0524-03	Soil	EPA 8000D	01/16/23 13:50	01/17/23 11:49			NA
A3A0524-04	Soil	EPA 8000D	01/16/23 13:56	01/17/23 11:49			NA
A3A0524-05	Soil	EPA 8000D	01/16/23 11:52	01/17/23 11:49			NA
A3A0524-06	Soil	EPA 8000D	01/16/23 11:55	01/17/23 11:49			NA
A3A0524-07	Soil	EPA 8000D	01/16/23 12:15	01/17/23 11:49			NA
A3A0524-08	Soil	EPA 8000D	01/16/23 12:20	01/17/23 11:49			NA
A3A0524-09	Soil	EPA 8000D	01/16/23 14:35	01/17/23 11:49			NA
A3A0524-10	Soil	EPA 8000D	01/16/23 14:45	01/17/23 11:49			NA

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QUALIFIER DEFINITIONS

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

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- A-01** Analyte detected in the corresponding extraction blank at a level greater than the MRL, and detected in this sample at a similar level. Reporting level for this analyte has been raised above the potential analyte contamination.
- B** Analyte detected in an associated blank at a level above the MRL. (See Notes and Conventions below.)
- B-02** Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
- B-07** Analyte detected in the corresponding extraction blank at a level greater than the MRL, and detected in this sample at a level below that found in the blank. Reporting level for this analyte has been raised above the potential analyte contamination.
- F-03** The result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of the fuel pattern reported.
- Q-05** Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-41** Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- R-04** Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.
- S-06** Surrogate recovery is outside of established control limits.

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported.
- RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as "dry", "wet", or "" (blank) designation.
- "dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
- "wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
- " " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
-For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

Apex Laboratories

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Cameron O'Brien, Project Manager



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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: <u>DSV North Marine Dr.</u> Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation)
EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
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All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 202 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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APEX LABS
6700 SW Sandburg St., Tigard, OR 97223 Ph: 503-718-2323

CHAIN OF CUSTODY

Company: **Aquarius Env.** Project Mgr: **Gary Walvatne**
 Address: **2117 NE Oregon St., Portland 97232** Phone: **503-887-6285**
 Sampled by: **Gary Walvatne**
 Site Location: **OR Multnomah**

Lab # **A3A0524** COC 1 of 2

Project Name: **DSV-N Marine Dr.**
 Email: **gary.w@aquariusenv.com**

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-DX	NWTPH-GX	8260 BTEX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs Full List	8270 SIM PAHs	8270 Semi-Vols Full List	8082 PCBs	8081 Pesticides	R CRA Metals (8)	Priority Metals (13)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Ti, V, Zn	TOTAL DISS. TCLP	TCLP Metals (9)	Hold Sample	Frozen Archive	
B-10-6-7	11/6/23	10:50	Sol	1		X						X											
B-10-9.5-10.5		10:55		1		X						X											
B-11-5-6		13:50		1		X						X											
B-11-10-11		13:56		1		X						X											
B-13-4.5-6		11:52		1		X						X											
B-13-10-11		11:55		1		X						X											
B-14-4-5		12:15		1		X						X											
B-14-5.5-6.5		12:20		1		X						X											
B-15-7-8		14:35		1		X						X											
B-15-10-11		14:45		1		X						X											

Standard Turn Around Time (TAT) = 10 Business Days

TAT Requested (circle): 1 Day 2 Day 3 Day 5 Day **Standard** Other: _____

SPECIAL INSTRUCTIONS:

RECEIVED BY: _____ Date: _____

Signature: _____ Date: _____

Printed Name: _____ Time: _____

Company: _____

Form Y-002 R-00

Apex Laboratories

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COBri

Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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APEX LABS
6700 SW Sandburg St., Tigard, OR 97223 PH: 503-718-2323

CHAIN OF CUSTODY

Lab # A3A0524 COC 2 of 2

Company: AQUARIUS ENV. Project Mgr: Gary Walvatne Project Name: DSV-N. Marine Dr. Project #: _____

Address: 2117 NE Oregon St. Portland, OR 97232 Phone: 503.878.6525 Email: gary.walvatne@aquariusenv.com # _____

Sampled by: Gary Walvatne

Site Location: _____

State: OR County: Multnomah

SAMPLE ID	DATE	TIME	MATRIX	# OF CONTAINERS	NWT-PH-DX	NWT-PH-CX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs Full List	8270 SIM PAHs	8270 Semi-Vols Full List	8082 PCBs	8081 Pesticides	RCRA Metals (8)	Priority Metals (13)	Al, Sb, As, Ba, Be, Cd, Cr, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn	TOTAL DISS. TCLP	TCLP Metals (9)	Hold Sample	Frozen Archive	
																					ANALYSIS REQUEST
B-10	11/16/23	11:03 AM	Water	4	X					X											
B-15	11/16/23	15:18 W	Water	4	X					X											

Standard Turn Around Time (TAT) = 10 Business Days

TAT Requested (circle): 1 Day 2 Day 3 Day 5 Day Standard Other: _____

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY:
Signature: Gary Walvatne Date: 11/16/23
Printed Name: Gary Walvatne Time: 18:02
Company: Aquarius Env

RECEIVED BY:
Signature: [Signature] Date: 11/16/23
Printed Name: Katrina Muijica Time: 18:02
Company: Apex Environmental

Apex Laboratories

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CAB



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0524 - 01 30 23 1729
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APEX LABS COOLER RECEIPT FORM

Client: Aquarius ENV. Element WO#: A3A0524

Project/Project #: DSV - N. Marine Dr.

Delivery Info:
 Date/time received: 1/16/23 @ 18:02 By: ZAM
 Delivered by: Apex Client ESS FedEx UPS Radio Morgan SDS Evergreen Other

Cooler Inspection Date/time inspected: 1/16/23 @ 18:05 By: ZAM
 Chain of Custody included? Yes No
 Signed/dated by client? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>3.9</u>						
Custody seals? (Y/N)	<u>N</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition (In/Out):	<u>IN</u>						

Cooler out of temp? (Y/N) Possible reason why: (N)
 Green dots applied to out of temperature samples? Yes/No
 Out of temperature samples form initiated? Yes/No

Sample Inspection: Date/time inspected: 1/16/23 @ 18:12 By: RNP
 All samples intact? Yes No Comments: _____

Bottle labels/COCs agree? Yes No Comments: _____

COC/container discrepancies form initiated? Yes No

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

Do VOA vials have visible headspace? Yes No NA
 Comments: _____

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

Additional information:

Labeled by: ZAM RNP 1/16 Witness: AW Cooler Inspected by: RNP

Form Y-003 R-00

C O'Brien



ANALYTICAL REPORT

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

Monday, January 30, 2023
Gary Walvatne
Aquarius Environmental LLC
2117 NE Oregon St, Suite 502
Portland, OR 97232

RE: A3A0570 - DSV North Marine Dr. - [none]

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A3A0570, which was received by the laboratory on 1/17/2023 at 4:23:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: cobrien@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Default Cooler 5.6 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-12-5.5-6.5	A3A0570-01	Soil	01/17/23 09:12	01/17/23 16:23
B-12-10-11	A3A0570-02	Soil	01/17/23 09:16	01/17/23 16:23
B-16-5.5-6.5	A3A0570-03	Soil	01/17/23 09:54	01/17/23 16:23
B-16-10-11	A3A0570-04	Soil	01/17/23 09:58	01/17/23 16:23
B-19-5-6	A3A0570-05	Soil	01/17/23 11:33	01/17/23 16:23
B-19-10-11	A3A0570-06	Soil	01/17/23 11:38	01/17/23 16:23
B-18-5.5-6.5	A3A0570-07	Soil	01/17/23 13:02	01/17/23 16:23
B-18-10-11	A3A0570-08	Soil	01/17/23 13:05	01/17/23 16:23
B-17-5-6	A3A0570-09	Soil	01/17/23 14:19	01/17/23 16:23
B-17-10-11	A3A0570-10	Soil	01/17/23 14:21	01/17/23 16:23
B-19	A3A0570-11	Water	01/17/23 11:53	01/17/23 16:23
B-18	A3A0570-12	Water	01/17/23 13:11	01/17/23 16:23
B-17	A3A0570-13	Water	01/17/23 14:32	01/17/23 16:23

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ANALYTICAL REPORT

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503-718-2323
ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-12-5.5-6.5 (A3A0570-01)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	29.7	mg/kg dry	1	01/20/23 20:36	NWTPH-Dx/SG	
Oil	ND	---	59.4	mg/kg dry	1	01/20/23 20:36	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 85 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/20/23 20:36</i>	<i>NWTPH-Dx/SG</i>
B-12-10-11 (A3A0570-02)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	31.2	mg/kg dry	1	01/20/23 20:57	NWTPH-Dx/SG	
Oil	ND	---	62.3	mg/kg dry	1	01/20/23 20:57	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 87 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/20/23 20:57</i>	<i>NWTPH-Dx/SG</i>
B-16-5.5-6.5 (A3A0570-03)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	30.3	mg/kg dry	1	01/20/23 21:17	NWTPH-Dx/SG	
Oil	ND	---	60.7	mg/kg dry	1	01/20/23 21:17	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 92 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/20/23 21:17</i>	<i>NWTPH-Dx/SG</i>
B-16-10-11 (A3A0570-04)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	31.9	mg/kg dry	1	01/20/23 21:37	NWTPH-Dx/SG	
Oil	ND	---	63.9	mg/kg dry	1	01/20/23 21:37	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 75 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/20/23 21:37</i>	<i>NWTPH-Dx/SG</i>
B-19-5-6 (A3A0570-05RE1)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	570	mg/kg dry	20	01/21/23 11:20	NWTPH-Dx/SG	
Oil	15200	---	1140	mg/kg dry	20	01/21/23 11:20	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: %</i>		<i>Limits: 50-150 %</i>		<i>20</i>	<i>01/21/23 11:20</i>	<i>NWTPH-Dx/SG</i>
B-19-10-11 (A3A0570-06)				Matrix: Soil		Batch: 23A0717		
Diesel	29.9	---	27.7	mg/kg dry	1	01/20/23 22:39	NWTPH-Dx/SG	F-13
Oil	2340	---	55.4	mg/kg dry	1	01/20/23 22:39	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 81 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/20/23 22:39</i>	<i>NWTPH-Dx/SG</i>
B-18-5.5-6.5 (A3A0570-07RE1)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	30.0	mg/kg dry	1	01/21/23 10:39	NWTPH-Dx/SG	
Oil	210	---	60.0	mg/kg dry	1	01/21/23 10:39	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 79 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/21/23 10:39</i>	<i>NWTPH-Dx/SG</i>
B-18-10-11 (A3A0570-08RE1)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	30.1	mg/kg dry	1	01/21/23 08:57	NWTPH-Dx/SG	

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-18-10-11 (A3A0570-08RE1)				Matrix: Soil		Batch: 23A0717		
Oil	ND	---	60.1	mg/kg dry	1	01/21/23 08:57	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 80 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/21/23 08:57</i>	<i>NWTPH-Dx/SG</i>
B-17-5-6 (A3A0570-09RE1)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	28.8	mg/kg dry	1	01/21/23 09:18	NWTPH-Dx/SG	
Oil	ND	---	57.6	mg/kg dry	1	01/21/23 09:18	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 72 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/21/23 09:18</i>	<i>NWTPH-Dx/SG</i>
B-17-10-11 (A3A0570-10RE1)				Matrix: Soil		Batch: 23A0717		
Diesel	ND	---	29.9	mg/kg dry	1	01/21/23 09:38	NWTPH-Dx/SG	
Oil	ND	---	59.7	mg/kg dry	1	01/21/23 09:38	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 61 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/21/23 09:38</i>	<i>NWTPH-Dx/SG</i>
B-19 (A3A0570-11)				Matrix: Water		Batch: 23A0991		
Diesel	ND	---	213	ug/L	1	01/27/23 22:49	NWTPH-Dx/SG	
Oil	ND	---	426	ug/L	1	01/27/23 22:49	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 104 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/27/23 22:49</i>	<i>NWTPH-Dx/SG</i>
B-18 (A3A0570-12)				Matrix: Water		Batch: 23A0991		
Diesel	ND	---	204	ug/L	1	01/27/23 23:09	NWTPH-Dx/SG	
Oil	ND	---	408	ug/L	1	01/27/23 23:09	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 104 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/27/23 23:09</i>	<i>NWTPH-Dx/SG</i>
B-17 (A3A0570-13)				Matrix: Water		Batch: 23A0991		
Diesel	ND	---	211	ug/L	1	01/27/23 23:30	NWTPH-Dx/SG	
Oil	ND	---	421	ug/L	1	01/27/23 23:30	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 106 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>01/27/23 23:30</i>	<i>NWTPH-Dx/SG</i>

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-12-5.5-6.5 (A3A0570-01RE1)				Matrix: Soil		Batch: 23A0626		
Acenaphthene	ND	---	0.00393	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
Acenaphthylene	ND	---	0.00393	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
Anthracene	ND	---	0.00393	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
Benz(a)anthracene	ND	---	0.00393	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
Benzo(a)pyrene	ND	---	0.00589	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.00589	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.00589	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.00393	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
Chrysene	ND	---	0.00393	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.00393	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
Fluoranthene	ND	---	0.00393	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
Fluorene	ND	---	0.00393	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.00393	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
1-Methylnaphthalene	ND	---	0.00784	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
2-Methylnaphthalene	ND	---	0.00784	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
Naphthalene	ND	---	0.00784	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
Phenanthrene	ND	---	0.00393	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
Pyrene	ND	---	0.00393	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
Dibenzofuran	ND	---	0.00393	mg/kg dry	1	01/19/23 21:32	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 60 %</i>		<i>Limits: 37-122 %</i>		<i>1</i>	<i>01/19/23 21:32</i>	<i>EPA 8270E</i>
<i>2-Fluorobiphenyl (Surr)</i>		<i>70 %</i>		<i>44-120 %</i>		<i>1</i>	<i>01/19/23 21:32</i>	<i>EPA 8270E</i>
<i>Phenol-d6 (Surr)</i>		<i>64 %</i>		<i>33-122 %</i>		<i>1</i>	<i>01/19/23 21:32</i>	<i>EPA 8270E</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>77 %</i>		<i>54-127 %</i>		<i>1</i>	<i>01/19/23 21:32</i>	<i>EPA 8270E</i>
<i>2-Fluorophenol (Surr)</i>		<i>66 %</i>		<i>35-120 %</i>		<i>1</i>	<i>01/19/23 21:32</i>	<i>EPA 8270E</i>
<i>2,4,6-Tribromophenol (Surr)</i>		<i>101 %</i>		<i>39-132 %</i>		<i>1</i>	<i>01/19/23 21:32</i>	<i>EPA 8270E</i>

B-12-10-11 (A3A0570-02RE1)				Matrix: Soil		Batch: 23A0626		
Acenaphthene	ND	---	0.00419	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
Acenaphthylene	ND	---	0.00419	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
Anthracene	ND	---	0.00419	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
Benz(a)anthracene	ND	---	0.00419	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
Benzo(a)pyrene	ND	---	0.00628	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.00628	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.00628	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.00419	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
Chrysene	ND	---	0.00419	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.00419	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
Fluoranthene	ND	---	0.00419	mg/kg dry	1	01/19/23 18:03	EPA 8270E	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-12-10-11 (A3A0570-02RE1)				Matrix: Soil		Batch: 23A0626		
Fluorene	ND	---	0.00419	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.00419	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
1-Methylnaphthalene	ND	---	0.00837	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
2-Methylnaphthalene	ND	---	0.00837	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
Naphthalene	ND	---	0.00837	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
Phenanthrene	ND	---	0.00419	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
Pyrene	ND	---	0.00419	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
Dibenzofuran	ND	---	0.00419	mg/kg dry	1	01/19/23 18:03	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 63 %</i>	<i>Limits: 37-122 %</i>	<i>1</i>	<i>01/19/23 18:03</i>	<i>EPA 8270E</i>	
<i>2-Fluorobiphenyl (Surr)</i>			<i>54 %</i>	<i>44-120 %</i>	<i>1</i>	<i>01/19/23 18:03</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>			<i>62 %</i>	<i>33-122 %</i>	<i>1</i>	<i>01/19/23 18:03</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>			<i>56 %</i>	<i>54-127 %</i>	<i>1</i>	<i>01/19/23 18:03</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>			<i>67 %</i>	<i>35-120 %</i>	<i>1</i>	<i>01/19/23 18:03</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>			<i>88 %</i>	<i>39-132 %</i>	<i>1</i>	<i>01/19/23 18:03</i>	<i>EPA 8270E</i>	
B-16-5.5-6.5 (A3A0570-03RE1)				Matrix: Soil		Batch: 23A0626		
Acenaphthene	ND	---	0.00399	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
Acenaphthylene	ND	---	0.00399	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
Anthracene	ND	---	0.00399	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
Benz(a)anthracene	ND	---	0.00399	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
Benzo(a)pyrene	ND	---	0.00598	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.00598	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.00598	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.00399	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
Chrysene	ND	---	0.00399	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.00399	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
Fluoranthene	ND	---	0.00399	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
Fluorene	ND	---	0.00399	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.00399	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
1-Methylnaphthalene	ND	---	0.00797	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
2-Methylnaphthalene	ND	---	0.00797	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
Naphthalene	ND	---	0.00797	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
Phenanthrene	ND	---	0.00399	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
Pyrene	ND	---	0.00399	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
Dibenzofuran	ND	---	0.00399	mg/kg dry	1	01/19/23 21:53	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 94 %</i>	<i>Limits: 37-122 %</i>	<i>1</i>	<i>01/19/23 21:53</i>	<i>EPA 8270E</i>	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>			<i>69 %</i>	<i>44-120 %</i>	<i>1</i>	<i>01/19/23 21:53</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>			<i>82 %</i>	<i>33-122 %</i>	<i>1</i>	<i>01/19/23 21:53</i>	<i>EPA 8270E</i>	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes		
B-16-5.5-6.5 (A3A0570-03RE1)				Matrix: Soil		Batch: 23A0626				
<i>Surrogate: p-Terphenyl-d14 (Surr)</i>		<i>Recovery: 73 %</i>		<i>Limits: 54-127 %</i>		<i>1</i>		<i>01/19/23 21:53</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>				<i>84 %</i>		<i>35-120 %</i>		<i>1</i>	<i>01/19/23 21:53</i>	<i>EPA 8270E</i>
<i>2,4,6-Tribromophenol (Surr)</i>				<i>86 %</i>		<i>39-132 %</i>		<i>1</i>	<i>01/19/23 21:53</i>	<i>EPA 8270E</i>

B-16-10-11 (A3A0570-04RE1)				Matrix: Soil		Batch: 23A0626					
Acenaphthene	ND	---	0.00429	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
Acenaphthylene	ND	---	0.00429	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
Anthracene	ND	---	0.00429	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
Benz(a)anthracene	ND	---	0.00429	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
Benzo(a)pyrene	ND	---	0.00642	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
Benzo(b)fluoranthene	ND	---	0.00642	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
Benzo(k)fluoranthene	ND	---	0.00642	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
Benzo(g,h,i)perylene	ND	---	0.00429	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
Chrysene	ND	---	0.00429	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
Dibenz(a,h)anthracene	ND	---	0.00429	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
Fluoranthene	ND	---	0.00429	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
Fluorene	ND	---	0.00429	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
Indeno(1,2,3-cd)pyrene	ND	---	0.00429	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
1-Methylnaphthalene	ND	---	0.00856	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
2-Methylnaphthalene	ND	---	0.00856	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
Naphthalene	ND	---	0.00856	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
Phenanthrene	ND	---	0.00429	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
Pyrene	ND	---	0.00429	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
Dibenzofuran	ND	---	0.00429	mg/kg dry	1	01/19/23 20:47	EPA 8270E				
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 86 %</i>		<i>Limits: 37-122 %</i>		<i>1</i>		<i>01/19/23 20:47</i>	<i>EPA 8270E</i>	<i>Q-41</i>	
<i>2-Fluorobiphenyl (Surr)</i>				<i>46 %</i>		<i>44-120 %</i>		<i>1</i>	<i>01/19/23 20:47</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>				<i>77 %</i>		<i>33-122 %</i>		<i>1</i>	<i>01/19/23 20:47</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>				<i>47 %</i>		<i>54-127 %</i>		<i>1</i>	<i>01/19/23 20:47</i>	<i>EPA 8270E</i>	<i>S-06</i>
<i>2-Fluorophenol (Surr)</i>				<i>85 %</i>		<i>35-120 %</i>		<i>1</i>	<i>01/19/23 20:47</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>				<i>65 %</i>		<i>39-132 %</i>		<i>1</i>	<i>01/19/23 20:47</i>	<i>EPA 8270E</i>	

B-19-5-6 (A3A0570-05)				Matrix: Soil		Batch: 23A0626		
Acenaphthene	ND	---	0.156	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
Acenaphthylene	ND	---	0.156	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
Anthracene	ND	---	0.156	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
Benz(a)anthracene	ND	---	0.156	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
Benzo(a)pyrene	ND	---	0.234	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.234	mg/kg dry	40	01/18/23 18:52	EPA 8270E	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

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503-718-2323
ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-19-5-6 (A3A0570-05)				Matrix: Soil		Batch: 23A0626		
Benzo(k)fluoranthene	ND	---	0.234	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.156	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
Chrysene	ND	---	0.156	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.156	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
Fluoranthene	ND	---	0.156	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
Fluorene	ND	---	0.156	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.156	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
1-Methylnaphthalene	0.500	---	0.312	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
2-Methylnaphthalene	0.619	---	0.312	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
Naphthalene	0.488	---	0.312	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
Phenanthrene	0.177	---	0.156	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
Pyrene	ND	---	0.156	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
Dibenzofuran	ND	---	0.156	mg/kg dry	40	01/18/23 18:52	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 87 %</i>	<i>Limits: 37-122 %</i>	<i>40</i>	<i>01/18/23 18:52</i>	<i>EPA 8270E</i>	<i>S-05</i>
<i>2-Fluorobiphenyl (Surr)</i>			<i>85 %</i>	<i>44-120 %</i>	<i>40</i>	<i>01/18/23 18:52</i>	<i>EPA 8270E</i>	<i>S-05</i>
<i>Phenol-d6 (Surr)</i>			<i>61 %</i>	<i>33-122 %</i>	<i>40</i>	<i>01/18/23 18:52</i>	<i>EPA 8270E</i>	<i>S-05</i>
<i>p-Terphenyl-d14 (Surr)</i>			<i>103 %</i>	<i>54-127 %</i>	<i>40</i>	<i>01/18/23 18:52</i>	<i>EPA 8270E</i>	<i>S-05</i>
<i>2-Fluorophenol (Surr)</i>			<i>59 %</i>	<i>35-120 %</i>	<i>40</i>	<i>01/18/23 18:52</i>	<i>EPA 8270E</i>	<i>S-05</i>
<i>2,4,6-Tribromophenol (Surr)</i>			<i>114 %</i>	<i>39-132 %</i>	<i>40</i>	<i>01/18/23 18:52</i>	<i>EPA 8270E</i>	<i>S-05</i>

B-19-10-11 (A3A0570-06)				Matrix: Soil		Batch: 23A0626		
Acenaphthene	ND	---	0.0145	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
Acenaphthylene	ND	---	0.0145	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
Anthracene	ND	---	0.0145	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
Benz(a)anthracene	ND	---	0.0145	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
Benzo(a)pyrene	ND	---	0.0218	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.0218	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.0218	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.0145	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
Chrysene	ND	---	0.0145	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.0145	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
Fluoranthene	ND	---	0.0145	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
Fluorene	ND	---	0.0145	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.0145	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
1-Methylnaphthalene	0.0662	---	0.0290	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
2-Methylnaphthalene	0.0716	---	0.0290	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
Naphthalene	0.0525	---	0.0290	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
Phenanthrene	0.0212	---	0.0145	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
Pyrene	ND	---	0.0145	mg/kg dry	4	01/19/23 17:24	EPA 8270E	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-19-10-11 (A3A0570-06)				Matrix: Soil		Batch: 23A0626		
Dibenzofuran	ND	---	0.0145	mg/kg dry	4	01/19/23 17:24	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 67 %</i>	<i>Limits: 37-122 %</i>	<i>4</i>	<i>01/19/23 17:24</i>	<i>EPA 8270E</i>	
<i>2-Fluorobiphenyl (Surr)</i>			<i>70 %</i>	<i>44-120 %</i>	<i>4</i>	<i>01/19/23 17:24</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>			<i>61 %</i>	<i>33-122 %</i>	<i>4</i>	<i>01/19/23 17:24</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>			<i>79 %</i>	<i>54-127 %</i>	<i>4</i>	<i>01/19/23 17:24</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>			<i>69 %</i>	<i>35-120 %</i>	<i>4</i>	<i>01/19/23 17:24</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>			<i>100 %</i>	<i>39-132 %</i>	<i>4</i>	<i>01/19/23 17:24</i>	<i>EPA 8270E</i>	
B-18-5.5-6.5 (A3A0570-07)				Matrix: Soil		Batch: 23A0626		
R-04								
Acenaphthene	ND	---	0.0160	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
Acenaphthylene	ND	---	0.0160	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
Anthracene	ND	---	0.0160	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
Benz(a)anthracene	ND	---	0.0160	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
Benzo(a)pyrene	ND	---	0.0240	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.0240	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.0240	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.0160	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
Chrysene	ND	---	0.0160	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.0160	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
Fluoranthene	ND	---	0.0160	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
Fluorene	ND	---	0.0160	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.0160	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
1-Methylnaphthalene	ND	---	0.0320	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
2-Methylnaphthalene	ND	---	0.0320	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
Naphthalene	ND	---	0.0320	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
Phenanthrene	ND	---	0.0160	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
Pyrene	ND	---	0.0160	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
Dibenzofuran	ND	---	0.0160	mg/kg dry	4	01/19/23 16:49	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 55 %</i>	<i>Limits: 37-122 %</i>	<i>4</i>	<i>01/19/23 16:49</i>	<i>EPA 8270E</i>	
<i>2-Fluorobiphenyl (Surr)</i>			<i>72 %</i>	<i>44-120 %</i>	<i>4</i>	<i>01/19/23 16:49</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>			<i>55 %</i>	<i>33-122 %</i>	<i>4</i>	<i>01/19/23 16:49</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>			<i>78 %</i>	<i>54-127 %</i>	<i>4</i>	<i>01/19/23 16:49</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>			<i>65 %</i>	<i>35-120 %</i>	<i>4</i>	<i>01/19/23 16:49</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>			<i>91 %</i>	<i>39-132 %</i>	<i>4</i>	<i>01/19/23 16:49</i>	<i>EPA 8270E</i>	
B-18-10-11 (A3A0570-08RE1)				Matrix: Soil		Batch: 23A0626		
Acenaphthene	ND	---	0.00398	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
Acenaphthylene	ND	---	0.00398	mg/kg dry	1	01/19/23 21:20	EPA 8270E	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-18-10-11 (A3A0570-08RE1)				Matrix: Soil		Batch: 23A0626		
Anthracene	ND	---	0.00398	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
Benz(a)anthracene	ND	---	0.00398	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
Benzo(a)pyrene	ND	---	0.00597	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.00597	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.00597	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.00398	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
Chrysene	ND	---	0.00398	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.00398	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
Fluoranthene	ND	---	0.00398	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
Fluorene	ND	---	0.00398	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.00398	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
1-Methylnaphthalene	ND	---	0.00795	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
2-Methylnaphthalene	ND	---	0.00795	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
Naphthalene	ND	---	0.00795	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
Phenanthrene	ND	---	0.00398	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
Pyrene	ND	---	0.00398	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
Dibenzofuran	ND	---	0.00398	mg/kg dry	1	01/19/23 21:20	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 73 %</i>		<i>Limits: 37-122 %</i>	<i>1</i>	<i>01/19/23 21:20</i>	<i>EPA 8270E</i>	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>		<i>47 %</i>		<i>44-120 %</i>	<i>1</i>	<i>01/19/23 21:20</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>		<i>65 %</i>		<i>33-122 %</i>	<i>1</i>	<i>01/19/23 21:20</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>		<i>43 %</i>		<i>54-127 %</i>	<i>1</i>	<i>01/19/23 21:20</i>	<i>EPA 8270E</i>	<i>S-06</i>
<i>2-Fluorophenol (Surr)</i>		<i>71 %</i>		<i>35-120 %</i>	<i>1</i>	<i>01/19/23 21:20</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>		<i>59 %</i>		<i>39-132 %</i>	<i>1</i>	<i>01/19/23 21:20</i>	<i>EPA 8270E</i>	

B-17-5-6 (A3A0570-09RE1)				Matrix: Soil		Batch: 23A0626		
Acenaphthene	ND	---	0.00377	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
Acenaphthylene	ND	---	0.00377	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
Anthracene	ND	---	0.00377	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
Benz(a)anthracene	ND	---	0.00377	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
Benzo(a)pyrene	ND	---	0.00565	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.00565	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.00565	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.00377	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
Chrysene	ND	---	0.00377	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.00377	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
Fluoranthene	ND	---	0.00377	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
Fluorene	ND	---	0.00377	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.00377	mg/kg dry	1	01/19/23 22:26	EPA 8270E	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-17-5-6 (A3A0570-09RE1)			Matrix: Soil		Batch: 23A0626			
1-Methylnaphthalene	ND	---	0.00753	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
2-Methylnaphthalene	ND	---	0.00753	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
Naphthalene	ND	---	0.00753	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
Phenanthrene	ND	---	0.00377	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
Pyrene	ND	---	0.00377	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
Dibenzofuran	ND	---	0.00377	mg/kg dry	1	01/19/23 22:26	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 53 %</i>	<i>Limits: 37-122 %</i>	<i>1</i>	<i>01/19/23 22:26</i>	<i>EPA 8270E</i>	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>			<i>43 %</i>	<i>44-120 %</i>	<i>1</i>	<i>01/19/23 22:26</i>	<i>EPA 8270E</i>	<i>S-06</i>
<i>Phenol-d6 (Surr)</i>			<i>50 %</i>	<i>33-122 %</i>	<i>1</i>	<i>01/19/23 22:26</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>			<i>59 %</i>	<i>54-127 %</i>	<i>1</i>	<i>01/19/23 22:26</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>			<i>49 %</i>	<i>35-120 %</i>	<i>1</i>	<i>01/19/23 22:26</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>			<i>63 %</i>	<i>39-132 %</i>	<i>1</i>	<i>01/19/23 22:26</i>	<i>EPA 8270E</i>	
B-17-10-11 (A3A0570-10RE2)			Matrix: Soil		Batch: 23A0626			
Acenaphthene	ND	---	0.00395	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
Acenaphthylene	ND	---	0.00395	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
Anthracene	ND	---	0.00395	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
Benz(a)anthracene	ND	---	0.00395	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
Benzo(a)pyrene	ND	---	0.00592	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.00592	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.00592	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.00395	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
Chrysene	ND	---	0.00395	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.00395	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
Fluoranthene	ND	---	0.00395	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
Fluorene	ND	---	0.00395	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.00395	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
1-Methylnaphthalene	ND	---	0.00789	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
2-Methylnaphthalene	ND	---	0.00789	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
Naphthalene	ND	---	0.00789	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
Phenanthrene	ND	---	0.00395	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
Pyrene	ND	---	0.00395	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
Dibenzofuran	ND	---	0.00395	mg/kg dry	1	01/19/23 13:17	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 71 %</i>	<i>Limits: 37-122 %</i>	<i>1</i>	<i>01/19/23 13:17</i>	<i>EPA 8270E</i>	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>			<i>58 %</i>	<i>44-120 %</i>	<i>1</i>	<i>01/19/23 13:17</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>			<i>67 %</i>	<i>33-122 %</i>	<i>1</i>	<i>01/19/23 13:17</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>			<i>57 %</i>	<i>54-127 %</i>	<i>1</i>	<i>01/19/23 13:17</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>			<i>72 %</i>	<i>35-120 %</i>	<i>1</i>	<i>01/19/23 13:17</i>	<i>EPA 8270E</i>	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-17-10-11 (A3A0570-10RE2)			Matrix: Soil		Batch: 23A0626			
<i>Surrogate: 2,4,6-Tribromophenol (Surr)</i>		<i>Recovery: 74 %</i>		<i>Limits: 39-132 %</i>		<i>1 01/19/23 13:17</i>		<i>EPA 8270E</i>
B-19 (A3A0570-11RE1)			Matrix: Water		Batch: 23A0724 R-04			
Acenaphthene	ND	---	0.0808	ug/L	4	01/24/23 15:37	EPA 8270E	
Acenaphthylene	ND	---	0.0808	ug/L	4	01/24/23 15:37	EPA 8270E	
Anthracene	ND	---	0.0808	ug/L	4	01/24/23 15:37	EPA 8270E	
Benz(a)anthracene	ND	---	0.0808	ug/L	4	01/24/23 15:37	EPA 8270E	
Benzo(a)pyrene	ND	---	0.121	ug/L	4	01/24/23 15:37	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.121	ug/L	4	01/24/23 15:37	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.121	ug/L	4	01/24/23 15:37	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.0808	ug/L	4	01/24/23 15:37	EPA 8270E	
Chrysene	ND	---	0.0808	ug/L	4	01/24/23 15:37	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.0808	ug/L	4	01/24/23 15:37	EPA 8270E	
Fluoranthene	ND	---	0.0808	ug/L	4	01/24/23 15:37	EPA 8270E	
Fluorene	ND	---	0.0808	ug/L	4	01/24/23 15:37	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.0808	ug/L	4	01/24/23 15:37	EPA 8270E	
1-Methylnaphthalene	ND	---	0.162	ug/L	4	01/24/23 15:37	EPA 8270E	
2-Methylnaphthalene	ND	---	0.162	ug/L	4	01/24/23 15:37	EPA 8270E	
Naphthalene	ND	---	0.162	ug/L	4	01/24/23 15:37	EPA 8270E	
Phenanthrene	ND	---	0.0808	ug/L	4	01/24/23 15:37	EPA 8270E	
Pyrene	ND	---	0.0808	ug/L	4	01/24/23 15:37	EPA 8270E	
Dibenzofuran	ND	---	0.0808	ug/L	4	01/24/23 15:37	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 117 %</i>		<i>Limits: 44-120 %</i>		<i>4 01/24/23 15:37</i>		<i>EPA 8270E Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>		<i>92 %</i>		<i>44-120 %</i>		<i>4 01/24/23 15:37</i>		<i>EPA 8270E</i>
<i>Phenol-d6 (Surr)</i>		<i>26 %</i>		<i>10-133 %</i>		<i>4 01/24/23 15:37</i>		<i>EPA 8270E</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>85 %</i>		<i>50-134 %</i>		<i>4 01/24/23 15:37</i>		<i>EPA 8270E</i>
<i>2-Fluorophenol (Surr)</i>		<i>53 %</i>		<i>19-120 %</i>		<i>4 01/24/23 15:37</i>		<i>EPA 8270E</i>
<i>2,4,6-Tribromophenol (Surr)</i>		<i>105 %</i>		<i>43-140 %</i>		<i>4 01/24/23 15:37</i>		<i>EPA 8270E</i>

B-18 (A3A0570-12RE1)			Matrix: Water		Batch: 23A0724 R-04			
Acenaphthene	ND	---	0.0800	ug/L	4	01/24/23 16:11	EPA 8270E	
Acenaphthylene	ND	---	0.0800	ug/L	4	01/24/23 16:11	EPA 8270E	
Anthracene	ND	---	0.0800	ug/L	4	01/24/23 16:11	EPA 8270E	
Benz(a)anthracene	ND	---	0.0800	ug/L	4	01/24/23 16:11	EPA 8270E	
Benzo(a)pyrene	ND	---	0.120	ug/L	4	01/24/23 16:11	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.120	ug/L	4	01/24/23 16:11	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.120	ug/L	4	01/24/23 16:11	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.0800	ug/L	4	01/24/23 16:11	EPA 8270E	

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ANALYTICAL REPORT

Apex Laboratories, LLC

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503-718-2323
ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-18 (A3A0570-12RE1)				Matrix: Water		Batch: 23A0724		R-04
Chrysene	ND	---	0.0800	ug/L	4	01/24/23 16:11	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.0800	ug/L	4	01/24/23 16:11	EPA 8270E	
Fluoranthene	ND	---	0.0800	ug/L	4	01/24/23 16:11	EPA 8270E	
Fluorene	ND	---	0.0800	ug/L	4	01/24/23 16:11	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.0800	ug/L	4	01/24/23 16:11	EPA 8270E	
1-Methylnaphthalene	ND	---	0.160	ug/L	4	01/24/23 16:11	EPA 8270E	
2-Methylnaphthalene	ND	---	0.160	ug/L	4	01/24/23 16:11	EPA 8270E	
Naphthalene	ND	---	0.160	ug/L	4	01/24/23 16:11	EPA 8270E	
Phenanthrene	ND	---	0.0800	ug/L	4	01/24/23 16:11	EPA 8270E	
Pyrene	ND	---	0.0800	ug/L	4	01/24/23 16:11	EPA 8270E	
Dibenzofuran	ND	---	0.0800	ug/L	4	01/24/23 16:11	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 112 %</i>	<i>Limits: 44-120 %</i>	<i>4</i>	<i>01/24/23 16:11</i>	<i>EPA 8270E</i>	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>			<i>90 %</i>	<i>44-120 %</i>	<i>4</i>	<i>01/24/23 16:11</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>			<i>25 %</i>	<i>10-133 %</i>	<i>4</i>	<i>01/24/23 16:11</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>			<i>89 %</i>	<i>50-134 %</i>	<i>4</i>	<i>01/24/23 16:11</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>			<i>52 %</i>	<i>19-120 %</i>	<i>4</i>	<i>01/24/23 16:11</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>			<i>103 %</i>	<i>43-140 %</i>	<i>4</i>	<i>01/24/23 16:11</i>	<i>EPA 8270E</i>	
B-17 (A3A0570-13RE1)				Matrix: Water		Batch: 23A0724		R-04
Acenaphthene	ND	---	0.0808	ug/L	4	01/24/23 16:45	EPA 8270E	
Acenaphthylene	ND	---	0.0808	ug/L	4	01/24/23 16:45	EPA 8270E	
Anthracene	ND	---	0.0808	ug/L	4	01/24/23 16:45	EPA 8270E	
Benz(a)anthracene	ND	---	0.0808	ug/L	4	01/24/23 16:45	EPA 8270E	
Benzo(a)pyrene	ND	---	0.121	ug/L	4	01/24/23 16:45	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.121	ug/L	4	01/24/23 16:45	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.121	ug/L	4	01/24/23 16:45	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.0808	ug/L	4	01/24/23 16:45	EPA 8270E	
Chrysene	ND	---	0.0808	ug/L	4	01/24/23 16:45	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.0808	ug/L	4	01/24/23 16:45	EPA 8270E	
Fluoranthene	ND	---	0.0808	ug/L	4	01/24/23 16:45	EPA 8270E	
Fluorene	ND	---	0.0808	ug/L	4	01/24/23 16:45	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.0808	ug/L	4	01/24/23 16:45	EPA 8270E	
1-Methylnaphthalene	ND	---	0.162	ug/L	4	01/24/23 16:45	EPA 8270E	
2-Methylnaphthalene	ND	---	0.162	ug/L	4	01/24/23 16:45	EPA 8270E	
Naphthalene	ND	---	0.162	ug/L	4	01/24/23 16:45	EPA 8270E	
Phenanthrene	ND	---	0.0808	ug/L	4	01/24/23 16:45	EPA 8270E	
Pyrene	ND	---	0.0808	ug/L	4	01/24/23 16:45	EPA 8270E	
Dibenzofuran	ND	---	0.0808	ug/L	4	01/24/23 16:45	EPA 8270E	

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 ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-17 (A3A0570-13RE1)				Matrix: Water		Batch: 23A0724		R-04
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery:</i> 107 %		<i>Limits:</i> 44-120 %	4	01/24/23 16:45	EPA 8270E	Q-41
<i>2-Fluorobiphenyl (Surr)</i>		82 %		44-120 %	4	01/24/23 16:45	EPA 8270E	
<i>Phenol-d6 (Surr)</i>		24 %		10-133 %	4	01/24/23 16:45	EPA 8270E	
<i>p-Terphenyl-d14 (Surr)</i>		82 %		50-134 %	4	01/24/23 16:45	EPA 8270E	
<i>2-Fluorophenol (Surr)</i>		47 %		19-120 %	4	01/24/23 16:45	EPA 8270E	
<i>2,4,6-Tribromophenol (Surr)</i>		93 %		43-140 %	4	01/24/23 16:45	EPA 8270E	

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ANALYTICAL SAMPLE RESULTS

Percent Dry Weight									
Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
B-12-5.5-6.5 (A3A0570-01)				Matrix: Soil		Batch: 23A0640			
% Solids	66.1	---	1.00	%	1	01/19/23 05:05	EPA 8000D		
B-12-10-11 (A3A0570-02)				Matrix: Soil		Batch: 23A0640			
% Solids	62.3	---	1.00	%	1	01/19/23 05:05	EPA 8000D		
B-16-5.5-6.5 (A3A0570-03)				Matrix: Soil		Batch: 23A0640			
% Solids	65.6	---	1.00	%	1	01/19/23 05:05	EPA 8000D		
B-16-10-11 (A3A0570-04)				Matrix: Soil		Batch: 23A0640			
% Solids	61.0	---	1.00	%	1	01/19/23 05:05	EPA 8000D		
B-19-5-6 (A3A0570-05)				Matrix: Soil		Batch: 23A0640			
% Solids	68.1	---	1.00	%	1	01/19/23 05:05	EPA 8000D		
B-19-10-11 (A3A0570-06)				Matrix: Soil		Batch: 23A0640			
% Solids	71.9	---	1.00	%	1	01/19/23 05:05	EPA 8000D		
B-18-5.5-6.5 (A3A0570-07)				Matrix: Soil		Batch: 23A0640			
% Solids	66.3	---	1.00	%	1	01/19/23 05:05	EPA 8000D		
B-18-10-11 (A3A0570-08)				Matrix: Soil		Batch: 23A0640			
% Solids	65.3	---	1.00	%	1	01/19/23 05:05	EPA 8000D		
B-17-5-6 (A3A0570-09)				Matrix: Soil		Batch: 23A0640			
% Solids	67.9	---	1.00	%	1	01/19/23 05:05	EPA 8000D		
B-17-10-11 (A3A0570-10)				Matrix: Soil		Batch: 23A0640			
% Solids	66.9	---	1.00	%	1	01/19/23 05:05	EPA 8000D		

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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23A0717 - EPA 3546 w/SG+Acid (NWTPH)						Soil						
Blank (23A0717-BLK1)		Prepared: 01/20/23 06:45 Analyzed: 01/20/23 20:16										
<u>NWTPH-Dx/SG</u>												
Diesel	ND	---	20.0	mg/kg wet	1	---	---	---	---	---	---	---
Oil	ND	---	40.0	mg/kg wet	1	---	---	---	---	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 93 % Limits: 50-150 % Dilution: 1x</i>										
LCS (23A0717-BS1)		Prepared: 01/20/23 06:45 Analyzed: 01/20/23 20:36										
<u>NWTPH-Dx/SG</u>												
Diesel	134	---	20.0	mg/kg wet	1	125	---	107	38 - 132%	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 90 % Limits: 50-150 % Dilution: 1x</i>										
Duplicate (23A0717-DUP3)		Prepared: 01/20/23 06:45 Analyzed: 01/21/23 09:59										
<u>QC Source Sample: B-17-10-11 (A3A0570-10RE1)</u>												
<u>NWTPH-Dx/SG</u>												
Diesel	ND	---	29.6	mg/kg dry	1	---	ND	---	---	---	30%	---
Oil	ND	---	59.3	mg/kg dry	1	---	ND	---	---	---	30%	---
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 67 % Limits: 50-150 % Dilution: 1x</i>										
Batch 23A0991 - EPA 3510C (Fuels/Acid Ext.) w/Silica Gel + Acid						Water						
Blank (23A0991-BLK1)		Prepared: 01/27/23 07:35 Analyzed: 01/27/23 21:48										
<u>NWTPH-Dx/SG</u>												
Diesel	ND	---	200	ug/L	1	---	---	---	---	---	---	---
Oil	ND	---	400	ug/L	1	---	---	---	---	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 94 % Limits: 50-150 % Dilution: 1x</i>										
LCS (23A0991-BS1)		Prepared: 01/27/23 07:35 Analyzed: 01/27/23 22:08										
<u>NWTPH-Dx/SG</u>												
Diesel	1180	---	200	ug/L	1	1250	---	95	36 - 132%	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 103 % Limits: 50-150 % Dilution: 1x</i>										
LCS Dup (23A0991-BSD1)		Prepared: 01/27/23 07:35 Analyzed: 01/27/23 22:28										
<u>NWTPH-Dx/SG</u>												
Diesel	1210	---	200	ug/L	1	1250	---	97	36 - 132%	3	30%	---

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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC Limits	RPD Limit	Notes	
Batch 23A0991 - EPA 3510C (Fuels/Acid Ext.) w/Silica Gel + Acid						Water					
LCS Dup (23A0991-BSD1)		Prepared: 01/27/23 07:35 Analyzed: 01/27/23 22:28									Q-19
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 106 %</i>			<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>				

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	RPD RPD	Notes
Batch 23A0626 - EPA 3546						Soil				
Blank (23A0626-BLK1)		Prepared: 01/18/23 10:14 Analyzed: 01/18/23 17:06								
EPA 8270E										
Acenaphthene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Acenaphthylene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Anthracene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Benz(a)anthracene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Benzo(a)pyrene	ND	---	0.00400	mg/kg wet	1	---	---	---	---	---
Benzo(b)fluoranthene	ND	---	0.00400	mg/kg wet	1	---	---	---	---	---
Benzo(k)fluoranthene	ND	---	0.00400	mg/kg wet	1	---	---	---	---	---
Benzo(g,h,i)perylene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Chrysene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Dibenz(a,h)anthracene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Fluoranthene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Fluorene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
1-Methylnaphthalene	ND	---	0.00533	mg/kg wet	1	---	---	---	---	---
2-Methylnaphthalene	ND	---	0.00533	mg/kg wet	1	---	---	---	---	---
Naphthalene	ND	---	0.00533	mg/kg wet	1	---	---	---	---	---
Phenanthrene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Pyrene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Carbazole	ND	---	0.00400	mg/kg wet	1	---	---	---	---	---
Dibenzofuran	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 1x</i>		Q-41		
<i>2-Fluorobiphenyl (Surr)</i>		<i>76 %</i>		<i>44-120 %</i>		<i>"</i>				
<i>Phenol-d6 (Surr)</i>		<i>70 %</i>		<i>33-122 %</i>		<i>"</i>				
<i>p-Terphenyl-d14 (Surr)</i>		<i>87 %</i>		<i>54-127 %</i>		<i>"</i>				
<i>2-Fluorophenol (Surr)</i>		<i>83 %</i>		<i>35-120 %</i>		<i>"</i>				
<i>2,4,6-Tribromophenol (Surr)</i>		<i>84 %</i>		<i>39-132 %</i>		<i>"</i>				

LCS (23A0626-BS1)		Prepared: 01/18/23 10:14 Analyzed: 01/18/23 17:40								
EPA 8270E										
Acenaphthene	0.480	---	0.0107	mg/kg wet	4	0.533	---	90	40 - 123%	---
Acenaphthylene	0.530	---	0.0107	mg/kg wet	4	0.533	---	99	32 - 132%	---
Anthracene	0.520	---	0.0107	mg/kg wet	4	0.533	---	97	47 - 123%	---
Benz(a)anthracene	0.519	---	0.0107	mg/kg wet	4	0.533	---	97	49 - 126%	---

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Cameron O'Brien, Project Manager



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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23A0626 - EPA 3546						Soil						
LCS (23A0626-BS1)			Prepared: 01/18/23 10:14 Analyzed: 01/18/23 17:40									
Benzo(a)pyrene	0.539	---	0.0160	mg/kg wet	4	0.533	---	101	45 - 129%	---	---	
Benzo(b)fluoranthene	0.532	---	0.0160	mg/kg wet	4	0.533	---	100	45 - 132%	---	---	
Benzo(k)fluoranthene	0.535	---	0.0160	mg/kg wet	4	0.533	---	100	47 - 132%	---	---	
Benzo(g,h,i)perylene	0.521	---	0.0107	mg/kg wet	4	0.533	---	98	43 - 134%	---	---	
Chrysene	0.497	---	0.0107	mg/kg wet	4	0.533	---	93	50 - 124%	---	---	
Dibenz(a,h)anthracene	0.511	---	0.0107	mg/kg wet	4	0.533	---	96	45 - 134%	---	---	
Fluoranthene	0.531	---	0.0107	mg/kg wet	4	0.533	---	100	50 - 127%	---	---	
Fluorene	0.470	---	0.0107	mg/kg wet	4	0.533	---	88	43 - 125%	---	---	
Indeno(1,2,3-cd)pyrene	0.514	---	0.0107	mg/kg wet	4	0.533	---	96	45 - 133%	---	---	
1-Methylnaphthalene	0.490	---	0.0213	mg/kg wet	4	0.533	---	92	40 - 120%	---	---	
2-Methylnaphthalene	0.521	---	0.0213	mg/kg wet	4	0.533	---	98	38 - 122%	---	---	
Naphthalene	0.491	---	0.0213	mg/kg wet	4	0.533	---	92	35 - 123%	---	---	
Phenanthrene	0.480	---	0.0107	mg/kg wet	4	0.533	---	90	50 - 121%	---	---	
Pyrene	0.513	---	0.0107	mg/kg wet	4	0.533	---	96	47 - 127%	---	---	
Carbazole	0.493	---	0.0160	mg/kg wet	4	0.533	---	92	50 - 123%	---	---	
Dibenzofuran	0.497	---	0.0107	mg/kg wet	4	0.533	---	93	44 - 120%	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 93 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 4x</i>		Q-41				
<i>2-Fluorobiphenyl (Surr)</i>		<i>90 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>81 %</i>		<i>33-122 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>99 %</i>		<i>54-127 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>92 %</i>		<i>35-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>85 %</i>		<i>39-132 %</i>		<i>"</i>						

Matrix Spike (23A0626-MS1) Prepared: 01/18/23 10:14 Analyzed: 01/18/23 19:23

QC Source Sample: B-17-10-11 (A3A0570-10RE2)

EPA 8270E												
Acenaphthene	0.563	---	0.0155	mg/kg dry	4	0.773	ND	73	40 - 123%	---	---	
Acenaphthylene	0.607	---	0.0155	mg/kg dry	4	0.773	ND	78	32 - 132%	---	---	
Anthracene	0.614	---	0.0155	mg/kg dry	4	0.773	ND	79	47 - 123%	---	---	
Benz(a)anthracene	0.600	---	0.0155	mg/kg dry	4	0.773	ND	78	49 - 126%	---	---	
Benzo(a)pyrene	0.653	---	0.0232	mg/kg dry	4	0.773	ND	84	45 - 129%	---	---	
Benzo(b)fluoranthene	0.634	---	0.0232	mg/kg dry	4	0.773	ND	82	45 - 132%	---	---	
Benzo(k)fluoranthene	0.631	---	0.0232	mg/kg dry	4	0.773	ND	82	47 - 132%	---	---	
Benzo(g,h,i)perylene	0.611	---	0.0155	mg/kg dry	4	0.773	ND	79	43 - 134%	---	---	

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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23A0626 - EPA 3546						Soil						
Matrix Spike (23A0626-MS1)		Prepared: 01/18/23 10:14 Analyzed: 01/18/23 19:23										
QC Source Sample: B-17-10-11 (A3A0570-10RE2)												
Chrysene	0.575	---	0.0155	mg/kg dry	4	0.773	ND	74	50 - 124%	---	---	
Dibenz(a,h)anthracene	0.600	---	0.0155	mg/kg dry	4	0.773	ND	78	45 - 134%	---	---	
Fluoranthene	0.616	---	0.0155	mg/kg dry	4	0.773	ND	80	50 - 127%	---	---	
Fluorene	0.563	---	0.0155	mg/kg dry	4	0.773	ND	73	43 - 125%	---	---	
Indeno(1,2,3-cd)pyrene	0.594	---	0.0155	mg/kg dry	4	0.773	ND	77	45 - 133%	---	---	
1-Methylnaphthalene	0.575	---	0.0309	mg/kg dry	4	0.773	ND	74	40 - 120%	---	---	
2-Methylnaphthalene	0.590	---	0.0309	mg/kg dry	4	0.773	ND	76	38 - 122%	---	---	
Naphthalene	0.573	---	0.0309	mg/kg dry	4	0.773	ND	74	35 - 123%	---	---	
Phenanthrene	0.561	---	0.0155	mg/kg dry	4	0.773	ND	73	50 - 121%	---	---	
Pyrene	0.598	---	0.0155	mg/kg dry	4	0.773	ND	77	47 - 127%	---	---	
Carbazole	0.575	---	0.0232	mg/kg dry	4	0.773	ND	74	50 - 123%	---	---	
Dibenzofuran	0.588	---	0.0155	mg/kg dry	4	0.773	ND	76	44 - 120%	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 65 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 4x</i>						Q-41
<i>2-Fluorobiphenyl (Surr)</i>		<i>63 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>65 %</i>		<i>33-122 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>74 %</i>		<i>54-127 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>73 %</i>		<i>35-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>69 %</i>		<i>39-132 %</i>		<i>"</i>						

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23A0724 - EPA 3510C (Acid Extraction)						Water						
Blank (23A0724-BLK1)		Prepared: 01/20/23 08:38			Analyzed: 01/20/23 19:26							
EPA 8270E												
Acenaphthene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Anthracene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Chrysene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Fluoranthene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Fluorene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
1-Methylnaphthalene	0.0578	---	0.0400	ug/L	1	---	---	---	---	---	---	B
2-Methylnaphthalene	0.109	---	0.0400	ug/L	1	---	---	---	---	---	---	B
Naphthalene	0.103	---	0.0400	ug/L	1	---	---	---	---	---	---	B
Phenanthrene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	B-02
Pyrene	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
Carbazole	ND	---	0.0300	ug/L	1	---	---	---	---	---	---	
Dibenzofuran	ND	---	0.0200	ug/L	1	---	---	---	---	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 94 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 1x</i>					Q-41	
<i>2-Fluorobiphenyl (Surr)</i>		<i>65 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>21 %</i>		<i>10-133 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>67 %</i>		<i>50-134 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>43 %</i>		<i>19-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>84 %</i>		<i>43-140 %</i>		<i>"</i>						

LCS (23A0724-BS1)						Prepared: 01/20/23 08:38 Analyzed: 01/20/23 20:00						
EPA 8270E												
Acenaphthene	3.27	---	0.0800	ug/L	4	4.00	---	82	47 - 122%	---	---	
Acenaphthylene	3.56	---	0.0800	ug/L	4	4.00	---	89	41 - 130%	---	---	
Anthracene	3.69	---	0.0800	ug/L	4	4.00	---	92	57 - 123%	---	---	
Benz(a)anthracene	3.71	---	0.0800	ug/L	4	4.00	---	93	58 - 125%	---	---	

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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23A0724 - EPA 3510C (Acid Extraction)						Water						
LCS (23A0724-BS1)			Prepared: 01/20/23 08:38		Analyzed: 01/20/23 20:00							
Benzo(a)pyrene	3.86	---	0.120	ug/L	4	4.00	---	96	54 - 128%	---	---	
Benzo(b)fluoranthene	3.92	---	0.120	ug/L	4	4.00	---	98	53 - 131%	---	---	
Benzo(k)fluoranthene	3.74	---	0.120	ug/L	4	4.00	---	94	57 - 129%	---	---	
Benzo(g,h,i)perylene	4.00	---	0.0800	ug/L	4	4.00	---	100	50 - 134%	---	---	
Chrysene	3.63	---	0.0800	ug/L	4	4.00	---	91	59 - 123%	---	---	
Dibenz(a,h)anthracene	3.74	---	0.0800	ug/L	4	4.00	---	94	51 - 134%	---	---	
Fluoranthene	3.75	---	0.0800	ug/L	4	4.00	---	94	57 - 128%	---	---	
Fluorene	3.23	---	0.0800	ug/L	4	4.00	---	81	52 - 124%	---	---	
Indeno(1,2,3-cd)pyrene	3.85	---	0.0800	ug/L	4	4.00	---	96	52 - 134%	---	---	
1-Methylnaphthalene	3.17	---	0.160	ug/L	4	4.00	---	79	41 - 120%	---	---	B
2-Methylnaphthalene	3.22	---	0.160	ug/L	4	4.00	---	80	40 - 121%	---	---	B
Naphthalene	3.13	---	0.160	ug/L	4	4.00	---	78	40 - 121%	---	---	B
Phenanthrene	3.38	---	0.0800	ug/L	4	4.00	---	84	59 - 120%	---	---	B-02
Pyrene	3.69	---	0.0800	ug/L	4	4.00	---	92	57 - 126%	---	---	
Carbazole	3.49	---	0.120	ug/L	4	4.00	---	87	60 - 122%	---	---	
Dibenzofuran	3.35	---	0.0800	ug/L	4	4.00	---	84	53 - 120%	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 102 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 4x</i>		Q-41				
<i>2-Fluorobiphenyl (Surr)</i>		<i>81 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>26 %</i>		<i>10-133 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>90 %</i>		<i>50-134 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>48 %</i>		<i>19-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>82 %</i>		<i>43-140 %</i>		<i>"</i>						

LCS Dup (23A0724-BSD1)						Q-19						
EPA 8270E			Prepared: 01/20/23 08:38		Analyzed: 01/23/23 11:30							
Acenaphthene	3.56	---	0.0800	ug/L	4	4.00	---	89	47 - 122%	8	30%	
Acenaphthylene	3.83	---	0.0800	ug/L	4	4.00	---	96	41 - 130%	7	30%	
Anthracene	3.89	---	0.0800	ug/L	4	4.00	---	97	57 - 123%	5	30%	
Benz(a)anthracene	4.10	---	0.0800	ug/L	4	4.00	---	102	58 - 125%	10	30%	
Benzo(a)pyrene	4.03	---	0.120	ug/L	4	4.00	---	101	54 - 128%	4	30%	
Benzo(b)fluoranthene	4.10	---	0.120	ug/L	4	4.00	---	103	53 - 131%	4	30%	
Benzo(k)fluoranthene	4.14	---	0.120	ug/L	4	4.00	---	104	57 - 129%	10	30%	
Benzo(g,h,i)perylene	4.28	---	0.0800	ug/L	4	4.00	---	107	50 - 134%	7	30%	
Chrysene	3.92	---	0.0800	ug/L	4	4.00	---	98	59 - 123%	8	30%	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23A0724 - EPA 3510C (Acid Extraction)						Water						
LCS Dup (23A0724-BSD1)						Prepared: 01/20/23 08:38 Analyzed: 01/23/23 11:30						Q-19
Dibenz(a,h)anthracene	3.99	---	0.0800	ug/L	4	4.00	---	100	51 - 134%	6	30%	
Fluoranthene	4.00	---	0.0800	ug/L	4	4.00	---	100	57 - 128%	6	30%	
Fluorene	3.49	---	0.0800	ug/L	4	4.00	---	87	52 - 124%	8	30%	
Indeno(1,2,3-cd)pyrene	4.16	---	0.0800	ug/L	4	4.00	---	104	52 - 134%	8	30%	
1-Methylnaphthalene	3.58	---	0.160	ug/L	4	4.00	---	90	41 - 120%	12	30%	B
2-Methylnaphthalene	3.68	---	0.160	ug/L	4	4.00	---	92	40 - 121%	13	30%	B
Naphthalene	3.49	---	0.160	ug/L	4	4.00	---	87	40 - 121%	11	30%	B
Phenanthrene	3.68	---	0.0800	ug/L	4	4.00	---	92	59 - 120%	9	30%	B-02
Pyrene	3.86	---	0.0800	ug/L	4	4.00	---	97	57 - 126%	4	30%	
Carbazole	3.82	---	0.120	ug/L	4	4.00	---	95	60 - 122%	9	30%	
Dibenzofuran	3.62	---	0.0800	ug/L	4	4.00	---	90	53 - 120%	8	30%	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 103 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 4x</i>						
<i>2-Fluorobiphenyl (Surr)</i>		<i>87 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>25 %</i>		<i>10-133 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>97 %</i>		<i>50-134 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>52 %</i>		<i>19-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>88 %</i>		<i>43-140 %</i>		<i>"</i>						

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QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC Limits	RPD Limit	Notes
Batch 23A0640 - Total Solids (Dry Weight)						Soil				

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

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SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Prep: EPA 3510C (Fuels/Acid Ext.) w/Silica Gel + Acid

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 23A0991</u>							
A3A0570-11	Water	NWTPH-Dx/SG	01/17/23 11:53	01/27/23 07:35	940mL/5mL	1000mL/5mL	1.06
A3A0570-12	Water	NWTPH-Dx/SG	01/17/23 13:11	01/27/23 07:35	980mL/5mL	1000mL/5mL	1.02
A3A0570-13	Water	NWTPH-Dx/SG	01/17/23 14:32	01/27/23 07:35	950mL/5mL	1000mL/5mL	1.05

Prep: EPA 3546 w/SG+Acid (NWTPH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 23A0717</u>							
A3A0570-01	Soil	NWTPH-Dx/SG	01/17/23 09:12	01/20/23 06:45	10.2g/5mL	10g/5mL	0.98
A3A0570-02	Soil	NWTPH-Dx/SG	01/17/23 09:16	01/20/23 06:45	10.3g/5mL	10g/5mL	0.97
A3A0570-03	Soil	NWTPH-Dx/SG	01/17/23 09:54	01/20/23 06:45	10.04g/5mL	10g/5mL	1.00
A3A0570-04	Soil	NWTPH-Dx/SG	01/17/23 09:58	01/20/23 06:45	10.27g/5mL	10g/5mL	0.97
A3A0570-05RE1	Soil	NWTPH-Dx/SG	01/17/23 11:33	01/20/23 06:45	10.31g/5mL	10g/5mL	0.97
A3A0570-06	Soil	NWTPH-Dx/SG	01/17/23 11:38	01/20/23 06:45	10.04g/5mL	10g/5mL	1.00
A3A0570-07RE1	Soil	NWTPH-Dx/SG	01/17/23 13:02	01/20/23 06:45	10.06g/5mL	10g/5mL	0.99
A3A0570-08RE1	Soil	NWTPH-Dx/SG	01/17/23 13:05	01/20/23 06:45	10.18g/5mL	10g/5mL	0.98
A3A0570-09RE1	Soil	NWTPH-Dx/SG	01/17/23 14:19	01/20/23 06:45	10.22g/5mL	10g/5mL	0.98
A3A0570-10RE1	Soil	NWTPH-Dx/SG	01/17/23 14:21	01/20/23 06:45	10.02g/5mL	10g/5mL	1.00

Selected Semivolatile Organic Compounds by EPA 8270E

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 23A0724</u>							
A3A0570-11RE1	Water	EPA 8270E	01/17/23 11:53	01/20/23 08:38	990mL/1mL	1000mL/1mL	1.01
A3A0570-12RE1	Water	EPA 8270E	01/17/23 13:11	01/20/23 08:38	1000mL/1mL	1000mL/1mL	1.00
A3A0570-13RE1	Water	EPA 8270E	01/17/23 14:32	01/20/23 08:38	990mL/1mL	1000mL/1mL	1.01

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 23A0626</u>							
A3A0570-01RE1	Soil	EPA 8270E	01/17/23 09:12	01/18/23 10:14	15.43g/2mL	15g/2mL	0.97
A3A0570-02RE1	Soil	EPA 8270E	01/17/23 09:16	01/18/23 10:14	15.33g/2mL	15g/2mL	0.98
A3A0570-03RE1	Soil	EPA 8270E	01/17/23 09:54	01/18/23 10:14	15.29g/2mL	15g/2mL	0.98
A3A0570-04RE1	Soil	EPA 8270E	01/17/23 09:58	01/18/23 10:14	15.32g/2mL	15g/2mL	0.98
A3A0570-05	Soil	EPA 8270E	01/17/23 11:33	01/18/23 10:14	15.05g/2mL	15g/2mL	1.00
A3A0570-06	Soil	EPA 8270E	01/17/23 11:38	01/18/23 10:14	15.32g/2mL	15g/2mL	0.98

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
---	--	---

SAMPLE PREPARATION INFORMATION

Selected Semivolatile Organic Compounds by EPA 8270E

<u>Prep: EPA 3546</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
A3A0570-07	Soil	EPA 8270E	01/17/23 13:02	01/18/23 10:14	15.09g/2mL	15g/2mL	0.99
A3A0570-08RE1	Soil	EPA 8270E	01/17/23 13:05	01/18/23 10:14	15.39g/2mL	15g/2mL	0.98
A3A0570-09RE1	Soil	EPA 8270E	01/17/23 14:19	01/18/23 10:14	15.63g/2mL	15g/2mL	0.96
A3A0570-10RE2	Soil	EPA 8270E	01/17/23 14:21	01/18/23 10:14	15.16g/2mL	15g/2mL	0.99

Percent Dry Weight

<u>Prep: Total Solids (Dry Weight)</u>					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23A0640</u>							
A3A0570-01	Soil	EPA 8000D	01/17/23 09:12	01/18/23 12:14			NA
A3A0570-02	Soil	EPA 8000D	01/17/23 09:16	01/18/23 12:14			NA
A3A0570-03	Soil	EPA 8000D	01/17/23 09:54	01/18/23 12:14			NA
A3A0570-04	Soil	EPA 8000D	01/17/23 09:58	01/18/23 12:14			NA
A3A0570-05	Soil	EPA 8000D	01/17/23 11:33	01/18/23 12:14			NA
A3A0570-06	Soil	EPA 8000D	01/17/23 11:38	01/18/23 12:14			NA
A3A0570-07	Soil	EPA 8000D	01/17/23 13:02	01/18/23 12:14			NA
A3A0570-08	Soil	EPA 8000D	01/17/23 13:05	01/18/23 12:14			NA
A3A0570-09	Soil	EPA 8000D	01/17/23 14:19	01/18/23 12:14			NA
A3A0570-10	Soil	EPA 8000D	01/17/23 14:21	01/18/23 12:14			NA

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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QUALIFIER DEFINITIONS

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

Apex Laboratories

- B** Analyte detected in an associated blank at a level above the MRL. (See Notes and Conventions below.)
- B-02** Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
- F-13** The chromatographic pattern does not resemble the fuel standard used for quantitation
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-41** Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- R-04** Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.
- S-01** Surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.
- S-05** Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
- S-06** Surrogate recovery is outside of established control limits.

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported.
- RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as "dry", "wet", or "" (blank) designation.
 - "dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
 - "wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
 - " " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
-For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: <u>DSV North Marine Dr.</u> Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation)
EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
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All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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APEX LABS
6700 SW Sandburg St., Tigard, OR 97223 Ph: 503-718-2323

CHAIN OF CUSTODY

Company: Aquarius Environmental LLC Project Mgr: Gary Walvatne Project Name: DSV-N Marine Dr.

Address: 2117 NE Oregon St., Portland, 97232 Phone: 503.897.6325 Email: gary@aquariusenl.com PO #

Lab # A3A0570 COC 1 of 2

Sampled by: Gary Walvatne

Site Location: State OR County Multnomah

SAMPLE ID	DATE	TIME	MATRIX	# OF CONTAINERS	ANALYSIS REQUEST																		
					NWTRH-CD	NWTRH-G	8260 BTEX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs Full List	8270 SIM PAHs	8270 Semi-Vols Full List	8082 PCBs	8081 Pesticides	RCCA Metals (8)	Priority Metals (13)	AL, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, TL, V, Zn, TCPL DISS, TCPL	TCPL Metals (8)	Hold Sample	Frozen Archive			
B-12-5.5-6.5	1/17/23	0912	Soil	1								X											
B-12-10-11		0916		1																			
B-16-5.5-6.5		0954		1																			
B-16-10-11		0958		1																			
B-17-5-6		1133		1																			
B-17-10-11		1138		1																			
B-18-5.5-6.5		1302		1																			
B-18-10-11		1305		1																			
B-17-5-6		1419		1																			
B-17-10-11		1421		1																			

Standard Turn Around Time (TAT) = 10 Business Days

TAT Requested (circle): 1 Day 2 Day 3 Day 5 Day Standard Other: _____

SPECIAL INSTRUCTIONS: Silica gel cleanup

RELINQUISHED BY: Signature: <u>Gary Walvatne</u> Printed Name: <u>Gary Walvatne</u> Company: <u>Aquarius Environmental</u>	RECEIVED BY: Signature: _____ Printed Name: _____ Company: _____
Date: <u>1/17/23</u> Time: <u>1623</u>	Date: _____ Time: _____

Form V-002 R-00

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 202 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
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APEX LABS
6700 SW Sandburg St., Tigard, OR 97223 Ph: 503-718-2323

CHAIN OF CUSTODY

Company: Aquarius Environmental Project Mgr: Gary Walvatne
 Address: 2117 NE Oregon St., Portland 97232 Phone: 503.887.6325 Email: gary@aquariusenv.com

Lab # A3A0570 COC # 2 of 2

Project #: _____ PO # _____

Project Name: DSV-N. Marine Dr.

SAMPLE ID	DATE	TIME	MATRIX	# OF CONTAINERS	ANALYSIS REQUEST		Priority Metals (13)	RCRA Metals (8)	8081 Pesticides	8082 PCBs	8270 Semi-Vols Full List	8270 SIM PAHs	8260 Halo VOCs	8260 RBDM VOCs	8260 BTEX	NWTPH-G	NWTPH-D	NWTPH-HCID	Hold Sample	Frozen Archive
					AL, Sb, As, Ba, Be, Cd, Cr, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, TL, V, Zn, TCLP DISS, TCLP	TCLP Metals (8)														
B-19	1/17/23	1153	soils	4		X					X									
B-18	1/31/23			4		X					X									
B-17	1/31/23			4		X					X									

Standard Turn Around Time (TAT) = 10 Business Days

TAT Requested (circle): 1 Day 2 Day 3 Day 5 Day Standard Other: _____

SPECIAL INSTRUCTIONS: Silver gel cleanup

RELINQUISHED BY: Signature: <u>Gary Walvatne</u> Date: <u>1/17/23</u> Printed Name: <u>Gary Walvatne</u> Time: <u>1623</u> Company: <u>Aquarius Environmental</u>	RECEIVED BY: Signature: _____ Date: _____ Printed Name: _____ Time: _____ Company: <u>Apex</u>
---	--

Apex Laboratories

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CABri



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0570 - 01 30 23 1738
---	--	--

APEX LABS COOLER RECEIPT FORM

Client: Aquarius Environmental Element WO#: A3 A0570

Project/Project #: DSV - N. Marine Dr.

Delivery Info:
 Date/time received: 1/17/23 @ 1623 By: DSS
 Delivered by: Apex Client ESS FedEx UPS Radio Morgan SDS Evergreen Other

Cooler Inspection Date/time inspected: 1/17/23 @ 1626 By: DSS
 Chain of Custody included? Yes No
 Signed/dated by client? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>5.6</u>						
Custody seals? (Y/N)	<u>N</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition (In/Out):	<u>In</u>						

Cooler out of temp? (Y/N) Possible reason why: _____
 Green dots applied to out of temperature samples? Yes/No No
 Out of temperature samples form initiated? Yes/No No

Sample Inspection: Date/time inspected: 1/17/23 @ 18:24 By: RWP
 All samples intact? Yes No Comments: _____

Bottle labels/COCs agree? Yes No Comments: _____

COC/container discrepancies form initiated? Yes No
 Containers/volumes received appropriate for analysis? Yes No Comments: _____

Do VOA vials have visible headspace? Yes No NA
 Comments: _____

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

Additional information: _____

Labeled by: WAM Witness: AWP Cooler Inspected by: RWP

Form Y-003 R-00

C O'Brien



ANALYTICAL REPORT

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

Thursday, February 2, 2023
Gary Walvatne
Aquarius Environmental LLC
2117 NE Oregon St, Suite 502
Portland, OR 97232

RE: A3A0525 - DSV North Marine Dr. - [none]

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A3A0525, which was received by the laboratory on 1/16/2023 at 6:30:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: cobrien@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Default Cooler 4.7 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

<u>Aquarius Environmental LLC</u> 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: <u>DSV North Marine Dr.</u> Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0525 - 02 02 23 1642
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ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-15-EPH/VPH Water	A3A0525-01	Water	01/16/23 15:38	01/16/23 18:30
B-15-EPH/VPH Soil	A3A0525-02	Soil	01/16/23 14:25	01/16/23 18:30

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

<u>Aquarius Environmental LLC</u> 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: <u>DSV North Marine Dr.</u> Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0525 - 02 02 23 1642
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ANALYTICAL CASE NARRATIVE

Work Order: A3A0525

Subcontract

This report is complete only if it includes the attached subcontract laboratory report from Gel Laboratories.

Cameron O'Brien
Project Manager
1/16/23



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC
2117 NE Oregon St, Suite 502
Portland, OR 97232

Project: **DSV North Marine Dr.**
Project Number: [none]
Project Manager: Gary Walvatne

Report ID:
A3A0525 - 02 02 23 1642

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

CHAIN OF CUSTODY
Lab # AP0525 COC 1 of 1

Company: Aquarius Env. Project Mgr: Gary Walvatne Project Name: DSV-N. Marine Dr. Project #: _____
Address: 2117 NE Oregon Street, Portland 97232 Phone: 503.887.6325 Email: gary.w@aquariusenv.com # _____
Sampled by: Gary Walvatne
Site Location: _____
State: OR
County: Multnomah
SAMPLE ID: B-15-EPH/UPH soil 1/16/23
K
B-15-EPH/UPH soil 1/16/23
1425
SOIL
3
advis
B-15-EPH/UPH soil 1/16/23
1426
SOIL
1

DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-Dx	NWTPH-Gx	8260 BTEX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs Full List	8270 SIM PAHs	8270 Semi-Vols Full List	8082 PCBs	8081 Pesticides	RCCA Metals (8)	Priority Metals (13)	Al, Sb, As, Ba, Be, Cd, Cr, Cu, Fe, Pb, Mn, Mo, Ni, K, Hg, Mg, Se, Ag, Na, TL, V, Zn, TCDF, TCDD, TCDF, TCDF	TCDF Metals (8)	EPH/UPH	Hold Sample	Frozen Archive
																		X		
																		X		
																		X		

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

Standard Turn Around Time (TAT) = 10 Business Days

TAT Requested (circle): 1 Day 2 Day 3 Day 5 Day Standard Other: _____

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY: Signature: Gary Walvatne Date: 1/16/23
Printed Name: Gary Walvatne Time: _____
Company: Aquarius Environmental

RECEIVED BY: Signature: [Signature] Date: 1/16/23
Printed Name: Cain O'Brien Time: 1830
Company: Apex

Form Y-002 R-00

Apex Laboratories

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Cabin

Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3A0525 - 02 02 23 1642
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APEX LABS COOLER RECEIPT FORM

Client: Aquarius Env. Element WO#: A3 A0525

Project/Project #: DSV-N. Marine Dr.

Delivery Info: 2AM 1/16/23

Date/time received: 1/16/23 @ 18:30 By: [Signature] COB

Delivered by: Apex Client ESS FedEx UPS Radio Morgan SDS Evergreen Other

Cooler Inspection Date/time inspected: 1/16/23 @ 18:30 By: 2AM

Chain of Custody included? Yes No

Signed/dated by client? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>4.7</u>						
Custody seals? (Y/N)	<u>N</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition (In/Out):	<u>In</u>						

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

Green dots applied to out of temperature samples? Yes No

Out of temperature samples form initiated? Yes No

Sample Inspection: Date/time inspected: 1/16/23 @ 18:41 By: 2AM

All samples intact? Yes No Comments: _____

Bottle labels/COCs agree? Yes No Comments: 2AM 1/16/23
Box jar for B-15-EPH/VPH So:1
reads time as 14:30.

COC/container discrepancies form initiated? Yes No

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

Do VOA vials have visible headspace? Yes No NA

Comments 3/3 has sediment

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

Comments: _____

Additional information: _____

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

Form Y-003 R-00

[Signature]

February 02, 2023

Michelle Poquiz
APEX Laboratories, LLC
6700 SW Sandburg St.
Portland, Oregon 97223

Re: WA EPH/VPH Analysis
Work Order: 607453

Dear Michelle Poquiz:

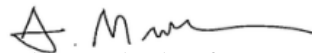
GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on January 18, 2023. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4422.

Sincerely,



Adrian Melendrez for
Jake Crook
Project Manager

Purchase Order: A3A0525
Chain of Custody: A3A0525
Enclosures

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report for

APEL001 APEX Laboratories, LLC

Client SDG: 607453 GEL Work Order: 607453

The Qualifiers in this report are defined as follows:

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated
- B The target analyte was detected in the associated blank.
- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- ** Analyte is a Tracer compound
- J See case narrative for an explanation

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Jake Crook.

Reviewed by _____



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: February 2, 2023

Company : APEX Laboratories, LLC
Address : 6700 SW Sandburg St.

Portland, Oregon 97223
Contact: Michelle Poquiz
Project: WA EPH/VPH Analysis

Client Sample ID: B-15-EPH/VPH Water
Sample ID: 607453001
Matrix: Water
Collect Date: 16-JAN-23 15:38
Receive Date: 18-JAN-23
Collector: Client

Project: APEL00123
Client ID: APEL001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Diesel Range Organics												
SW846 3535A/NWTPH-Dx DRO "As Received"												
Diesel Range Organics		216	75.1	200	ug/L	0.00100	1	RXC1	01/26/23	1636	2371924	1
Kerosene	J	75.2	33.4	200	ug/L	0.00100	1					
Motor Oil		1840	75.1	200	ug/L	0.00100	1					
Volatiles GRO Organics												
NWTPH-Gx GRO, Liquid "As Received"												
Gasoline Range Organics	U	ND	16.7	100	UG/L		1	JEB	01/27/23	1301	2375187	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3535A	3535A DRO IN LIQ PREP	JM12	01/23/23	0929	2371923
SW846 3535A	3535A DRO IN LIQ PREP	LW1	02/01/23	0629	2376522

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	NWTPH-Dx	
2	NWTPH-Gx	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
o-Terphenyl	SW846 3535A/NWTPH-Dx DRO "As Received"	9.92 ug/L	20.0	50	(50%-150%)
Bromofluorobenzene	NWTPH-Gx GRO, Liquid "As Received"	47.5 UG/L	50.0	95	(50%-150%)

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration

Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: February 2, 2023

Company : APEX Laboratories, LLC
Address : 6700 SW Sandburg St.

Portland, Oregon 97223
Contact: Michelle Poquiz
Project: WA EPH/VPH Analysis

Client Sample ID: B-15-EPH/VPH Soil Project: APEL00123
Sample ID: 607453002 Client ID: APEL001
Matrix: Soil
Collect Date: 16-JAN-23 14:25
Receive Date: 18-JAN-23
Collector: Client
Moisture: 42.8%

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
Diesel Range Organics												
SW 3541/NWTPH-Dx, Solid "Dry Weight Corrected"												
Diesel Range Organics	U	ND	3760	11600	UG/KG	0.0331	1	RXC1	01/27/23	0031	2370924	1
Kerosene	U	ND	1930	11600	UG/KG	0.0331	1					
Motor Oil	B	24600	3760	11600	UG/KG	0.0331	1					
Volatiles GRO Organics												
NWTPH-Gx GRO, Solid "Dry Weight Corrected"												
Gasoline Range Organics	U	ND	1280	7670	UG/KG	0.877	50	JEB	01/27/23	1416	2375186	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
NWTPH-Gx in Soil	NWTPH-Gx Prep in Soil	JEB	01/16/23	1425	2375185
SW846 3541	3541 DRO IN SOIL PREP	DC2	01/23/23	1013	2370923

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	NWTPH-Dx in Soil	
2	NWTPH-Gx in Soil	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
o-Terphenyl	SW 3541/NWTPH-Dx, Solid "Dry Weight Corrected"	796 UG/KG	1160	69	(50%-150%)
Bromofluorobenzene	NWTPH-Gx GRO, Solid "Dry Weight Corrected"	3450 UG/KG	50.0	90	(50%-150%)

Notes:

Column headers are defined as follows:

DF: Dilution Factor Lc/LC: Critical Level
DL: Detection Limit PF: Prep Factor
MDA: Minimum Detectable Activity RL: Reporting Limit
MDC: Minimum Detectable Concentration SQL: Sample Quantitation Limit

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : APEX Laboratories, LLC
Address : 6700 SW Sandburg St.

Portland, Oregon 97223

Report Date: February 2, 2023

Contact: Michelle Poquiz

Project: WA EPH/VPH Analysis

Client Sample ID: B-15-EPH/VPH Soil
Sample ID: 607453002
Matrix: Soil
Collect Date: 16-JAN-23
Receive Date: 18-JAN-23
Collector: Client
Moisture: 42.8%

Project: APEL00123
Client ID: APEL001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

"As Received"

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
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Notes:
The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor	Mtd.: Method
DL: Detection Limit	PF: Prep Factor
Lc/LC: Critical Level	RL: Reporting Limit
MDA: Minimum Detectable Activity	TPU: Total Propagated Uncertainty
MDC: Minimum Detectable Concentration	

GEL LABORATORIES LLC

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QC Summary

Report Date: February 2, 2023

Page 1 of 5

APEX Laboratories, LLC
6700 SW Sandburg St.
Portland, Oregon

Contact: Michelle Poquiz

Workorder: 607453

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Diesel Range Organics											
Batch	2370924										
QC1205298787	LCS										
Diesel Range Organics	66400			61300	UG/KG		92	(70%-130%)	RXC1	01/26/23	19:53
Motor Oil	66400		B	65100	UG/KG		98	(70%-130%)			
**o-Terphenyl	664			694	UG/KG		105	(50%-150%)			
QC1205298793	LCS										
Kerosene	33100			26200	UG/KG		79	(70%-130%)		01/26/23	20:33
**o-Terphenyl	662			630	UG/KG		95	(50%-150%)			
QC1205298794	LCSD										
Kerosene	33000			27000	UG/KG	3	82	(0%-20%)		01/26/23	21:13
**o-Terphenyl	659			606	UG/KG		92	(50%-150%)			
QC1205298786	MB										
Diesel Range Organics			U	ND	UG/KG					01/26/23	19:14
Kerosene			U	ND	UG/KG						
Motor Oil			J	4370	UG/KG						
**o-Terphenyl	650			589	UG/KG		91	(50%-150%)			
QC1205298788	606438001	MS									
Diesel Range Organics	83200	U		ND	75900	UG/KG	91	(70%-130%)		01/26/23	22:32
Motor Oil	83200	U		ND	77900	UG/KG	94	(70%-130%)			

GEL LABORATORIES LLC

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QC Summary

Workorder: 607453

Page 2 of 5

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Diesel Range Organics											
Batch	2370924										
**o-Terphenyl	832	696		754	UG/KG		91	(50%-150%)	RXC1	01/26/23	22:32
QC1205298789 606438001 MSD											
Diesel Range Organics	84700	U	ND	74700	UG/KG	2	88	(0%-20%)		01/26/23	23:12
Motor Oil	84700	U	ND	B	74600	UG/KG	4	88	(0%-20%)		
**o-Terphenyl	847	696		729	UG/KG		86	(50%-150%)			
Batch 2371924											
QC1205300566 LCS											
Diesel Range Organics	2000			1020	ug/L		51 *	(70%-130%)	RXC1	01/26/23	14:00
Motor Oil	2000			1070	ug/L		53 *	(70%-130%)			
**o-Terphenyl	20.0			11.6	ug/L		58	(50%-150%)			
QC1205300568 LCS											
Kerosene	1000			479	ug/L		48 *	(70%-130%)		01/26/23	14:39
**o-Terphenyl	20.0			13.9	ug/L		69	(50%-150%)			
QC1205300567 LCSD											
Diesel Range Organics	2000			1060	ug/L	4	53 *	(0%-20%)		01/26/23	15:18
Motor Oil	2000			1050	ug/L	2	52 *	(0%-20%)			
**o-Terphenyl	20.0			11.9	ug/L		60	(50%-150%)			
QC1205300569 LCSD											
Kerosene	1000			520	ug/L	8	52 *	(0%-20%)		01/26/23	15:57

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QC Summary

Workorder: 607453

Page 3 of 5

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Diesel Range Organics											
Batch	2371924										
**o-Terphenyl	20.0			14.4	ug/L		72	(50%-150%)	RXC1	01/26/23	15:57
QC1205300565 MB											
Diesel Range Organics			U	ND	ug/L					01/26/23	13:21
Kerosene			U	ND	ug/L						
Motor Oil			U	ND	ug/L						
**o-Terphenyl	20.0			12.7	ug/L		63	(50%-150%)			
Volatiles GRO Organics											
Batch	2375186										
QC1205306108 LCS											
Gasoline Range Organics	500			471	UG/KG		94	(70%-130%)	JEB	01/27/23	11:46
**Bromofluorobenzene	50.0			47.9	UG/KG		96	(50%-150%)			
QC1205306109 MB											
Gasoline Range Organics			U	ND	UG/KG					01/27/23	12:36
**Bromofluorobenzene	50.0			56.6	UG/KG		113	(50%-150%)			
QC1205306111 607453002 PS											
Gasoline Range Organics	500	U	ND	451	ug/L		90	(70%-130%)		01/27/23	14:41
**Bromofluorobenzene	50.0	45.0		51.3	ug/L		103	(50%-150%)			
QC1205306112 607453002 PSD											
Gasoline Range Organics	500	U	ND	485	ug/L	7	97	(0%-20%)		01/27/23	15:06
**Bromofluorobenzene	50.0	45.0		50.0	ug/L		100	(50%-150%)			

GEL LABORATORIES LLC

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QC Summary

Workorder: 607453

Page 4 of 5

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Volatiles GRO Organics											
Batch	2375187										
QC1205306113	LCS										
Gasoline Range Organics	500			483	UG/L		97	(70%-130%)	JEB	01/27/23	11:20
**Bromofluorobenzene	50.0			48.1	UG/L		96	(50%-150%)			
QC1205306114	MB										
Gasoline Range Organics			U	ND	UG/L					01/27/23	12:11
**Bromofluorobenzene	50.0			51.0	UG/L		102	(50%-150%)			
QC1205306115	607453001 PS										
Gasoline Range Organics	500	U	ND	463	ug/L		93	(70%-130%)		01/27/23	13:26
**Bromofluorobenzene	50.0		47.5	48.4	ug/L		97	(50%-150%)			
QC1205306116	607453001 PSD										
Gasoline Range Organics	500	U	ND	494	ug/L	6	99	(0%-20%)		01/27/23	13:51
**Bromofluorobenzene	50.0		47.5	51.5	ug/L		103	(50%-150%)			

Notes:

The Qualifiers in this report are defined as follows:

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated
- P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.
- C Analyte has been confirmed by GC/MS analysis
- B The target analyte was detected in the associated blank.
- E Concentration of the target analyte exceeds the instrument calibration range
- A The TIC is a suspected aldol-condensation product
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- H Analytical holding time was exceeded
- ** Analyte is a surrogate compound

GEL LABORATORIES LLC

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QC Summary

Workorder: 607453

Page 5 of 5

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<											
>											
h											
R											
^											
D											
N/A											
ND											
NJ											
JNX											
UJ											
Q											
N1											
Y											
N											
J											

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: February 2, 2023

Page 1 of 1

Client : APEX Laboratories, LLC
6700 SW Sandburg St.

Portland, Oregon

Contact: Michelle Poquiz

Workorder: 607453

Parname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
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Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
- J Value is estimated
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- H Analytical holding time was exceeded
- < Result is less than value reported
- > Result is greater than value reported
- UI Gamma Spectroscopy--Uncertain identification
- BD Results are either below the MDC or tracer recovery is low
- h Preparation or preservation holding time was exceeded
- R Sample results are rejected
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit
- M M if above MDC and less than LLD
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- FA Failed analysis.
- UJ Gamma Spectroscopy--Uncertain identification
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- UL Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- N1 See case narrative
- Y Other specific qualifiers were required to properly define the results. Consult case narrative.
- ** Analyte is a Tracer compound
- M REMP Result > MDC/CL and < RDL
- J See case narrative for an explanation

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

** Indicates analyte is a surrogate/tracer compound.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

SUBCONTRACT ORDER

EJ

Apex Laboratories

A3A0525

607453

ACK 1/17/23

SENDING LABORATORY:

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

RECEIVING LABORATORY:

Gel Laboratories
2040 Savage Road
Charleston, SC 29407
Phone : (843) 556-8171
Fax: (843) 766-1178

Sample Name: **B-15-EPH/VPH Water** Water Sampled: **01/16/23 15:38** (A3A0525-01)


Analysis	Due	Expires	Comments
NWTPH-EPH (Sub)	01/30/23 17:00	01/30/23 15:38	
NWTPH-VPH (Sub)	01/30/23 17:00	01/30/23 15:38	3/3 voas have visible sediment
<i>Containers Supplied:</i>			
(A)40 mL VOA - HCL			
(B)40 mL VOA - HCL			
(C)40 mL VOA - HCL			
(D)1 L Amber Glass - HCL			
(E)1 L Amber Glass - HCL			


8oz jar reads time as 14:30

Sample Name: **B-15-EPH/VPH Soil** Soil Sampled: **01/16/23 14:25** (A3A0525-02)

Analysis	Due	Expires	Comments
NWTPH-EPH (Sub)	01/30/23 17:00	01/30/23 14:25	
NWTPH-VPH (Sub)	01/30/23 17:00	01/30/23 14:25	
<i>Containers Supplied:</i>			
(A)8 oz Glass Jar			
(B)40 mL VOA - 5035 (MeOH)			
(C)40 mL VOA - 5035 (MeOH)			

Standard TAT

Released By  Date 1-17-23 Received By Fed Ex (Shipper) Date

Released By Fed Ex (Shipper) Date Received By  Date 1/18/23 7:25

SAMPLE RECEIPT & REVIEW FORM

607453 JC

Client: APEL	SDG/AR/COC/Work Order:
Received By: Stacy Boone	Date Received: January 18, 2023
Carrier and Tracking Number	Circle Applicable: FedEx Express <input checked="" type="checkbox"/> FedEx Ground <input type="checkbox"/> UPS <input type="checkbox"/> Field Services <input type="checkbox"/> Courier <input type="checkbox"/> Other <input type="checkbox"/> 7710 5201 8940

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A) Shipped as a DOT Hazardous?		<input checked="" type="checkbox"/>	Hazard Class Shipped: _____ UN#: _____ If UN2910, Is the Radioactive Shipment Survey Compliant? Yes ___ No ___
B) Did the client designate the samples are to be received as radioactive?		<input checked="" type="checkbox"/>	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		<input checked="" type="checkbox"/>	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): _____ CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		<input checked="" type="checkbox"/>	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		<input checked="" type="checkbox"/>	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			Circle Applicable: Client contacted and provided COC COC created upon receipt
3 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius. TEMP: <u>ic</u>
4 Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>			Temperature Device Serial #: <u>IR3-22</u> Secondary Temperature Device Serial # (If Applicable):
5 Sample containers intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6 Samples requiring chemical preservation at proper pH?			<input checked="" type="checkbox"/>	Sample ID's and Containers Affected: If Preservation added, Lot#:
7 Do any samples require Volatile Analysis?	<input checked="" type="checkbox"/>			If Yes, are Encores or Soil Kits present for solids? Yes ___ No ___ NA ___ (If yes, take to VOA Freezer)
				Do liquid VOA vials contain acid preservation? Yes <input checked="" type="checkbox"/> No ___ NA ___ (If unknown, select No)
				Are liquid VOA vials free of headspace? Yes <input checked="" type="checkbox"/> No ___ NA ___ Sample ID's and containers affected:
8 Samples received within holding time?	<input checked="" type="checkbox"/>			ID's and tests affected:
9 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			ID's and containers affected:
10 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Circle Applicable: No container count on COC Other (describe)
12 Are sample containers identifiable as GEL provided by use of GEL labels?	<input checked="" type="checkbox"/>			
13 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials AB Date 1/19/23 Page 1 of 1

List of current GEL Certifications as of 02 February 2023

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122023-4
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2022-160
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-22-20
Utah NELAP	SC000122022-37
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Diesel Range Organics

Product: Analysis of Diesel Range Organics by Flame Ionization Detector

Analytical Method: NWTPH-Dx in Soil

Analytical Procedure: GL-OA-E-003 REV# 31

Analytical Batch: 2370924

Preparation Method: SW846 3541

Preparation Procedure: GL-OA-E-066 REV# 9

Preparation Batch: 2370923

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
607453002	B-15-EPH/VPH Soil
1205298786	Method Blank (MB)
1205298787	Laboratory Control Sample (LCS)
1205298788	606438001(NonSDG) Matrix Spike (MS)
1205298789	606438001(NonSDG) Matrix Spike Duplicate (MSD)
1205298793	Laboratory Control Sample (LCS)
1205298794	Laboratory Control Sample Duplicate (LCSD)

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

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Laboratory Control Sample (LCSD)

An LCSD was used as a duplicate QC for Kerosene.

Miscellaneous Information

Manual Integrations

Samples 1205298787 (LCS), 1205298788 (Non SDG 606438001MS), 1205298789 (Non SDG 606438001MSD) and 607453002 (B-15-EPH/VPH Soil) required manual integration to correctly position the baseline as set in the calibration standard injections.

Product: Analysis of Diesel Range Organics by Flame Ionization Detector

Analytical Method: NWTPH-Dx

Analytical Procedure: GL-OA-E-003 REV# 31

Analytical Batch: 2371924

Preparation Method: SW846 3535A

Preparation Procedure: GL-OA-E-013 REV# 35

Preparation Batch: 2371923

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
607453001	B-15-EPH/VPH Water
1205300565	Method Blank (MB)
1205300566	Laboratory Control Sample (LCS)
1205300567	Laboratory Control Sample Duplicate (LCSD)
1205300568	Laboratory Control Sample (LCS)
1205300569	Laboratory Control Sample Duplicate (LCSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

Laboratory Control Sample (LCSD)

An LCSD was used in place of matrix QC due to limited sample volume.

Laboratory Control Sample (LCS/LCSD) Recovery

The LCS and LCSD did not meet spike recovery acceptance criteria. The associated APEL sample was re-extracted. The LCS in the re-extracted failed to meet the acceptance criteria as well. There are no more sample available for the third extraction. The original analysis was reported.

Sample	Analyte	Value
1205300566 (LCS)	Diesel Range Organics	51* (70%-130%)
	Motor Oil	53* (70%-130%)
1205300567 (LCSD)	Diesel Range Organics	53* (70%-130%)
	Motor Oil	52* (70%-130%)
1205300568 (LCS)	Kerosene	48* (70%-130%)
1205300569 (LCSD)	Kerosene	52* (70%-130%)

Miscellaneous Information

Manual Integrations

Samples 1205300566 (LCS), 1205300567 (LCSD) and 607453001 (B-15-EPH/VPH Water) required manual integration to correctly position the baseline as set in the calibration standard injections.

GC Volatiles (GRO)

Product: Volatile Total Petroleum Hydrocarbons by Flame Ionization Detector

Analytical Method: NWTPH-Gx in Soil

Analytical Procedure: GL-OA-E-004 REV# 30

Analytical Batches: 2375186 and 2375185

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
607453002	B-15-EPH/VPH Soil
1205306108	Laboratory Control Sample (LCS)
1205306109	Method Blank (MB)
1205306111	607453002(B-15-EPH/VPH Soil) Post Spike (PS)
1205306112	607453002(B-15-EPH/VPH Soil) Post Spike Duplicate (PSD)

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

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions

Samples were analyzed using a methanol extraction procedure at 1:50 dilutions. The samples were analyzed at the lowest dilution possible when using a methanol extraction procedure.

Radiochemistry

Product: Dry Weight

Preparation Method: ASTM D 2216 (Modified)

Preparation Procedure: GL-OA-E-020 REV# 13

Preparation Batch: 2370457

The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	<u>Client Sample Identification</u>
607453002	B-15-EPH/VPH Soil
1205297792	607453002(B-15-EPH/VPH Soil) Sample Duplicate (DUP)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.



ANALYTICAL REPORT

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

Thursday, July 25, 2024
Gary Walvatne
Aquarius Environmental LLC
2117 NE Oregon St, Suite 502
Portland, OR 97232

RE: A4G1180 - DSV North Marine Dr. - [none]

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A4G1180, which was received by the laboratory on 7/12/2024 at 5:23:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: cobrien@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information
Acceptable Receipt Temperature is less than, or equal to, 6 degC (not frozen), or received on ice the same day as sampling.
(See Cooler Receipt Form for details)
Cooler #1 5.1 degC Cooler #2 5.2 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report. All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

Cobrien (handwritten signature)

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Cameron O'Brien, Project Manager



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ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B-20-10-12	A4G1180-01	Soil	07/12/24 12:38	07/12/24 17:23
B-21-11-13	A4G1180-02	Soil	07/12/24 09:52	07/12/24 17:23
B-22-10.5-12	A4G1180-03	Soil	07/12/24 10:47	07/12/24 17:23
B-23-11-12	A4G1180-04	Soil	07/12/24 11:47	07/12/24 17:23
B-20-10-12 DUP	A4G1180-05	Soil	07/12/24 12:38	07/12/24 17:23
B-20	A4G1180-06	Water	07/12/24 13:38	07/12/24 17:23
B-21	A4G1180-07	Water	07/12/24 10:53	07/12/24 17:23
B-22	A4G1180-08	Water	07/12/24 12:01	07/12/24 17:23
B-23	A4G1180-09	Water	07/12/24 12:58	07/12/24 17:23
B-20 DUP	A4G1180-10	Water	07/12/24 13:38	07/12/24 17:23

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ANALYTICAL CASE NARRATIVE

Work Order: **A4G1180** **Apex Laboratories**

Subcontract

This report is complete only if it includes the attached subcontract laboratory report from Alliance Technical Group and Precision Petroleum Labs.

Cameron O'Brien
Project Manager
7/12/24

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Cameron O'Brien, Project Manager



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ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-20-10-12 (A4G1180-01)				Matrix: Soil		Batch: 24G0572		
Diesel	14.2	12.3	24.6	mg/kg dry	1	07/18/24 22:17	NWTPH-Dx	J
Oil	452	24.6	49.2	mg/kg dry	1	07/18/24 22:17	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 101 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/18/24 22:17</i>	<i>NWTPH-Dx</i>
B-21-11-13 (A4G1180-02)				Matrix: Soil		Batch: 24G0621		
Diesel	ND	12.8	25.6	mg/kg dry	1	07/18/24 20:55	NWTPH-Dx	
Oil	ND	25.6	51.2	mg/kg dry	1	07/18/24 20:55	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 66 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/18/24 20:55</i>	<i>NWTPH-Dx</i>
B-22-10.5-12 (A4G1180-03)				Matrix: Soil		Batch: 24G0621		
Diesel	12.9	12.9	25.9	mg/kg dry	1	07/18/24 21:43	NWTPH-Dx	J
Oil	ND	25.9	51.8	mg/kg dry	1	07/18/24 21:43	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 70 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/18/24 21:43</i>	<i>NWTPH-Dx</i>
B-23-11-12 (A4G1180-04)				Matrix: Soil		Batch: 24G0621		
Diesel	ND	13.1	26.2	mg/kg dry	1	07/18/24 22:06	NWTPH-Dx	
Oil	ND	26.2	52.4	mg/kg dry	1	07/18/24 22:06	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 55 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/18/24 22:06</i>	<i>NWTPH-Dx</i>
B-20 (A4G1180-06)				Matrix: Water		Batch: 24G0501		DCNT
Diesel	0.291	0.0971	0.194	mg/L	1	07/16/24 22:11	NWTPH-Dx	F-11
Oil	ND	0.194	0.388	mg/L	1	07/16/24 22:11	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/16/24 22:11</i>	<i>NWTPH-Dx</i>
B-21 (A4G1180-07)				Matrix: Water		Batch: 24G0501		DCNT
Diesel	0.174	0.0962	0.192	mg/L	1	07/16/24 22:32	NWTPH-Dx	J
Oil	ND	0.192	0.385	mg/L	1	07/16/24 22:32	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 101 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/16/24 22:32</i>	<i>NWTPH-Dx</i>
B-22 (A4G1180-08)				Matrix: Water		Batch: 24G0501		DCNT
Diesel	0.102	0.0971	0.194	mg/L	1	07/16/24 22:53	NWTPH-Dx	J
Oil	ND	0.194	0.388	mg/L	1	07/16/24 22:53	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 103 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/16/24 22:53</i>	<i>NWTPH-Dx</i>

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Cameron O'Brien, Project Manager



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ORELAP ID: OR100062

<u>Aquarius Environmental LLC</u> 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-23 (A4G1180-09)				Matrix: Water		Batch: 24G0501		DCNT
Diesel	ND	0.0962	0.192	mg/L	1	07/16/24 23:14	NWTPH-Dx	
Oil	ND	0.192	0.385	mg/L	1	07/16/24 23:14	NWTPH-Dx	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/16/24 23:14</i>	<i>NWTPH-Dx</i>

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ANALYTICAL SAMPLE RESULTS

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

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-20-10-12 (A4G1180-01RE1)				Matrix: Soil		Batch: 24G0473		
Gasoline Range Organics	4.57	4.08	8.16	mg/kg dry	50	07/16/24 16:26	NWTPH-Gx (MS)	J
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 99 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/16/24 16:26</i>	<i>NWTPH-Gx (MS)</i>
<i>1,4-Difluorobenzene (Sur)</i>		<i>102 %</i>		<i>50-150 %</i>		<i>1</i>	<i>07/16/24 16:26</i>	<i>NWTPH-Gx (MS)</i>
B-21-11-13 (A4G1180-02)				Matrix: Soil		Batch: 24G0444		
Gasoline Range Organics	ND	4.21	8.43	mg/kg dry	50	07/15/24 19:53	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 102 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/15/24 19:53</i>	<i>NWTPH-Gx (MS)</i>
<i>1,4-Difluorobenzene (Sur)</i>		<i>101 %</i>		<i>50-150 %</i>		<i>1</i>	<i>07/15/24 19:53</i>	<i>NWTPH-Gx (MS)</i>
B-22-10.5-12 (A4G1180-03)				Matrix: Soil		Batch: 24G0444		
Gasoline Range Organics	ND	5.83	11.7	mg/kg dry	50	07/15/24 20:21	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 102 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/15/24 20:21</i>	<i>NWTPH-Gx (MS)</i>
<i>1,4-Difluorobenzene (Sur)</i>		<i>101 %</i>		<i>50-150 %</i>		<i>1</i>	<i>07/15/24 20:21</i>	<i>NWTPH-Gx (MS)</i>
B-23-11-12 (A4G1180-04)				Matrix: Soil		Batch: 24G0444		
Gasoline Range Organics	ND	4.09	8.17	mg/kg dry	50	07/15/24 20:48	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 101 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/15/24 20:48</i>	<i>NWTPH-Gx (MS)</i>
<i>1,4-Difluorobenzene (Sur)</i>		<i>101 %</i>		<i>50-150 %</i>		<i>1</i>	<i>07/15/24 20:48</i>	<i>NWTPH-Gx (MS)</i>
B-20 (A4G1180-06RE1)				Matrix: Water		Batch: 24G0528		
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	07/17/24 15:47	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 92 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/17/24 15:47</i>	<i>NWTPH-Gx (MS)</i>
<i>1,4-Difluorobenzene (Sur)</i>		<i>106 %</i>		<i>50-150 %</i>		<i>1</i>	<i>07/17/24 15:47</i>	<i>NWTPH-Gx (MS)</i>
B-21 (A4G1180-07RE1)				Matrix: Water		Batch: 24G0528		
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	07/17/24 16:09	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 93 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/17/24 16:09</i>	<i>NWTPH-Gx (MS)</i>
<i>1,4-Difluorobenzene (Sur)</i>		<i>106 %</i>		<i>50-150 %</i>		<i>1</i>	<i>07/17/24 16:09</i>	<i>NWTPH-Gx (MS)</i>
B-22 (A4G1180-08RE1)				Matrix: Water		Batch: 24G0528		
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	07/17/24 16:31	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 92 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>07/17/24 16:31</i>	<i>NWTPH-Gx (MS)</i>
<i>1,4-Difluorobenzene (Sur)</i>		<i>106 %</i>		<i>50-150 %</i>		<i>1</i>	<i>07/17/24 16:31</i>	<i>NWTPH-Gx (MS)</i>

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
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 503-718-2323
 ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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ANALYTICAL SAMPLE RESULTS

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

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-23 (A4G1180-09RE1)				Matrix: Water		Batch: 24G0528		
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	07/17/24 16:53	NWTPH-Gx (MS)	
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>	<i>1</i>	<i>07/17/24 16:53</i>	<i>NWTPH-Gx (MS)</i>	
<i>1,4-Difluorobenzene (Sur)</i>		<i>106 %</i>		<i>50-150 %</i>	<i>1</i>	<i>07/17/24 16:53</i>	<i>NWTPH-Gx (MS)</i>	

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Cameron O'Brien, Project Manager



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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-20 (A4G1180-06RE2)			Matrix: Water		Batch: 24G0575			
Benzene	ND	0.000100	0.000200	mg/L	1	07/19/24 01:58	EPA 8260D	
Toluene	ND	0.000500	0.00100	mg/L	1	07/19/24 01:58	EPA 8260D	
Ethylbenzene	ND	0.000250	0.000500	mg/L	1	07/19/24 01:58	EPA 8260D	
Xylenes, total	ND	0.000750	0.00150	mg/L	1	07/19/24 01:58	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	0.000500	0.00100	mg/L	1	07/19/24 01:58	EPA 8260D	
Naphthalene	ND	0.00250	0.00500	mg/L	1	07/19/24 01:58	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	0.000250	0.000500	mg/L	1	07/19/24 01:58	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	0.000200	0.000400	mg/L	1	07/19/24 01:58	EPA 8260D	
Isopropylbenzene	ND	0.000500	0.00100	mg/L	1	07/19/24 01:58	EPA 8260D	
1,2,4-Trimethylbenzene	ND	0.000500	0.00100	mg/L	1	07/19/24 01:58	EPA 8260D	
1,3,5-Trimethylbenzene	ND	0.000500	0.00100	mg/L	1	07/19/24 01:58	EPA 8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 101 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>07/19/24 01:58</i>	<i>EPA 8260D</i>
<i>Toluene-d8 (Surr)</i>				<i>100 %</i>		<i>80-120 %</i>	<i>1</i>	<i>07/19/24 01:58</i>
<i>4-Bromofluorobenzene (Surr)</i>				<i>102 %</i>		<i>80-120 %</i>	<i>1</i>	<i>07/19/24 01:58</i>

B-21 (A4G1180-07RE2)			Matrix: Water		Batch: 24G0575			
Benzene	ND	0.000100	0.000200	mg/L	1	07/19/24 02:20	EPA 8260D	
Toluene	ND	0.000500	0.00100	mg/L	1	07/19/24 02:20	EPA 8260D	
Ethylbenzene	ND	0.000250	0.000500	mg/L	1	07/19/24 02:20	EPA 8260D	
Xylenes, total	ND	0.000750	0.00150	mg/L	1	07/19/24 02:20	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	0.000500	0.00100	mg/L	1	07/19/24 02:20	EPA 8260D	
Naphthalene	ND	0.00250	0.00500	mg/L	1	07/19/24 02:20	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	0.000250	0.000500	mg/L	1	07/19/24 02:20	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	0.000200	0.000400	mg/L	1	07/19/24 02:20	EPA 8260D	
Isopropylbenzene	ND	0.000500	0.00100	mg/L	1	07/19/24 02:20	EPA 8260D	
1,2,4-Trimethylbenzene	ND	0.000500	0.00100	mg/L	1	07/19/24 02:20	EPA 8260D	
1,3,5-Trimethylbenzene	ND	0.000500	0.00100	mg/L	1	07/19/24 02:20	EPA 8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 103 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>07/19/24 02:20</i>	<i>EPA 8260D</i>
<i>Toluene-d8 (Surr)</i>				<i>99 %</i>		<i>80-120 %</i>	<i>1</i>	<i>07/19/24 02:20</i>
<i>4-Bromofluorobenzene (Surr)</i>				<i>101 %</i>		<i>80-120 %</i>	<i>1</i>	<i>07/19/24 02:20</i>

B-22 (A4G1180-08RE2)			Matrix: Water		Batch: 24G0575			
Benzene	ND	0.000100	0.000200	mg/L	1	07/19/24 02:42	EPA 8260D	
Toluene	ND	0.000500	0.00100	mg/L	1	07/19/24 02:42	EPA 8260D	
Ethylbenzene	ND	0.000250	0.000500	mg/L	1	07/19/24 02:42	EPA 8260D	
Xylenes, total	ND	0.000750	0.00150	mg/L	1	07/19/24 02:42	EPA 8260D	

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ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-22 (A4G1180-08RE2)			Matrix: Water		Batch: 24G0575			
Methyl tert-butyl ether (MTBE)	ND	0.000500	0.00100	mg/L	1	07/19/24 02:42	EPA 8260D	
Naphthalene	ND	0.00250	0.00500	mg/L	1	07/19/24 02:42	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	0.000250	0.000500	mg/L	1	07/19/24 02:42	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	0.000200	0.000400	mg/L	1	07/19/24 02:42	EPA 8260D	
Isopropylbenzene	ND	0.000500	0.00100	mg/L	1	07/19/24 02:42	EPA 8260D	
1,2,4-Trimethylbenzene	ND	0.000500	0.00100	mg/L	1	07/19/24 02:42	EPA 8260D	
1,3,5-Trimethylbenzene	ND	0.000500	0.00100	mg/L	1	07/19/24 02:42	EPA 8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 101 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>07/19/24 02:42</i>	<i>EPA 8260D</i>
<i>Toluene-d8 (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>1</i>	<i>07/19/24 02:42</i>	<i>EPA 8260D</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>		<i>1</i>	<i>07/19/24 02:42</i>	<i>EPA 8260D</i>
B-23 (A4G1180-09RE2)			Matrix: Water		Batch: 24G0575			
Benzene	ND	0.000100	0.000200	mg/L	1	07/19/24 03:04	EPA 8260D	
Toluene	ND	0.000500	0.00100	mg/L	1	07/19/24 03:04	EPA 8260D	
Ethylbenzene	ND	0.000250	0.000500	mg/L	1	07/19/24 03:04	EPA 8260D	
Xylenes, total	ND	0.000750	0.00150	mg/L	1	07/19/24 03:04	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	0.000500	0.00100	mg/L	1	07/19/24 03:04	EPA 8260D	
Naphthalene	ND	0.00250	0.00500	mg/L	1	07/19/24 03:04	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	0.000250	0.000500	mg/L	1	07/19/24 03:04	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	0.000200	0.000400	mg/L	1	07/19/24 03:04	EPA 8260D	
Isopropylbenzene	ND	0.000500	0.00100	mg/L	1	07/19/24 03:04	EPA 8260D	
1,2,4-Trimethylbenzene	ND	0.000500	0.00100	mg/L	1	07/19/24 03:04	EPA 8260D	
1,3,5-Trimethylbenzene	ND	0.000500	0.00100	mg/L	1	07/19/24 03:04	EPA 8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 102 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>07/19/24 03:04</i>	<i>EPA 8260D</i>
<i>Toluene-d8 (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>1</i>	<i>07/19/24 03:04</i>	<i>EPA 8260D</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>		<i>1</i>	<i>07/19/24 03:04</i>	<i>EPA 8260D</i>

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ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC
2117 NE Oregon St, Suite 502
Portland, OR 97232

Project: **DSV North Marine Dr.**
Project Number: [none]
Project Manager: Gary Walvatne

Report ID:
A4G1180 - 07 25 24 2014

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 5035A/8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-20-10-12 (A4G1180-01)				Matrix: Soil		Batch: 24G0444		
Benzene	ND	0.00816	0.0163	mg/kg dry	50	07/15/24 19:26	5035A/8260D	
Toluene	ND	0.0408	0.0816	mg/kg dry	50	07/15/24 19:26	5035A/8260D	
Ethylbenzene	ND	0.0204	0.0408	mg/kg dry	50	07/15/24 19:26	5035A/8260D	
Xylenes, total	ND	0.0612	0.122	mg/kg dry	50	07/15/24 19:26	5035A/8260D	
Methyl tert-butyl ether (MTBE)	ND	0.0408	0.0816	mg/kg dry	50	07/15/24 19:26	5035A/8260D	
1,2-Dibromoethane (EDB)	ND	0.0408	0.0816	mg/kg dry	50	07/15/24 19:26	5035A/8260D	
1,2-Dichloroethane (EDC)	ND	0.0204	0.0408	mg/kg dry	50	07/15/24 19:26	5035A/8260D	
Isopropylbenzene	ND	0.0408	0.0816	mg/kg dry	50	07/15/24 19:26	5035A/8260D	
1,2,4-Trimethylbenzene	ND	0.0408	0.0816	mg/kg dry	50	07/15/24 19:26	5035A/8260D	
1,3,5-Trimethylbenzene	ND	0.0408	0.0816	mg/kg dry	50	07/15/24 19:26	5035A/8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 98 %</i>		<i>Limits: 80-120 %</i>	<i>1</i>	<i>07/15/24 19:26</i>	<i>5035A/8260D</i>	
<i>Toluene-d8 (Surr)</i>		<i>99 %</i>		<i>80-120 %</i>	<i>1</i>	<i>07/15/24 19:26</i>	<i>5035A/8260D</i>	
<i>4-Bromofluorobenzene (Surr)</i>		<i>103 %</i>		<i>79-120 %</i>	<i>1</i>	<i>07/15/24 19:26</i>	<i>5035A/8260D</i>	
B-20-10-12 (A4G1180-01RE1)				Matrix: Soil		Batch: 24G0473		
Naphthalene	ND	0.0816	0.163	mg/kg dry	50	07/16/24 16:26	5035A/8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 80-120 %</i>	<i>1</i>	<i>07/16/24 16:26</i>	<i>5035A/8260D</i>	
<i>Toluene-d8 (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>	<i>1</i>	<i>07/16/24 16:26</i>	<i>5035A/8260D</i>	
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>79-120 %</i>	<i>1</i>	<i>07/16/24 16:26</i>	<i>5035A/8260D</i>	
B-21-11-13 (A4G1180-02)				Matrix: Soil		Batch: 24G0444		
Benzene	ND	0.00843	0.0169	mg/kg dry	50	07/15/24 19:53	5035A/8260D	
Toluene	ND	0.0421	0.0843	mg/kg dry	50	07/15/24 19:53	5035A/8260D	
Ethylbenzene	ND	0.0211	0.0421	mg/kg dry	50	07/15/24 19:53	5035A/8260D	
Xylenes, total	ND	0.0632	0.126	mg/kg dry	50	07/15/24 19:53	5035A/8260D	
Methyl tert-butyl ether (MTBE)	ND	0.0421	0.0843	mg/kg dry	50	07/15/24 19:53	5035A/8260D	
1,2-Dibromoethane (EDB)	ND	0.0421	0.0843	mg/kg dry	50	07/15/24 19:53	5035A/8260D	
1,2-Dichloroethane (EDC)	ND	0.0211	0.0421	mg/kg dry	50	07/15/24 19:53	5035A/8260D	
Isopropylbenzene	ND	0.0421	0.0843	mg/kg dry	50	07/15/24 19:53	5035A/8260D	
1,2,4-Trimethylbenzene	ND	0.0421	0.0843	mg/kg dry	50	07/15/24 19:53	5035A/8260D	
1,3,5-Trimethylbenzene	ND	0.0421	0.0843	mg/kg dry	50	07/15/24 19:53	5035A/8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 98 %</i>		<i>Limits: 80-120 %</i>	<i>1</i>	<i>07/15/24 19:53</i>	<i>5035A/8260D</i>	
<i>Toluene-d8 (Surr)</i>		<i>99 %</i>		<i>80-120 %</i>	<i>1</i>	<i>07/15/24 19:53</i>	<i>5035A/8260D</i>	
<i>4-Bromofluorobenzene (Surr)</i>		<i>103 %</i>		<i>79-120 %</i>	<i>1</i>	<i>07/15/24 19:53</i>	<i>5035A/8260D</i>	
B-21-11-13 (A4G1180-02RE1)				Matrix: Soil		Batch: 24G0473		

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 5035A/8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-21-11-13 (A4G1180-02RE1)				Matrix: Soil		Batch: 24G0473		
Naphthalene	ND	0.0843	0.169	mg/kg dry	50	07/16/24 16:54	5035A/8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>	<i>1</i>	<i>07/16/24 16:54</i>	<i>5035A/8260D</i>	
<i>Toluene-d8 (Surr)</i>				<i>99 %</i>	<i>80-120 %</i>	<i>1</i>	<i>07/16/24 16:54</i>	<i>5035A/8260D</i>
<i>4-Bromofluorobenzene (Surr)</i>				<i>100 %</i>	<i>79-120 %</i>	<i>1</i>	<i>07/16/24 16:54</i>	<i>5035A/8260D</i>
B-22-10.5-12 (A4G1180-03)				Matrix: Soil		Batch: 24G0444		
Benzene	ND	0.0117	0.0233	mg/kg dry	50	07/15/24 20:21	5035A/8260D	
Toluene	ND	0.0583	0.117	mg/kg dry	50	07/15/24 20:21	5035A/8260D	
Ethylbenzene	ND	0.0292	0.0583	mg/kg dry	50	07/15/24 20:21	5035A/8260D	
Xylenes, total	ND	0.0875	0.175	mg/kg dry	50	07/15/24 20:21	5035A/8260D	
Methyl tert-butyl ether (MTBE)	ND	0.0583	0.117	mg/kg dry	50	07/15/24 20:21	5035A/8260D	
1,2-Dibromoethane (EDB)	ND	0.0583	0.117	mg/kg dry	50	07/15/24 20:21	5035A/8260D	
1,2-Dichloroethane (EDC)	ND	0.0292	0.0583	mg/kg dry	50	07/15/24 20:21	5035A/8260D	
Isopropylbenzene	ND	0.0583	0.117	mg/kg dry	50	07/15/24 20:21	5035A/8260D	
1,2,4-Trimethylbenzene	ND	0.0583	0.117	mg/kg dry	50	07/15/24 20:21	5035A/8260D	
1,3,5-Trimethylbenzene	ND	0.0583	0.117	mg/kg dry	50	07/15/24 20:21	5035A/8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 98 %</i>		<i>Limits: 80-120 %</i>	<i>1</i>	<i>07/15/24 20:21</i>	<i>5035A/8260D</i>	
<i>Toluene-d8 (Surr)</i>				<i>99 %</i>	<i>80-120 %</i>	<i>1</i>	<i>07/15/24 20:21</i>	<i>5035A/8260D</i>
<i>4-Bromofluorobenzene (Surr)</i>				<i>102 %</i>	<i>79-120 %</i>	<i>1</i>	<i>07/15/24 20:21</i>	<i>5035A/8260D</i>
B-22-10.5-12 (A4G1180-03RE1)				Matrix: Soil		Batch: 24G0473		
Naphthalene	ND	0.117	0.233	mg/kg dry	50	07/16/24 17:21	5035A/8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>	<i>1</i>	<i>07/16/24 17:21</i>	<i>5035A/8260D</i>	
<i>Toluene-d8 (Surr)</i>				<i>100 %</i>	<i>80-120 %</i>	<i>1</i>	<i>07/16/24 17:21</i>	<i>5035A/8260D</i>
<i>4-Bromofluorobenzene (Surr)</i>				<i>99 %</i>	<i>79-120 %</i>	<i>1</i>	<i>07/16/24 17:21</i>	<i>5035A/8260D</i>
B-23-11-12 (A4G1180-04)				Matrix: Soil		Batch: 24G0444		
Benzene	ND	0.00817	0.0163	mg/kg dry	50	07/15/24 20:48	5035A/8260D	
Toluene	ND	0.0409	0.0817	mg/kg dry	50	07/15/24 20:48	5035A/8260D	
Ethylbenzene	ND	0.0204	0.0409	mg/kg dry	50	07/15/24 20:48	5035A/8260D	
Xylenes, total	ND	0.0613	0.123	mg/kg dry	50	07/15/24 20:48	5035A/8260D	
Methyl tert-butyl ether (MTBE)	ND	0.0409	0.0817	mg/kg dry	50	07/15/24 20:48	5035A/8260D	
Naphthalene	ND	0.163	0.163	mg/kg dry	50	07/15/24 20:48	5035A/8260D	
1,2-Dibromoethane (EDB)	ND	0.0409	0.0817	mg/kg dry	50	07/15/24 20:48	5035A/8260D	
1,2-Dichloroethane (EDC)	ND	0.0204	0.0409	mg/kg dry	50	07/15/24 20:48	5035A/8260D	
Isopropylbenzene	ND	0.0409	0.0817	mg/kg dry	50	07/15/24 20:48	5035A/8260D	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 5035A/8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-23-11-12 (A4G1180-04)				Matrix: Soil		Batch: 24G0444		
1,2,4-Trimethylbenzene	ND	0.0409	0.0817	mg/kg dry	50	07/15/24 20:48	5035A/8260D	
1,3,5-Trimethylbenzene	ND	0.0409	0.0817	mg/kg dry	50	07/15/24 20:48	5035A/8260D	
<i>Surrogate: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>		<i>1</i>	<i>07/15/24 20:48</i>	<i>5035A/8260D</i>
<i>Toluene-d8 (Surr)</i>		<i>99 %</i>		<i>80-120 %</i>		<i>1</i>	<i>07/15/24 20:48</i>	<i>5035A/8260D</i>
<i>4-Bromofluorobenzene (Surr)</i>		<i>102 %</i>		<i>79-120 %</i>		<i>1</i>	<i>07/15/24 20:48</i>	<i>5035A/8260D</i>

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503-718-2323
ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-20-10-12 (A4G1180-01)				Matrix: Soil		Batch: 24G0579		R-04
Acenaphthene	ND	0.00761	0.0153	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
Acenaphthylene	ND	0.00761	0.0153	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
Anthracene	ND	0.00761	0.0153	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
Benz(a)anthracene	ND	0.00761	0.0153	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
Benzo(a)pyrene	ND	0.0114	0.0229	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
Benzo(b)fluoranthene	ND	0.0114	0.0229	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0114	0.0229	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.00761	0.0153	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
Chrysene	ND	0.00761	0.0153	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.00761	0.0153	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
Fluoranthene	ND	0.00761	0.0153	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
Fluorene	ND	0.00761	0.0153	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.00761	0.0153	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
1-Methylnaphthalene	ND	0.0153	0.0305	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
2-Methylnaphthalene	ND	0.0153	0.0305	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
Naphthalene	ND	0.0153	0.0305	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
Phenanthrene	ND	0.00761	0.0153	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
Pyrene	ND	0.00761	0.0153	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
Dibenzofuran	ND	0.00761	0.0153	mg/kg dry	4	07/18/24 18:04	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 87 %</i>		<i>Limits: 37-122 %</i>		<i>4</i>	<i>07/18/24 18:04</i>	<i>EPA 8270E</i>
<i>2-Fluorobiphenyl (Surr)</i>		<i>81 %</i>		<i>44-120 %</i>		<i>4</i>	<i>07/18/24 18:04</i>	<i>EPA 8270E</i>
<i>Phenol-d6 (Surr)</i>		<i>84 %</i>		<i>33-122 %</i>		<i>4</i>	<i>07/18/24 18:04</i>	<i>EPA 8270E</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>97 %</i>		<i>54-127 %</i>		<i>4</i>	<i>07/18/24 18:04</i>	<i>EPA 8270E</i>
<i>2-Fluorophenol (Surr)</i>		<i>83 %</i>		<i>35-120 %</i>		<i>4</i>	<i>07/18/24 18:04</i>	<i>EPA 8270E</i>
<i>2,4,6-Tribromophenol (Surr)</i>		<i>124 %</i>		<i>39-132 %</i>		<i>4</i>	<i>07/18/24 18:04</i>	<i>EPA 8270E</i>

B-21-11-13 (A4G1180-02RE1)				Matrix: Soil		Batch: 24G0579	
Acenaphthene	ND	0.00195	0.00391	mg/kg dry	1	07/19/24 17:27	EPA 8270E
Acenaphthylene	ND	0.00195	0.00391	mg/kg dry	1	07/19/24 17:27	EPA 8270E
Anthracene	ND	0.00195	0.00391	mg/kg dry	1	07/19/24 17:27	EPA 8270E
Benz(a)anthracene	ND	0.00195	0.00391	mg/kg dry	1	07/19/24 17:27	EPA 8270E
Benzo(a)pyrene	ND	0.00293	0.00585	mg/kg dry	1	07/19/24 17:27	EPA 8270E
Benzo(b)fluoranthene	ND	0.00293	0.00585	mg/kg dry	1	07/19/24 17:27	EPA 8270E
Benzo(k)fluoranthene	ND	0.00293	0.00585	mg/kg dry	1	07/19/24 17:27	EPA 8270E
Benzo(g,h,i)perylene	ND	0.00195	0.00391	mg/kg dry	1	07/19/24 17:27	EPA 8270E
Chrysene	ND	0.00195	0.00391	mg/kg dry	1	07/19/24 17:27	EPA 8270E

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ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC
2117 NE Oregon St, Suite 502
Portland, OR 97232

Project: DSV North Marine Dr.
Project Number: [none]
Project Manager: Gary Walvatne

Report ID:
A4G1180 - 07 25 24 2014

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Table with columns: Analyte, Sample Result, Detection Limit, Reporting Limit, Units, Dilution, Date Analyzed, Method Ref., Notes. Contains two main sections: B-21-11-13 (A4G1180-02RE1) and B-22-10.5-12 (A4G1180-03RE1).

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Handwritten signature of Cameron O'Brien

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Apex Laboratories, LLC

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ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-22-10.5-12 (A4G1180-03RE1)			Matrix: Soil		Batch: 24G0579			
Dibenzofuran	ND	0.00193	0.00388	mg/kg dry	1	07/19/24 16:52	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 94 %</i>		<i>Limits: 37-122 %</i>		<i>1</i>	<i>07/19/24 16:52</i>	<i>EPA 8270E</i>
<i>2-Fluorobiphenyl (Surr)</i>				<i>44-120 %</i>		<i>1</i>	<i>07/19/24 16:52</i>	<i>EPA 8270E</i>
<i>Phenol-d6 (Surr)</i>				<i>33-122 %</i>		<i>1</i>	<i>07/19/24 16:52</i>	<i>EPA 8270E</i>
<i>p-Terphenyl-d14 (Surr)</i>				<i>54-127 %</i>		<i>1</i>	<i>07/19/24 16:52</i>	<i>EPA 8270E</i>
<i>2-Fluorophenol (Surr)</i>				<i>35-120 %</i>		<i>1</i>	<i>07/19/24 16:52</i>	<i>EPA 8270E</i>
<i>2,4,6-Tribromophenol (Surr)</i>				<i>39-132 %</i>		<i>1</i>	<i>07/19/24 16:52</i>	<i>EPA 8270E</i>
B-23-11-12 (A4G1180-04RE1)			Matrix: Soil		Batch: 24G0579			
Acenaphthene	ND	0.00758	0.0152	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
Acenaphthylene	ND	0.00758	0.0152	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
Anthracene	ND	0.00758	0.0152	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
Benz(a)anthracene	ND	0.00758	0.0152	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
Benzo(a)pyrene	ND	0.0114	0.0228	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
Benzo(b)fluoranthene	ND	0.0114	0.0228	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0114	0.0228	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.00758	0.0152	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
Chrysene	ND	0.00758	0.0152	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.00758	0.0152	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
Fluoranthene	ND	0.00758	0.0152	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
Fluorene	ND	0.00758	0.0152	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.00758	0.0152	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
1-Methylnaphthalene	ND	0.0152	0.0304	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
2-Methylnaphthalene	ND	0.0152	0.0304	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
Naphthalene	ND	0.0152	0.0304	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
Phenanthrene	ND	0.00758	0.0152	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
Pyrene	ND	0.00758	0.0152	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
Dibenzofuran	ND	0.00758	0.0152	mg/kg dry	4	07/18/24 19:17	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 90 %</i>		<i>Limits: 37-122 %</i>		<i>4</i>	<i>07/18/24 19:17</i>	<i>EPA 8270E</i>
<i>2-Fluorobiphenyl (Surr)</i>				<i>44-120 %</i>		<i>4</i>	<i>07/18/24 19:17</i>	<i>EPA 8270E</i>
<i>Phenol-d6 (Surr)</i>				<i>33-122 %</i>		<i>4</i>	<i>07/18/24 19:17</i>	<i>EPA 8270E</i>
<i>p-Terphenyl-d14 (Surr)</i>				<i>54-127 %</i>		<i>4</i>	<i>07/18/24 19:17</i>	<i>EPA 8270E</i>
<i>2-Fluorophenol (Surr)</i>				<i>35-120 %</i>		<i>4</i>	<i>07/18/24 19:17</i>	<i>EPA 8270E</i>
<i>2,4,6-Tribromophenol (Surr)</i>				<i>39-132 %</i>		<i>4</i>	<i>07/18/24 19:17</i>	<i>EPA 8270E</i>
B-20 (A4G1180-06RE1)			Matrix: Water		Batch: 24G0574			R-04

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ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
B-20 (A4G1180-06RE1)				Matrix: Water		Batch: 24G0574		R-04	
Acenaphthene	ND	0.0000377	0.0000755	mg/L	4	07/18/24 15:42	EPA 8270E		
Acenaphthylene	ND	0.0000377	0.0000755	mg/L	4	07/18/24 15:42	EPA 8270E		
Anthracene	ND	0.0000377	0.0000755	mg/L	4	07/18/24 15:42	EPA 8270E		
Benz(a)anthracene	ND	0.0000377	0.0000755	mg/L	4	07/18/24 15:42	EPA 8270E		
Benzo(a)pyrene	ND	0.0000566	0.000113	mg/L	4	07/18/24 15:42	EPA 8270E		
Benzo(b)fluoranthene	ND	0.0000566	0.000113	mg/L	4	07/18/24 15:42	EPA 8270E		
Benzo(k)fluoranthene	ND	0.0000566	0.000113	mg/L	4	07/18/24 15:42	EPA 8270E		
Benzo(g,h,i)perylene	ND	0.0000377	0.0000755	mg/L	4	07/18/24 15:42	EPA 8270E		
Chrysene	ND	0.0000377	0.0000755	mg/L	4	07/18/24 15:42	EPA 8270E		
Dibenz(a,h)anthracene	ND	0.0000377	0.0000755	mg/L	4	07/18/24 15:42	EPA 8270E		
Fluoranthene	ND	0.0000377	0.0000755	mg/L	4	07/18/24 15:42	EPA 8270E		
Fluorene	ND	0.0000377	0.0000755	mg/L	4	07/18/24 15:42	EPA 8270E		
Indeno(1,2,3-cd)pyrene	ND	0.0000377	0.0000755	mg/L	4	07/18/24 15:42	EPA 8270E		
1-Methylnaphthalene	ND	0.0000755	0.000151	mg/L	4	07/18/24 15:42	EPA 8270E		
2-Methylnaphthalene	ND	0.0000755	0.000151	mg/L	4	07/18/24 15:42	EPA 8270E		
Naphthalene	ND	0.0000755	0.000151	mg/L	4	07/18/24 15:42	EPA 8270E		
Phenanthrene	ND	0.0000377	0.0000755	mg/L	4	07/18/24 15:42	EPA 8270E		
Pyrene	ND	0.0000377	0.0000755	mg/L	4	07/18/24 15:42	EPA 8270E		
Dibenzofuran	ND	0.0000377	0.0000755	mg/L	4	07/18/24 15:42	EPA 8270E		
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 43 %</i>		<i>Limits: 44-120 %</i>		4	07/18/24 15:42	EPA 8270E	S-06
<i>2-Fluorobiphenyl (Surr)</i>		<i>39 %</i>		<i>44-120 %</i>		4	07/18/24 15:42	EPA 8270E	S-06
<i>Phenol-d6 (Surr)</i>		<i>13 %</i>		<i>10-133 %</i>		4	07/18/24 15:42	EPA 8270E	
<i>p-Terphenyl-d14 (Surr)</i>		<i>46 %</i>		<i>50-134 %</i>		4	07/18/24 15:42	EPA 8270E	S-06
<i>2-Fluorophenol (Surr)</i>		<i>21 %</i>		<i>19-120 %</i>		4	07/18/24 15:42	EPA 8270E	
<i>2,4,6-Tribromophenol (Surr)</i>		<i>90 %</i>		<i>43-140 %</i>		4	07/18/24 15:42	EPA 8270E	Q-41

B-21 (A4G1180-07)				Matrix: Water		Batch: 24G0574		
Acenaphthene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 14:30	EPA 8270E	
Acenaphthylene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 14:30	EPA 8270E	
Anthracene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 14:30	EPA 8270E	
Benz(a)anthracene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 14:30	EPA 8270E	
Benzo(a)pyrene	ND	0.0000140	0.0000280	mg/L	1	07/18/24 14:30	EPA 8270E	
Benzo(b)fluoranthene	ND	0.0000140	0.0000280	mg/L	1	07/18/24 14:30	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0000140	0.0000280	mg/L	1	07/18/24 14:30	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 14:30	EPA 8270E	
Chrysene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 14:30	EPA 8270E	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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503-718-2323
ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-21 (A4G1180-07)				Matrix: Water		Batch: 24G0574		
Dibenz(a,h)anthracene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 14:30	EPA 8270E	
Fluoranthene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 14:30	EPA 8270E	
Fluorene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 14:30	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 14:30	EPA 8270E	
1-Methylnaphthalene	ND	0.0000187	0.0000374	mg/L	1	07/18/24 14:30	EPA 8270E	
2-Methylnaphthalene	ND	0.0000187	0.0000374	mg/L	1	07/18/24 14:30	EPA 8270E	
Naphthalene	ND	0.0000187	0.0000374	mg/L	1	07/18/24 14:30	EPA 8270E	
Phenanthrene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 14:30	EPA 8270E	
Pyrene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 14:30	EPA 8270E	
Dibenzofuran	ND	0.00000935	0.0000187	mg/L	1	07/18/24 14:30	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 53 %</i>		<i>Limits: 44-120 %</i>	<i>1</i>	<i>07/18/24 14:30</i>	<i>EPA 8270E</i>	
<i>2-Fluorobiphenyl (Surr)</i>				<i>49 %</i>	<i>44-120 %</i>	<i>1</i>	<i>07/18/24 14:30</i>	<i>EPA 8270E</i>
<i>Phenol-d6 (Surr)</i>				<i>16 %</i>	<i>10-133 %</i>	<i>1</i>	<i>07/18/24 14:30</i>	<i>EPA 8270E</i>
<i>p-Terphenyl-d14 (Surr)</i>				<i>52 %</i>	<i>50-134 %</i>	<i>1</i>	<i>07/18/24 14:30</i>	<i>EPA 8270E</i>
<i>2-Fluorophenol (Surr)</i>				<i>25 %</i>	<i>19-120 %</i>	<i>1</i>	<i>07/18/24 14:30</i>	<i>EPA 8270E</i>
<i>2,4,6-Tribromophenol (Surr)</i>				<i>87 %</i>	<i>43-140 %</i>	<i>1</i>	<i>07/18/24 14:30</i>	<i>EPA 8270E</i>
B-22 (A4G1180-08RE2)				Matrix: Water		Batch: 24G0663		
Acenaphthene	ND	0.00000980	0.0000196	mg/L	1	07/23/24 14:36	EPA 8270E	
Acenaphthylene	ND	0.00000980	0.0000196	mg/L	1	07/23/24 14:36	EPA 8270E	
Anthracene	ND	0.00000980	0.0000196	mg/L	1	07/23/24 14:36	EPA 8270E	
Benz(a)anthracene	ND	0.00000980	0.0000196	mg/L	1	07/23/24 14:36	EPA 8270E	
Benzo(a)pyrene	ND	0.0000147	0.0000294	mg/L	1	07/23/24 14:36	EPA 8270E	
Benzo(b)fluoranthene	0.0000270	0.0000147	0.0000294	mg/L	1	07/23/24 14:36	EPA 8270E	J
Benzo(k)fluoranthene	0.0000147	0.0000147	0.0000294	mg/L	1	07/23/24 14:36	EPA 8270E	J
Benzo(g,h,i)perylene	0.0000156	0.00000980	0.0000196	mg/L	1	07/23/24 14:36	EPA 8270E	J
Chrysene	0.0000137	0.00000980	0.0000196	mg/L	1	07/23/24 14:36	EPA 8270E	J
Dibenz(a,h)anthracene	ND	0.00000980	0.0000196	mg/L	1	07/23/24 14:36	EPA 8270E	
Fluoranthene	0.0000301	0.00000980	0.0000196	mg/L	1	07/23/24 14:36	EPA 8270E	
Fluorene	ND	0.00000980	0.0000196	mg/L	1	07/23/24 14:36	EPA 8270E	
Indeno(1,2,3-cd)pyrene	0.0000133	0.00000980	0.0000196	mg/L	1	07/23/24 14:36	EPA 8270E	J
1-Methylnaphthalene	ND	0.0000196	0.0000392	mg/L	1	07/23/24 14:36	EPA 8270E	
2-Methylnaphthalene	ND	0.0000196	0.0000392	mg/L	1	07/23/24 14:36	EPA 8270E	
Naphthalene	ND	0.0000196	0.0000392	mg/L	1	07/23/24 14:36	EPA 8270E	
Phenanthrene	0.0000117	0.00000980	0.0000196	mg/L	1	07/23/24 14:36	EPA 8270E	J
Pyrene	0.0000219	0.00000980	0.0000196	mg/L	1	07/23/24 14:36	EPA 8270E	

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ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-22 (A4G1180-08RE2)				Matrix: Water		Batch: 24G0663		
Dibenzofuran	ND	0.00000980	0.0000196	mg/L	1	07/23/24 14:36	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 86 %</i>		<i>Limits: 44-120 %</i>		<i>1</i>	<i>07/23/24 14:36</i>	<i>EPA 8270E</i>
<i>2-Fluorobiphenyl (Surr)</i>		<i>80 %</i>		<i>44-120 %</i>		<i>1</i>	<i>07/23/24 14:36</i>	<i>EPA 8270E</i>
<i>Phenol-d6 (Surr)</i>		<i>27 %</i>		<i>10-133 %</i>		<i>1</i>	<i>07/23/24 14:36</i>	<i>EPA 8270E</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>77 %</i>		<i>50-134 %</i>		<i>1</i>	<i>07/23/24 14:36</i>	<i>EPA 8270E</i>
<i>2-Fluorophenol (Surr)</i>		<i>47 %</i>		<i>19-120 %</i>		<i>1</i>	<i>07/23/24 14:36</i>	<i>EPA 8270E</i>
<i>2,4,6-Tribromophenol (Surr)</i>		<i>120 %</i>		<i>43-140 %</i>		<i>1</i>	<i>07/23/24 14:36</i>	<i>EPA 8270E</i>
B-23 (A4G1180-09)				Matrix: Water		Batch: 24G0574		
Acenaphthene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 15:06	EPA 8270E	
Acenaphthylene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 15:06	EPA 8270E	
Anthracene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 15:06	EPA 8270E	
Benz(a)anthracene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 15:06	EPA 8270E	
Benzo(a)pyrene	ND	0.0000140	0.0000280	mg/L	1	07/18/24 15:06	EPA 8270E	
Benzo(b)fluoranthene	ND	0.0000140	0.0000280	mg/L	1	07/18/24 15:06	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0000140	0.0000280	mg/L	1	07/18/24 15:06	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 15:06	EPA 8270E	
Chrysene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 15:06	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 15:06	EPA 8270E	
Fluoranthene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 15:06	EPA 8270E	
Fluorene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 15:06	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 15:06	EPA 8270E	
1-Methylnaphthalene	ND	0.0000187	0.0000374	mg/L	1	07/18/24 15:06	EPA 8270E	
2-Methylnaphthalene	ND	0.0000187	0.0000374	mg/L	1	07/18/24 15:06	EPA 8270E	
Naphthalene	0.0000262	0.0000187	0.0000374	mg/L	1	07/18/24 15:06	EPA 8270E	J
Phenanthrene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 15:06	EPA 8270E	
Pyrene	ND	0.00000935	0.0000187	mg/L	1	07/18/24 15:06	EPA 8270E	
Dibenzofuran	ND	0.00000935	0.0000187	mg/L	1	07/18/24 15:06	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 83 %</i>		<i>Limits: 44-120 %</i>		<i>1</i>	<i>07/18/24 15:06</i>	<i>EPA 8270E</i>
<i>2-Fluorobiphenyl (Surr)</i>		<i>74 %</i>		<i>44-120 %</i>		<i>1</i>	<i>07/18/24 15:06</i>	<i>EPA 8270E</i>
<i>Phenol-d6 (Surr)</i>		<i>27 %</i>		<i>10-133 %</i>		<i>1</i>	<i>07/18/24 15:06</i>	<i>EPA 8270E</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>69 %</i>		<i>50-134 %</i>		<i>1</i>	<i>07/18/24 15:06</i>	<i>EPA 8270E</i>
<i>2-Fluorophenol (Surr)</i>		<i>41 %</i>		<i>19-120 %</i>		<i>1</i>	<i>07/18/24 15:06</i>	<i>EPA 8270E</i>
<i>2,4,6-Tribromophenol (Surr)</i>		<i>102 %</i>		<i>43-140 %</i>		<i>1</i>	<i>07/18/24 15:06</i>	<i>EPA 8270E</i>

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Apex Laboratories, LLC

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 ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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ANALYTICAL SAMPLE RESULTS

Percent Dry Weight

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
B-20-10-12 (A4G1180-01)				Matrix: Soil		Batch: 24G0428		
% Solids	68.5	---	1.00	%	1	07/16/24 06:51	EPA 8000D	
B-21-11-13 (A4G1180-02)				Matrix: Soil		Batch: 24G0428		
% Solids	67.6	---	1.00	%	1	07/16/24 06:51	EPA 8000D	
B-22-10.5-12 (A4G1180-03)				Matrix: Soil		Batch: 24G0428		
% Solids	65.7	---	1.00	%	1	07/16/24 06:51	EPA 8000D	
B-23-11-12 (A4G1180-04)				Matrix: Soil		Batch: 24G0428		
% Solids	68.7	---	1.00	%	1	07/16/24 06:51	EPA 8000D	

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Cameron O'Brien, Project Manager



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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0501 - EPA 3510C (Fuels/Acid Ext.)						Water						
Blank (24G0501-BLK1)		Prepared: 07/16/24 13:15 Analyzed: 07/16/24 20:07										
<u>NWTPH-Dx</u>												
Diesel	ND	0.0400	0.0800	mg/L	1	---	---	---	---	---	---	---
Oil	ND	0.0800	0.160	mg/L	1	---	---	---	---	---	---	---
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 101 %			Limits: 50-150 %		Dilution: 1x					
LCS (24G0501-BS1)		Prepared: 07/16/24 13:15 Analyzed: 07/16/24 20:28										
<u>NWTPH-Dx</u>												
Diesel	0.337	0.0400	0.0800	mg/L	1	0.500	---	67	36 - 132%	---	---	---
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 101 %			Limits: 50-150 %		Dilution: 1x					
LCS Dup (24G0501-BSD1)		Prepared: 07/16/24 13:15 Analyzed: 07/16/24 20:48 Q-19										
<u>NWTPH-Dx</u>												
Diesel	0.369	0.0400	0.0800	mg/L	1	0.500	---	74	36 - 132%	9	30%	---
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 106 %			Limits: 50-150 %		Dilution: 1x					

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

Batch 24G0572 - EPA 3546 (Fuels)						Soil						
Blank (24G0572-BLK1)		Prepared: 07/18/24 06:51 Analyzed: 07/18/24 09:00										
<u>NWTPH-Dx</u>												
Diesel	ND	10.0	20.0	mg/kg wet	1	---	---	---	---	---	---	---
Oil	ND	20.0	40.0	mg/kg wet	1	---	---	---	---	---	---	---
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 101 %			Limits: 50-150 %		Dilution: 1x					
LCS (24G0572-BS1)		Prepared: 07/18/24 06:51 Analyzed: 07/18/24 09:21										
<u>NWTPH-Dx</u>												
Diesel	122	10.0	20.0	mg/kg wet	1	125	---	98	38 - 132%	---	---	---
Surr: <i>o</i> -Terphenyl (Surr)		Recovery: 102 %			Limits: 50-150 %		Dilution: 1x					

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

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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0621 - EPA 3546 (Fuels)						Soil						
Blank (24G0621-BLK1)		Prepared: 07/18/24 17:38 Analyzed: 07/18/24 20:09										
<u>NWTPH-Dx</u>												
Diesel	ND	10.0	20.0	mg/kg wet	1	---	---	---	---	---	---	---
Oil	ND	20.0	40.0	mg/kg wet	1	---	---	---	---	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 80 %</i>			<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					
LCS (24G0621-BS1)		Prepared: 07/18/24 17:38 Analyzed: 07/18/24 20:32										
<u>NWTPH-Dx</u>												
Diesel	110	10.0	20.0	mg/kg wet	1	125	---	88	38 - 132%	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 83 %</i>			<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					
Duplicate (24G0621-DUP1)		Prepared: 07/18/24 17:38 Analyzed: 07/18/24 21:19										
<u>QC Source Sample: B-21-11-13 (A4G1180-02)</u>												
<u>NWTPH-Dx</u>												
Diesel	ND	13.2	26.4	mg/kg dry	1	---	ND	---	---	---	---	30%
Oil	ND	26.4	52.8	mg/kg dry	1	---	ND	---	---	---	---	30%
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 67 %</i>			<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>					

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QUALITY CONTROL (QC) SAMPLE RESULTS

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

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0444 - EPA 5035A						Soil						
Blank (24G0444-BLK1)		Prepared: 07/15/24 14:27 Analyzed: 07/15/24 15:49										
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	2.50	5.00	mg/kg wet	50	---	---	---	---	---	---	---
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 98 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		103 %		50-150 %		"						
LCS (24G0444-BS2)		Prepared: 07/15/24 14:27 Analyzed: 07/15/24 15:22										
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	27.3	2.50	5.00	mg/kg wet	50	25.0	---	109	80 - 120%	---	---	---
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 100 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		101 %		50-150 %		"						

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QUALITY CONTROL (QC) SAMPLE RESULTS

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

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0470 - EPA 5030C						Water						
Blank (24G0470-BLK1)		Prepared: 07/16/24 08:23 Analyzed: 07/16/24 11:22										
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	---	---	---	---	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 91 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>98 %</i>		<i>50-150 %</i>		<i>"</i>						
LCS (24G0470-BS2)		Prepared: 07/16/24 08:23 Analyzed: 07/16/24 10:58										
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	0.479	0.0500	0.100	mg/L	1	0.500	---	96	80 - 120%	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>		<i>Recovery: 94 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>		<i>98 %</i>		<i>50-150 %</i>		<i>"</i>						

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QUALITY CONTROL (QC) SAMPLE RESULTS

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

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0473 - EPA 5035A						Soil						
Blank (24G0473-BLK1)		Prepared: 07/16/24 09:00 Analyzed: 07/16/24 12:22										
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	2.50	5.00	mg/kg wet	50	---	---	---	---	---	---	---
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 96 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		101 %		50-150 %		"						
LCS (24G0473-BS2)		Prepared: 07/16/24 09:00 Analyzed: 07/16/24 11:00										
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	26.4	2.50	5.00	mg/kg wet	50	25.0	---	106	80 - 120%	---	---	---
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 97 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		101 %		50-150 %		"						

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QUALITY CONTROL (QC) SAMPLE RESULTS

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

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0528 - EPA 5030C						Water						
Blank (24G0528-BLK1)		Prepared: 07/17/24 07:30 Analyzed: 07/17/24 09:56										
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	---	---	---	---	---	---	---
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 91 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		102 %		50-150 %		"						
LCS (24G0528-BS2)		Prepared: 07/17/24 07:30 Analyzed: 07/17/24 09:34										
<u>NWTPH-Gx (MS)</u>												
Gasoline Range Organics	0.561	0.0500	0.100	mg/L	1	0.500	---	112	80 - 120%	---	---	---
Surr: 4-Bromofluorobenzene (Sur)		Recovery: 97 %		Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)		103 %		50-150 %		"						

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

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0528 - EPA 5030C						Water						
Blank (24G0528-BLK1)		Prepared: 07/17/24 07:30		Analyzed: 07/17/24 09:56								
EPA 8260D												
Benzene	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	---
Toluene	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
Ethylbenzene	ND	0.000250	0.000500	mg/L	1	---	---	---	---	---	---	---
Xylenes, total	ND	0.000750	0.00150	mg/L	1	---	---	---	---	---	---	---
Methyl tert-butyl ether (MTBE)	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
Naphthalene	ND	0.00250	0.00500	mg/L	1	---	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	ND	0.000250	0.000500	mg/L	1	---	---	---	---	---	---	---
1,2-Dichloroethane (EDC)	ND	0.000200	0.000400	mg/L	1	---	---	---	---	---	---	---
Isopropylbenzene	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		Recovery: 96 %		Limits: 80-120 %		Dilution: 1x						
<i>Toluene-d8 (Surr)</i>		104 %		80-120 %		"						
<i>4-Bromofluorobenzene (Surr)</i>		96 %		80-120 %		"						
<hr/>												
LCS (24G0528-BS1)		Prepared: 07/17/24 07:30		Analyzed: 07/17/24 09:02								
EPA 8260D												
Benzene	0.0189	0.000100	0.000200	mg/L	1	0.0200	---	95	80 - 120%	---	---	---
Toluene	0.0194	0.000500	0.00100	mg/L	1	0.0200	---	97	80 - 120%	---	---	---
Ethylbenzene	0.0211	0.000250	0.000500	mg/L	1	0.0200	---	105	80 - 120%	---	---	---
Xylenes, total	0.0633	0.000750	0.00150	mg/L	1	0.0600	---	105	80 - 120%	---	---	---
Methyl tert-butyl ether (MTBE)	0.0176	0.000500	0.00100	mg/L	1	0.0200	---	88	80 - 120%	---	---	---
Naphthalene	0.0189	0.00250	0.00500	mg/L	1	0.0200	---	95	80 - 120%	---	---	---
1,2-Dibromoethane (EDB)	0.0207	0.000250	0.000500	mg/L	1	0.0200	---	103	80 - 120%	---	---	---
1,2-Dichloroethane (EDC)	0.0212	0.000200	0.000400	mg/L	1	0.0200	---	106	80 - 120%	---	---	---
Isopropylbenzene	0.0212	0.000500	0.00100	mg/L	1	0.0200	---	106	80 - 120%	---	---	---
1,2,4-Trimethylbenzene	0.0206	0.000500	0.00100	mg/L	1	0.0200	---	103	80 - 120%	---	---	---
1,3,5-Trimethylbenzene	0.0201	0.000500	0.00100	mg/L	1	0.0200	---	100	80 - 120%	---	---	---
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		Recovery: 96 %		Limits: 80-120 %		Dilution: 1x						
<i>Toluene-d8 (Surr)</i>		102 %		80-120 %		"						
<i>4-Bromofluorobenzene (Surr)</i>		90 %		80-120 %		"						

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ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	--------------------	-------	----------	-----------------	------------------	-------	-----------------	-----	--------------	-------

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

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Cameron O'Brien, Project Manager



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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0575 - EPA 5030C						Water						
Blank (24G0575-BLK1)		Prepared: 07/18/24 17:25 Analyzed: 07/18/24 23:44										
EPA 8260D												
Benzene	ND	0.000100	0.000200	mg/L	1	---	---	---	---	---	---	---
Toluene	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
Ethylbenzene	ND	0.000250	0.000500	mg/L	1	---	---	---	---	---	---	---
Xylenes, total	ND	0.000750	0.00150	mg/L	1	---	---	---	---	---	---	---
Methyl tert-butyl ether (MTBE)	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
Naphthalene	ND	0.00250	0.00500	mg/L	1	---	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	ND	0.000250	0.000500	mg/L	1	---	---	---	---	---	---	---
1,2-Dichloroethane (EDC)	ND	0.000200	0.000400	mg/L	1	---	---	---	---	---	---	---
Isopropylbenzene	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	ND	0.000500	0.00100	mg/L	1	---	---	---	---	---	---	---
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>101 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>101 %</i>		<i>80-120 %</i>		<i>"</i>						
LCS (24G0575-BS1)						Prepared: 07/18/24 17:25 Analyzed: 07/18/24 23:00						
EPA 8260D												
Benzene	0.0191	0.000100	0.000200	mg/L	1	0.0200	---	95	80 - 120%	---	---	---
Toluene	0.0187	0.000500	0.00100	mg/L	1	0.0200	---	93	80 - 120%	---	---	---
Ethylbenzene	0.0198	0.000250	0.000500	mg/L	1	0.0200	---	99	80 - 120%	---	---	---
Xylenes, total	0.0590	0.000750	0.00150	mg/L	1	0.0600	---	98	80 - 120%	---	---	---
Methyl tert-butyl ether (MTBE)	0.0193	0.000500	0.00100	mg/L	1	0.0200	---	97	80 - 120%	---	---	---
Naphthalene	0.0176	0.00250	0.00500	mg/L	1	0.0200	---	88	80 - 120%	---	---	---
1,2-Dibromoethane (EDB)	0.0199	0.000250	0.000500	mg/L	1	0.0200	---	100	80 - 120%	---	---	---
1,2-Dichloroethane (EDC)	0.0210	0.000200	0.000400	mg/L	1	0.0200	---	105	80 - 120%	---	---	---
Isopropylbenzene	0.0197	0.000500	0.00100	mg/L	1	0.0200	---	98	80 - 120%	---	---	---
1,2,4-Trimethylbenzene	0.0198	0.000500	0.00100	mg/L	1	0.0200	---	99	80 - 120%	---	---	---
1,3,5-Trimethylbenzene	0.0197	0.000500	0.00100	mg/L	1	0.0200	---	98	80 - 120%	---	---	---
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>99 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>96 %</i>		<i>80-120 %</i>		<i>"</i>						

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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	--------------------	-------	----------	-----------------	------------------	-------	-----------------	-----	--------------	-------

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

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 5035A/8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0444 - EPA 5035A						Soil						
Blank (24G0444-BLK1)		Prepared: 07/15/24 14:27 Analyzed: 07/15/24 15:49										
<u>5035A/8260D</u>												
Benzene	ND	0.00500	0.0100	mg/kg wet	50	---	---	---	---	---	---	---
Toluene	ND	0.0250	0.0500	mg/kg wet	50	---	---	---	---	---	---	---
Ethylbenzene	ND	0.0125	0.0250	mg/kg wet	50	---	---	---	---	---	---	---
Xylenes, total	ND	0.0375	0.0750	mg/kg wet	50	---	---	---	---	---	---	---
Methyl tert-butyl ether (MTBE)	ND	0.0250	0.0500	mg/kg wet	50	---	---	---	---	---	---	---
Naphthalene	ND	0.0500	0.100	mg/kg wet	50	---	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	ND	0.0250	0.0500	mg/kg wet	50	---	---	---	---	---	---	---
1,2-Dichloroethane (EDC)	ND	0.0125	0.0250	mg/kg wet	50	---	---	---	---	---	---	---
Isopropylbenzene	ND	0.0250	0.0500	mg/kg wet	50	---	---	---	---	---	---	---
1,2,4-Trimethylbenzene	ND	0.0250	0.0500	mg/kg wet	50	---	---	---	---	---	---	---
1,3,5-Trimethylbenzene	ND	0.0250	0.0500	mg/kg wet	50	---	---	---	---	---	---	---
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>79-120 %</i>		<i>"</i>						

LCS (24G0444-BS1)		Prepared: 07/15/24 14:27 Analyzed: 07/15/24 14:41										
<u>5035A/8260D</u>												
Benzene	1.04	0.00500	0.0100	mg/kg wet	50	1.00	---	104	80 - 120%	---	---	---
Toluene	1.02	0.0250	0.0500	mg/kg wet	50	1.00	---	102	80 - 120%	---	---	---
Ethylbenzene	1.04	0.0125	0.0250	mg/kg wet	50	1.00	---	104	80 - 120%	---	---	---
Xylenes, total	3.29	0.0375	0.0750	mg/kg wet	50	3.00	---	110	80 - 120%	---	---	---
Methyl tert-butyl ether (MTBE)	1.09	0.0250	0.0500	mg/kg wet	50	1.00	---	109	80 - 120%	---	---	---
Naphthalene	1.01	0.0500	0.100	mg/kg wet	50	1.00	---	101	80 - 120%	---	---	---
1,2-Dibromoethane (EDB)	1.10	0.0250	0.0500	mg/kg wet	50	1.00	---	110	80 - 120%	---	---	---
1,2-Dichloroethane (EDC)	1.04	0.0125	0.0250	mg/kg wet	50	1.00	---	104	80 - 120%	---	---	---
Isopropylbenzene	1.08	0.0250	0.0500	mg/kg wet	50	1.00	---	108	80 - 120%	---	---	---
1,2,4-Trimethylbenzene	1.16	0.0250	0.0500	mg/kg wet	50	1.00	---	116	80 - 120%	---	---	---
1,3,5-Trimethylbenzene	1.17	0.0250	0.0500	mg/kg wet	50	1.00	---	117	80 - 120%	---	---	---
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>103 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>101 %</i>		<i>79-120 %</i>		<i>"</i>						

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---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 5035A/8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
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No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 5035A/8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0473 - EPA 5035A						Soil						
Blank (24G0473-BLK1)		Prepared: 07/16/24 09:00 Analyzed: 07/16/24 12:22										
<u>5035A/8260D</u>												
Benzene	ND	0.00500	0.0100	mg/kg wet	50	---	---	---	---	---	---	
Toluene	ND	0.0250	0.0500	mg/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	0.0125	0.0250	mg/kg wet	50	---	---	---	---	---	---	
Xylenes, total	ND	0.0375	0.0750	mg/kg wet	50	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	0.0250	0.0500	mg/kg wet	50	---	---	---	---	---	---	
Naphthalene	0.0600	0.0500	0.100	mg/kg wet	50	---	---	---	---	---	---	B-02, J
1,2-Dibromoethane (EDB)	ND	0.0250	0.0500	mg/kg wet	50	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	0.0125	0.0250	mg/kg wet	50	---	---	---	---	---	---	
Isopropylbenzene	ND	0.0250	0.0500	mg/kg wet	50	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	0.0250	0.0500	mg/kg wet	50	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	0.0250	0.0500	mg/kg wet	50	---	---	---	---	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>102 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>79-120 %</i>		<i>"</i>						
LCS (24G0473-BS1)						Prepared: 07/16/24 09:00 Analyzed: 07/16/24 10:33						
<u>5035A/8260D</u>												
Benzene	1.02	0.00500	0.0100	mg/kg wet	50	1.00	---	102	80 - 120%	---	---	
Toluene	1.01	0.0250	0.0500	mg/kg wet	50	1.00	---	101	80 - 120%	---	---	
Ethylbenzene	1.04	0.0125	0.0250	mg/kg wet	50	1.00	---	104	80 - 120%	---	---	
Xylenes, total	3.30	0.0375	0.0750	mg/kg wet	50	3.00	---	110	80 - 120%	---	---	
Methyl tert-butyl ether (MTBE)	1.08	0.0250	0.0500	mg/kg wet	50	1.00	---	108	80 - 120%	---	---	
Naphthalene	1.10	0.0500	0.100	mg/kg wet	50	1.00	---	110	80 - 120%	---	---	B-02
1,2-Dibromoethane (EDB)	1.10	0.0250	0.0500	mg/kg wet	50	1.00	---	110	80 - 120%	---	---	
1,2-Dichloroethane (EDC)	1.02	0.0125	0.0250	mg/kg wet	50	1.00	---	102	80 - 120%	---	---	
Isopropylbenzene	1.10	0.0250	0.0500	mg/kg wet	50	1.00	---	110	80 - 120%	---	---	
1,2,4-Trimethylbenzene	1.16	0.0250	0.0500	mg/kg wet	50	1.00	---	116	80 - 120%	---	---	
1,3,5-Trimethylbenzene	1.18	0.0250	0.0500	mg/kg wet	50	1.00	---	118	80 - 120%	---	---	
<i>Surr: 1,4-Difluorobenzene (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>Toluene-d8 (Surr)</i>		<i>103 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>100 %</i>		<i>79-120 %</i>		<i>"</i>						

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 5035A/8260D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
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No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
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Batch 24G0574 - EPA 3510C (Acid Extraction)

Water

Blank (24G0574-BLK1) Prepared: 07/18/24 07:13 Analyzed: 07/18/24 11:36

<u>EPA 8270E</u>												
Acenaphthene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Acenaphthylene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Anthracene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Benz(a)anthracene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Benzo(a)pyrene	ND	0.0000150	0.0000300	mg/L	1	---	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	0.0000150	0.0000300	mg/L	1	---	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	0.0000150	0.0000300	mg/L	1	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Chrysene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Fluoranthene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Fluorene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
1-Methylnaphthalene	ND	0.0000200	0.0000400	mg/L	1	---	---	---	---	---	---	---
2-Methylnaphthalene	ND	0.0000200	0.0000400	mg/L	1	---	---	---	---	---	---	---
Naphthalene	ND	0.0000200	0.0000400	mg/L	1	---	---	---	---	---	---	---
Phenanthrene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Pyrene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Dibenzofuran	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---

<i>Surr: Nitrobenzene-d5 (Surr)</i>	Recovery: 82 %	Limits: 44-120 %	Dilution: 1x
<i>2-Fluorobiphenyl (Surr)</i>	77 %	44-120 %	"
<i>Phenol-d6 (Surr)</i>	26 %	10-133 %	"
<i>p-Terphenyl-d14 (Surr)</i>	93 %	50-134 %	"
<i>2-Fluorophenol (Surr)</i>	43 %	19-120 %	"
<i>2,4,6-Tribromophenol (Surr)</i>	93 %	43-140 %	"

Q-41

LCS (24G0574-BS1)

Prepared: 07/18/24 07:13 Analyzed: 07/18/24 12:10

<u>EPA 8270E</u>												
Acenaphthene	0.00363	0.0000200	0.0000400	mg/L	2	0.00400	---	91	47 - 122%	---	---	---
Acenaphthylene	0.00386	0.0000200	0.0000400	mg/L	2	0.00400	---	97	41 - 130%	---	---	---
Anthracene	0.00402	0.0000200	0.0000400	mg/L	2	0.00400	---	101	57 - 123%	---	---	---
Benz(a)anthracene	0.00396	0.0000200	0.0000400	mg/L	2	0.00400	---	99	58 - 125%	---	---	---
Benzo(a)pyrene	0.00413	0.0000300	0.0000600	mg/L	2	0.00400	---	103	54 - 128%	---	---	---

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503-718-2323
ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
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Batch 24G0574 - EPA 3510C (Acid Extraction)

Water

LCS (24G0574-BS1)		Prepared: 07/18/24 07:13		Analyzed: 07/18/24 12:10								
Benzo(b)fluoranthene	0.00410	0.0000300	0.0000600	mg/L	2	0.00400	---	102	53 - 131%	---	---	
Benzo(k)fluoranthene	0.00427	0.0000300	0.0000600	mg/L	2	0.00400	---	107	57 - 129%	---	---	
Benzo(g,h,i)perylene	0.00402	0.0000200	0.0000400	mg/L	2	0.00400	---	101	50 - 134%	---	---	
Chrysene	0.00395	0.0000200	0.0000400	mg/L	2	0.00400	---	99	59 - 123%	---	---	
Dibenz(a,h)anthracene	0.00396	0.0000200	0.0000400	mg/L	2	0.00400	---	99	51 - 134%	---	---	
Fluoranthene	0.00410	0.0000200	0.0000400	mg/L	2	0.00400	---	102	57 - 128%	---	---	
Fluorene	0.00417	0.0000200	0.0000400	mg/L	2	0.00400	---	104	52 - 124%	---	---	
Indeno(1,2,3-cd)pyrene	0.00386	0.0000200	0.0000400	mg/L	2	0.00400	---	97	52 - 134%	---	---	
1-Methylnaphthalene	0.00354	0.0000400	0.0000800	mg/L	2	0.00400	---	88	41 - 120%	---	---	
2-Methylnaphthalene	0.00358	0.0000400	0.0000800	mg/L	2	0.00400	---	89	40 - 121%	---	---	
Naphthalene	0.00332	0.0000400	0.0000800	mg/L	2	0.00400	---	83	40 - 121%	---	---	
Phenanthrene	0.00380	0.0000200	0.0000400	mg/L	2	0.00400	---	95	59 - 120%	---	---	
Pyrene	0.00408	0.0000200	0.0000400	mg/L	2	0.00400	---	102	57 - 126%	---	---	
Dibenzofuran	0.00392	0.0000200	0.0000400	mg/L	2	0.00400	---	98	53 - 120%	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 88 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 2x</i>						
<i>2-Fluorobiphenyl (Surr)</i>		<i>89 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>33 %</i>		<i>10-133 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>96 %</i>		<i>50-134 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>49 %</i>		<i>19-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>114 %</i>		<i>43-140 %</i>		<i>"</i>		Q-41				

LCS Dup (24G0574-BS1)

Prepared: 07/18/24 07:13 Analyzed: 07/18/24 12:46

Q-19

EPA 8270E												
Acenaphthene	0.00340	0.0000200	0.0000400	mg/L	2	0.00400	---	85	47 - 122%	6	30%	
Acenaphthylene	0.00361	0.0000200	0.0000400	mg/L	2	0.00400	---	90	41 - 130%	7	30%	
Anthracene	0.00395	0.0000200	0.0000400	mg/L	2	0.00400	---	99	57 - 123%	2	30%	
Benz(a)anthracene	0.00401	0.0000200	0.0000400	mg/L	2	0.00400	---	100	58 - 125%	1	30%	
Benzo(a)pyrene	0.00417	0.0000300	0.0000600	mg/L	2	0.00400	---	104	54 - 128%	0.9	30%	
Benzo(b)fluoranthene	0.00413	0.0000300	0.0000600	mg/L	2	0.00400	---	103	53 - 131%	0.7	30%	
Benzo(k)fluoranthene	0.00421	0.0000300	0.0000600	mg/L	2	0.00400	---	105	57 - 129%	1	30%	
Benzo(g,h,i)perylene	0.00401	0.0000200	0.0000400	mg/L	2	0.00400	---	100	50 - 134%	0.4	30%	
Chrysene	0.00401	0.0000200	0.0000400	mg/L	2	0.00400	---	100	59 - 123%	1	30%	
Dibenz(a,h)anthracene	0.00396	0.0000200	0.0000400	mg/L	2	0.00400	---	99	51 - 134%	0.01	30%	
Fluoranthene	0.00408	0.0000200	0.0000400	mg/L	2	0.00400	---	102	57 - 128%	0.4	30%	

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ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0574 - EPA 3510C (Acid Extraction)						Water						
LCS Dup (24G0574-BSD1)	Prepared: 07/18/24 07:13 Analyzed: 07/18/24 12:46					Q-19						
Fluorene	0.00400	0.0000200	0.0000400	mg/L	2	0.00400	---	100	52 - 124%	4	30%	
Indeno(1,2,3-cd)pyrene	0.00383	0.0000200	0.0000400	mg/L	2	0.00400	---	96	52 - 134%	0.8	30%	
1-Methylnaphthalene	0.00302	0.0000400	0.0000800	mg/L	2	0.00400	---	75	41 - 120%	16	30%	
2-Methylnaphthalene	0.00300	0.0000400	0.0000800	mg/L	2	0.00400	---	75	40 - 121%	17	30%	
Naphthalene	0.00274	0.0000400	0.0000800	mg/L	2	0.00400	---	68	40 - 121%	19	30%	
Phenanthrene	0.00380	0.0000200	0.0000400	mg/L	2	0.00400	---	95	59 - 120%	0.2	30%	
Pyrene	0.00398	0.0000200	0.0000400	mg/L	2	0.00400	---	100	57 - 126%	2	30%	
Dibenzofuran	0.00376	0.0000200	0.0000400	mg/L	2	0.00400	---	94	53 - 120%	4	30%	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 89 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 2x</i>						
<i>2-Fluorobiphenyl (Surr)</i>		<i>81 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>28 %</i>		<i>10-133 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>94 %</i>		<i>50-134 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>43 %</i>		<i>19-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>108 %</i>		<i>43-140 %</i>		<i>"</i>						
											Q-41	

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

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
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503-718-2323
ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0579 - EPA 3546						Soil						
Blank (24G0579-BLK1)		Prepared: 07/18/24 07:37 Analyzed: 07/18/24 16:17										
EPA 8270E												
Acenaphthene	ND	0.00133	0.00267	mg/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.00133	0.00267	mg/kg wet	1	---	---	---	---	---	---	
Anthracene	ND	0.00133	0.00267	mg/kg wet	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.00133	0.00267	mg/kg wet	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.00200	0.00400	mg/kg wet	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.00200	0.00400	mg/kg wet	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.00200	0.00400	mg/kg wet	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.00133	0.00267	mg/kg wet	1	---	---	---	---	---	---	
Chrysene	ND	0.00133	0.00267	mg/kg wet	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.00133	0.00267	mg/kg wet	1	---	---	---	---	---	---	
Fluoranthene	ND	0.00133	0.00267	mg/kg wet	1	---	---	---	---	---	---	
Fluorene	ND	0.00133	0.00267	mg/kg wet	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.00133	0.00267	mg/kg wet	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.00267	0.00533	mg/kg wet	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	0.00267	0.00533	mg/kg wet	1	---	---	---	---	---	---	
Naphthalene	ND	0.00267	0.00533	mg/kg wet	1	---	---	---	---	---	---	
Phenanthrene	ND	0.00133	0.00267	mg/kg wet	1	---	---	---	---	---	---	
Pyrene	ND	0.00133	0.00267	mg/kg wet	1	---	---	---	---	---	---	
Dibenzofuran	ND	0.00133	0.00267	mg/kg wet	1	---	---	---	---	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		Recovery: 95 %		Limits: 37-122 %		Dilution: 1x						
<i>2-Fluorobiphenyl (Surr)</i>		90 %		44-120 %		"						
<i>Phenol-d6 (Surr)</i>		96 %		33-122 %		"						
<i>p-Terphenyl-d14 (Surr)</i>		101 %		54-127 %		"						
<i>2-Fluorophenol (Surr)</i>		93 %		35-120 %		"						
<i>2,4,6-Tribromophenol (Surr)</i>		114 %		39-132 %		"						

Q-41

LCS (24G0579-BS1)		Prepared: 07/18/24 07:37 Analyzed: 07/18/24 16:53										
EPA 8270E												
Acenaphthene	0.518	0.00266	0.00534	mg/kg wet	2	0.533	---	97	40 - 123%	---	---	
Acenaphthylene	0.547	0.00266	0.00534	mg/kg wet	2	0.533	---	103	32 - 132%	---	---	
Anthracene	0.558	0.00266	0.00534	mg/kg wet	2	0.533	---	105	47 - 123%	---	---	
Benz(a)anthracene	0.541	0.00266	0.00534	mg/kg wet	2	0.533	---	102	49 - 126%	---	---	
Benzo(a)pyrene	0.570	0.00400	0.00800	mg/kg wet	2	0.533	---	107	45 - 129%	---	---	

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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0579 - EPA 3546						Soil						
LCS (24G0579-BS1)		Prepared: 07/18/24 07:37 Analyzed: 07/18/24 16:53										
Benzo(b)fluoranthene	0.560	0.00400	0.00800	mg/kg wet	2	0.533	---	105	45 - 132%	---	---	
Benzo(k)fluoranthene	0.565	0.00400	0.00800	mg/kg wet	2	0.533	---	106	47 - 132%	---	---	
Benzo(g,h,i)perylene	0.530	0.00266	0.00534	mg/kg wet	2	0.533	---	99	43 - 134%	---	---	
Chrysene	0.537	0.00266	0.00534	mg/kg wet	2	0.533	---	101	50 - 124%	---	---	
Dibenz(a,h)anthracene	0.553	0.00266	0.00534	mg/kg wet	2	0.533	---	104	45 - 134%	---	---	
Fluoranthene	0.558	0.00266	0.00534	mg/kg wet	2	0.533	---	105	50 - 127%	---	---	
Fluorene	0.571	0.00266	0.00534	mg/kg wet	2	0.533	---	107	43 - 125%	---	---	
Indeno(1,2,3-cd)pyrene	0.515	0.00266	0.00534	mg/kg wet	2	0.533	---	97	45 - 133%	---	---	
1-Methylnaphthalene	0.527	0.00534	0.0107	mg/kg wet	2	0.533	---	99	40 - 120%	---	---	
2-Methylnaphthalene	0.544	0.00534	0.0107	mg/kg wet	2	0.533	---	102	38 - 122%	---	---	
Naphthalene	0.502	0.00534	0.0107	mg/kg wet	2	0.533	---	94	35 - 123%	---	---	
Phenanthrene	0.519	0.00266	0.00534	mg/kg wet	2	0.533	---	97	50 - 121%	---	---	
Pyrene	0.554	0.00266	0.00534	mg/kg wet	2	0.533	---	104	47 - 127%	---	---	
Dibenzofuran	0.556	0.00266	0.00534	mg/kg wet	2	0.533	---	104	44 - 120%	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 2x</i>						
<i>2-Fluorobiphenyl (Surr)</i>		<i>100 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>105 %</i>		<i>33-122 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>107 %</i>		<i>54-127 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>95 %</i>		<i>35-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>130 %</i>		<i>39-132 %</i>		<i>"</i>						

Q-41

Duplicate (24G0579-DUP1) Prepared: 07/18/24 07:37 Analyzed: 07/18/24 18:40 **R-04**

QC Source Sample: B-20-10-12 (A4G1180-01)
EPA 8270E

Acenaphthene	ND	0.00762	0.0153	mg/kg dry	4	---	ND	---	---	---	30%
Acenaphthylene	ND	0.00762	0.0153	mg/kg dry	4	---	ND	---	---	---	30%
Anthracene	ND	0.00762	0.0153	mg/kg dry	4	---	ND	---	---	---	30%
Benz(a)anthracene	ND	0.00762	0.0153	mg/kg dry	4	---	ND	---	---	---	30%
Benzo(a)pyrene	ND	0.0115	0.0229	mg/kg dry	4	---	ND	---	---	---	30%
Benzo(b)fluoranthene	ND	0.0115	0.0229	mg/kg dry	4	---	ND	---	---	---	30%
Benzo(k)fluoranthene	ND	0.0115	0.0229	mg/kg dry	4	---	ND	---	---	---	30%
Benzo(g,h,i)perylene	ND	0.00762	0.0153	mg/kg dry	4	---	ND	---	---	---	30%
Chrysene	ND	0.00762	0.0153	mg/kg dry	4	---	ND	---	---	---	30%
Dibenz(a,h)anthracene	ND	0.00762	0.0153	mg/kg dry	4	---	ND	---	---	---	30%

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ANALYTICAL REPORT

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503-718-2323
ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 24G0579 - EPA 3546						Soil							
Duplicate (24G0579-DUP1)		Prepared: 07/18/24 07:37 Analyzed: 07/18/24 18:40						R-04					
QC Source Sample: B-20-10-12 (A4G1180-01)													
Fluoranthene	ND	0.00762	0.0153	mg/kg dry	4	---	ND	---	---	---	30%		
Fluorene	ND	0.00762	0.0153	mg/kg dry	4	---	ND	---	---	---	30%		
Indeno(1,2,3-cd)pyrene	ND	0.00762	0.0153	mg/kg dry	4	---	ND	---	---	---	30%		
1-Methylnaphthalene	ND	0.0153	0.0305	mg/kg dry	4	---	ND	---	---	---	30%		
2-Methylnaphthalene	ND	0.0153	0.0305	mg/kg dry	4	---	ND	---	---	---	30%		
Naphthalene	ND	0.0153	0.0305	mg/kg dry	4	---	ND	---	---	---	30%		
Phenanthrene	ND	0.00762	0.0153	mg/kg dry	4	---	ND	---	---	---	30%		
Pyrene	ND	0.00762	0.0153	mg/kg dry	4	---	ND	---	---	---	30%		
Dibenzofuran	ND	0.00762	0.0153	mg/kg dry	4	---	ND	---	---	---	30%		
<i>Surr: Nitrobenzene-d5 (Surr)</i>		Recovery: 87 %		Limits: 37-122 %		Dilution: 4x							
<i>2-Fluorobiphenyl (Surr)</i>		78 %		44-120 %		"							
<i>Phenol-d6 (Surr)</i>		79 %		33-122 %		"							
<i>p-Terphenyl-d14 (Surr)</i>		86 %		54-127 %		"							
<i>2-Fluorophenol (Surr)</i>		79 %		35-120 %		"							
<i>2,4,6-Tribromophenol (Surr)</i>		121 %		39-132 %		"							
												Q-41	

Matrix Spike (24G0579-MS1)		Prepared: 07/18/24 07:37 Analyzed: 07/18/24 19:54										
QC Source Sample: B-23-11-12 (A4G1180-04RE1)												
EPA 8270E												
Acenaphthene	0.706	0.00760	0.0153	mg/kg dry	4	0.762	ND	93	40 - 123%	---	---	
Acenaphthylene	0.723	0.00760	0.0153	mg/kg dry	4	0.762	ND	95	32 - 132%	---	---	
Anthracene	0.725	0.00760	0.0153	mg/kg dry	4	0.762	ND	95	47 - 123%	---	---	
Benz(a)anthracene	0.710	0.00760	0.0153	mg/kg dry	4	0.762	ND	93	49 - 126%	---	---	
Benzo(a)pyrene	0.765	0.0114	0.0229	mg/kg dry	4	0.762	ND	100	45 - 129%	---	---	
Benzo(b)fluoranthene	0.741	0.0114	0.0229	mg/kg dry	4	0.762	ND	97	45 - 132%	---	---	
Benzo(k)fluoranthene	0.766	0.0114	0.0229	mg/kg dry	4	0.762	ND	101	47 - 132%	---	---	
Benzo(g,h,i)perylene	0.698	0.00760	0.0153	mg/kg dry	4	0.762	ND	92	43 - 134%	---	---	
Chrysene	0.710	0.00760	0.0153	mg/kg dry	4	0.762	ND	93	50 - 124%	---	---	
Dibenz(a,h)anthracene	0.714	0.00760	0.0153	mg/kg dry	4	0.762	ND	94	45 - 134%	---	---	
Fluoranthene	0.759	0.00760	0.0153	mg/kg dry	4	0.762	ND	100	50 - 127%	---	---	
Fluorene	0.790	0.00760	0.0153	mg/kg dry	4	0.762	ND	104	43 - 125%	---	---	
Indeno(1,2,3-cd)pyrene	0.674	0.00760	0.0153	mg/kg dry	4	0.762	ND	88	45 - 133%	---	---	

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Cameron O'Brien, Project Manager

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ANALYTICAL REPORT

Apex Laboratories, LLC

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 ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
---	--	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0579 - EPA 3546						Soil						
Matrix Spike (24G0579-MS1)		Prepared: 07/18/24 07:37 Analyzed: 07/18/24 19:54										
QC Source Sample: B-23-11-12 (A4G1180-04RE1)												
1-Methylnaphthalene	0.753	0.0153	0.0305	mg/kg dry	4	0.762	ND	99	40 - 120%	---	---	
2-Methylnaphthalene	0.774	0.0153	0.0305	mg/kg dry	4	0.762	ND	102	38 - 122%	---	---	
Naphthalene	0.674	0.0153	0.0305	mg/kg dry	4	0.762	ND	88	35 - 123%	---	---	
Phenanthrene	0.714	0.00760	0.0153	mg/kg dry	4	0.762	ND	94	50 - 121%	---	---	
Pyrene	0.744	0.00760	0.0153	mg/kg dry	4	0.762	ND	98	47 - 127%	---	---	
Dibenzofuran	0.754	0.00760	0.0153	mg/kg dry	4	0.762	ND	99	44 - 120%	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		Recovery: 92 %		Limits: 37-122 %		Dilution: 4x						
<i>2-Fluorobiphenyl (Surr)</i>		91 %		44-120 %		"						
<i>Phenol-d6 (Surr)</i>		96 %		33-122 %		"						
<i>p-Terphenyl-d14 (Surr)</i>		96 %		54-127 %		"						
<i>2-Fluorophenol (Surr)</i>		87 %		35-120 %		"						
<i>2,4,6-Tribromophenol (Surr)</i>		130 %		39-132 %		"						
												Q-41

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ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
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Batch 24G0663 - EPA 3510C (Acid Extraction)

Water

Blank (24G0663-BLK2) Prepared: 07/19/24 18:27 Analyzed: 07/22/24 17:37

<u>EPA 8270E</u>												
Acenaphthene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Acenaphthylene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Anthracene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Benz(a)anthracene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Benzo(a)pyrene	ND	0.0000150	0.0000300	mg/L	1	---	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	0.0000150	0.0000300	mg/L	1	---	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	0.0000150	0.0000300	mg/L	1	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Chrysene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Fluoranthene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Fluorene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
1-Methylnaphthalene	ND	0.0000200	0.0000400	mg/L	1	---	---	---	---	---	---	---
2-Methylnaphthalene	ND	0.0000200	0.0000400	mg/L	1	---	---	---	---	---	---	---
Naphthalene	ND	0.0000200	0.0000400	mg/L	1	---	---	---	---	---	---	---
Phenanthrene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Pyrene	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---
Carbazole	ND	0.0000150	0.0000300	mg/L	1	---	---	---	---	---	---	---
Dibenzofuran	ND	0.0000100	0.0000200	mg/L	1	---	---	---	---	---	---	---

<i>Surr: Nitrobenzene-d5 (Surr)</i>	<i>Recovery: 88 %</i>	<i>Limits: 44-120 %</i>	<i>Dilution: 1x</i>
<i>2-Fluorobiphenyl (Surr)</i>	<i>80 %</i>	<i>44-120 %</i>	<i>"</i>
<i>Phenol-d6 (Surr)</i>	<i>21 %</i>	<i>10-133 %</i>	<i>"</i>
<i>p-Terphenyl-d14 (Surr)</i>	<i>77 %</i>	<i>50-134 %</i>	<i>"</i>
<i>2-Fluorophenol (Surr)</i>	<i>42 %</i>	<i>19-120 %</i>	<i>"</i>
<i>2,4,6-Tribromophenol (Surr)</i>	<i>89 %</i>	<i>43-140 %</i>	<i>"</i>

LCS (24G0663-BS1)

Prepared: 07/19/24 14:09 Analyzed: 07/22/24 18:12

<u>EPA 8270E</u>												
Acenaphthene	0.00305	0.0000400	0.0000800	mg/L	4	0.00400	---	76	47 - 122%	---	---	---
Acenaphthylene	0.00326	0.0000400	0.0000800	mg/L	4	0.00400	---	82	41 - 130%	---	---	---
Anthracene	0.00380	0.0000400	0.0000800	mg/L	4	0.00400	---	95	57 - 123%	---	---	---
Benz(a)anthracene	0.00406	0.0000400	0.0000800	mg/L	4	0.00400	---	101	58 - 125%	---	---	---

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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503-718-2323
ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
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Batch 24G0663 - EPA 3510C (Acid Extraction)

Water

LCS (24G0663-BS1)		Prepared: 07/19/24 14:09		Analyzed: 07/22/24 18:12								
Benzo(a)pyrene	0.00402	0.0000600	0.000120	mg/L	4	0.00400	---	101	54 - 128%	---	---	
Benzo(b)fluoranthene	0.00421	0.0000600	0.000120	mg/L	4	0.00400	---	105	53 - 131%	---	---	
Benzo(k)fluoranthene	0.00420	0.0000600	0.000120	mg/L	4	0.00400	---	105	57 - 129%	---	---	
Benzo(g,h,i)perylene	0.00434	0.0000400	0.0000800	mg/L	4	0.00400	---	108	50 - 134%	---	---	
Chrysene	0.00410	0.0000400	0.0000800	mg/L	4	0.00400	---	103	59 - 123%	---	---	
Dibenz(a,h)anthracene	0.00427	0.0000400	0.0000800	mg/L	4	0.00400	---	107	51 - 134%	---	---	
Fluoranthene	0.00437	0.0000400	0.0000800	mg/L	4	0.00400	---	109	57 - 128%	---	---	
Fluorene	0.00335	0.0000400	0.0000800	mg/L	4	0.00400	---	84	52 - 124%	---	---	
Indeno(1,2,3-cd)pyrene	0.00391	0.0000400	0.0000800	mg/L	4	0.00400	---	98	52 - 134%	---	---	
1-Methylnaphthalene	0.00276	0.0000800	0.000160	mg/L	4	0.00400	---	69	41 - 120%	---	---	
2-Methylnaphthalene	0.00263	0.0000800	0.000160	mg/L	4	0.00400	---	66	40 - 121%	---	---	
Naphthalene	0.00260	0.0000800	0.000160	mg/L	4	0.00400	---	65	40 - 121%	---	---	
Phenanthrene	0.00374	0.0000400	0.0000800	mg/L	4	0.00400	---	94	59 - 120%	---	---	
Pyrene	0.00427	0.0000400	0.0000800	mg/L	4	0.00400	---	107	57 - 126%	---	---	
Carbazole	0.00415	0.0000600	0.000120	mg/L	4	0.00400	---	104	60 - 122%	---	---	
Dibenzofuran	0.00342	0.0000400	0.0000800	mg/L	4	0.00400	---	86	53 - 120%	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		Recovery: 95 %		Limits: 44-120 %		Dilution: 4x						
<i>2-Fluorobiphenyl (Surr)</i>		90 %		44-120 %		"						
<i>Phenol-d6 (Surr)</i>		32 %		10-133 %		"						
<i>p-Terphenyl-d14 (Surr)</i>		94 %		50-134 %		"						
<i>2-Fluorophenol (Surr)</i>		47 %		19-120 %		"						
<i>2,4,6-Tribromophenol (Surr)</i>		98 %		43-140 %		"						

LCS Dup (24G0663-BS1)

Prepared: 07/19/24 14:09 Analyzed: 07/22/24 18:48

Q-19

EPA 8270E												
Acenaphthene	0.00411	0.0000400	0.0000800	mg/L	4	0.00400	---	103	47 - 122%	30	30%	
Acenaphthylene	0.00429	0.0000400	0.0000800	mg/L	4	0.00400	---	107	41 - 130%	27	30%	
Anthracene	0.00467	0.0000400	0.0000800	mg/L	4	0.00400	---	117	57 - 123%	21	30%	
Benz(a)anthracene	0.00493	0.0000400	0.0000800	mg/L	4	0.00400	---	123	58 - 125%	19	30%	
Benzo(a)pyrene	0.00481	0.0000600	0.000120	mg/L	4	0.00400	---	120	54 - 128%	18	30%	
Benzo(b)fluoranthene	0.00508	0.0000600	0.000120	mg/L	4	0.00400	---	127	53 - 131%	19	30%	
Benzo(k)fluoranthene	0.00503	0.0000600	0.000120	mg/L	4	0.00400	---	126	57 - 129%	18	30%	
Benzo(g,h,i)perylene	0.00533	0.0000400	0.0000800	mg/L	4	0.00400	---	133	50 - 134%	20	30%	
Chrysene	0.00489	0.0000400	0.0000800	mg/L	4	0.00400	---	122	59 - 123%	17	30%	

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Cameron O'Brien, Project Manager



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ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0663 - EPA 3510C (Acid Extraction)						Water						
LCS Dup (24G0663-BS1)	Prepared: 07/19/24 14:09 Analyzed: 07/22/24 18:48					Q-19						
Dibenz(a,h)anthracene	0.00519	0.0000400	0.0000800	mg/L	4	0.00400	---	130	51 - 134%	19	30%	
Fluoranthene	0.00525	0.0000400	0.0000800	mg/L	4	0.00400	---	131	57 - 128%	18	30%	Q-29
Fluorene	0.00429	0.0000400	0.0000800	mg/L	4	0.00400	---	107	52 - 124%	25	30%	
Indeno(1,2,3-cd)pyrene	0.00483	0.0000400	0.0000800	mg/L	4	0.00400	---	121	52 - 134%	21	30%	
1-Methylnaphthalene	0.00375	0.0000800	0.000160	mg/L	4	0.00400	---	94	41 - 120%	30	30%	
2-Methylnaphthalene	0.00367	0.0000800	0.000160	mg/L	4	0.00400	---	92	40 - 121%	33	30%	Q-24
Naphthalene	0.00355	0.0000800	0.000160	mg/L	4	0.00400	---	89	40 - 121%	31	30%	Q-24
Phenanthrene	0.00463	0.0000400	0.0000800	mg/L	4	0.00400	---	116	59 - 120%	21	30%	
Pyrene	0.00511	0.0000400	0.0000800	mg/L	4	0.00400	---	128	57 - 126%	18	30%	Q-29
Carbazole	0.00512	0.0000600	0.000120	mg/L	4	0.00400	---	128	60 - 122%	21	30%	Q-29
Dibenzofuran	0.00439	0.0000400	0.0000800	mg/L	4	0.00400	---	110	53 - 120%	25	30%	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 110 %</i>		<i>Limits: 44-120 %</i>		<i>Dilution: 4x</i>						
<i>2-Fluorobiphenyl (Surr)</i>		<i>108 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>38 %</i>		<i>10-133 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>111 %</i>		<i>50-134 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>56 %</i>		<i>19-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>117 %</i>		<i>43-140 %</i>		<i>"</i>						

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

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QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24G0428 - Total Solids (Dry Weight) - 2022						Soil						

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

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Cameron O'Brien, Project Manager



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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

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

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 24G0501</u>							
A4G1180-06	Water	NWTPH-Dx	07/12/24 13:38	07/16/24 13:15	1030mL/5mL	1000mL/5mL	0.97
A4G1180-07	Water	NWTPH-Dx	07/12/24 10:53	07/16/24 13:15	1040mL/5mL	1000mL/5mL	0.96
A4G1180-08	Water	NWTPH-Dx	07/12/24 12:01	07/16/24 13:15	1030mL/5mL	1000mL/5mL	0.97
A4G1180-09	Water	NWTPH-Dx	07/12/24 12:58	07/16/24 13:15	1040mL/5mL	1000mL/5mL	0.96

Prep: EPA 3546 (Fuels)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 24G0572</u>							
A4G1180-01	Soil	NWTPH-Dx	07/12/24 12:38	07/18/24 07:40	11.88g/5mL	10g/5mL	0.84
<u>Batch: 24G0621</u>							
A4G1180-02	Soil	NWTPH-Dx	07/12/24 09:52	07/18/24 17:38	11.56g/5mL	10g/5mL	0.87
A4G1180-03	Soil	NWTPH-Dx	07/12/24 10:47	07/18/24 17:38	11.76g/5mL	10g/5mL	0.85
A4G1180-04	Soil	NWTPH-Dx	07/12/24 11:47	07/18/24 17:38	11.12g/5mL	10g/5mL	0.90

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

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 24G0528</u>							
A4G1180-06RE1	Water	NWTPH-Gx (MS)	07/12/24 13:38	07/17/24 07:30	5mL/5mL	5mL/5mL	1.00
A4G1180-07RE1	Water	NWTPH-Gx (MS)	07/12/24 10:53	07/17/24 07:30	5mL/5mL	5mL/5mL	1.00
A4G1180-08RE1	Water	NWTPH-Gx (MS)	07/12/24 12:01	07/17/24 07:30	5mL/5mL	5mL/5mL	1.00
A4G1180-09RE1	Water	NWTPH-Gx (MS)	07/12/24 12:58	07/17/24 07:30	5mL/5mL	5mL/5mL	1.00

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 24G0444</u>							
A4G1180-02	Soil	NWTPH-Gx (MS)	07/12/24 09:52	07/12/24 09:52	6.13g/5mL	5g/5mL	0.82
A4G1180-03	Soil	NWTPH-Gx (MS)	07/12/24 10:47	07/12/24 10:47	4.2g/5mL	5g/5mL	1.19
A4G1180-04	Soil	NWTPH-Gx (MS)	07/12/24 11:47	07/12/24 11:47	6.17g/5mL	5g/5mL	0.81
<u>Batch: 24G0473</u>							
A4G1180-01RE1	Soil	NWTPH-Gx (MS)	07/12/24 12:38	07/12/24 12:38	6.23g/5mL	5g/5mL	0.80

Selected Volatile Organic Compounds by EPA 8260D

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SAMPLE PREPARATION INFORMATION

Selected Volatile Organic Compounds by EPA 8260D

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 24G0575</u>							
A4G1180-06RE2	Water	EPA 8260D	07/12/24 13:38	07/18/24 17:25	5mL/5mL	5mL/5mL	1.00
A4G1180-07RE2	Water	EPA 8260D	07/12/24 10:53	07/18/24 17:25	5mL/5mL	5mL/5mL	1.00
A4G1180-08RE2	Water	EPA 8260D	07/12/24 12:01	07/18/24 17:25	5mL/5mL	5mL/5mL	1.00
A4G1180-09RE2	Water	EPA 8260D	07/12/24 12:58	07/18/24 17:25	5mL/5mL	5mL/5mL	1.00

Selected Volatile Organic Compounds by EPA 5035A/8260D

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 24G0444</u>							
A4G1180-01	Soil	5035A/8260D	07/12/24 12:38	07/12/24 12:38	6.23g/5mL	5g/5mL	0.80
A4G1180-02	Soil	5035A/8260D	07/12/24 09:52	07/12/24 09:52	6.13g/5mL	5g/5mL	0.82
A4G1180-03	Soil	5035A/8260D	07/12/24 10:47	07/12/24 10:47	4.2g/5mL	5g/5mL	1.19
A4G1180-04	Soil	5035A/8260D	07/12/24 11:47	07/12/24 11:47	6.17g/5mL	5g/5mL	0.81
<u>Batch: 24G0473</u>							
A4G1180-01RE1	Soil	5035A/8260D	07/12/24 12:38	07/12/24 12:38	6.23g/5mL	5g/5mL	0.80
A4G1180-02RE1	Soil	5035A/8260D	07/12/24 09:52	07/12/24 09:52	6.13g/5mL	5g/5mL	0.82
A4G1180-03RE1	Soil	5035A/8260D	07/12/24 10:47	07/12/24 10:47	4.2g/5mL	5g/5mL	1.19

Selected Semivolatile Organic Compounds by EPA 8270E

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 24G0574</u>							
A4G1180-06RE1	Water	EPA 8270E	07/12/24 13:38	07/18/24 07:13	1060mL/1mL	1000mL/1mL	0.94
A4G1180-07	Water	EPA 8270E	07/12/24 10:53	07/18/24 07:13	1070mL/1mL	1000mL/1mL	0.94
A4G1180-09	Water	EPA 8270E	07/12/24 12:58	07/18/24 07:13	1070mL/1mL	1000mL/1mL	0.94
<u>Batch: 24G0663</u>							
A4G1180-08RE2	Water	EPA 8270E	07/12/24 12:01	07/19/24 14:09	1020mL/1mL	1000mL/1mL	0.98

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 24G0579</u>							
A4G1180-01	Soil	EPA 8270E	07/12/24 12:38	07/18/24 07:37	15.31g/2mL	15g/2mL	0.98
A4G1180-02RE1	Soil	EPA 8270E	07/12/24 09:52	07/18/24 07:37	15.17g/2mL	15g/2mL	0.99

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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SAMPLE PREPARATION INFORMATION

Selected Semivolatile Organic Compounds by EPA 8270E

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A4G1180-03RE1	Soil	EPA 8270E	07/12/24 10:47	07/18/24 07:37	15.7g/2mL	15g/2mL	0.96
A4G1180-04RE1	Soil	EPA 8270E	07/12/24 11:47	07/18/24 07:37	15.32g/2mL	15g/2mL	0.98

Percent Dry Weight

Prep: Total Solids (Dry Weight) - 2022

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 24G0428</u>							
A4G1180-01	Soil	EPA 8000D	07/12/24 12:38	07/15/24 09:46			NA
A4G1180-02	Soil	EPA 8000D	07/12/24 09:52	07/15/24 09:46			NA
A4G1180-03	Soil	EPA 8000D	07/12/24 10:47	07/15/24 09:46			NA
A4G1180-04	Soil	EPA 8000D	07/12/24 11:47	07/15/24 09:46			NA

Apex Laboratories

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Cameron O'Brien, Project Manager



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503-718-2323
ORELAP ID: OR100062

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QUALIFIER DEFINITIONS

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

Apex Laboratories

- B-02** Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
- DCNT** Sample decanted due to the presence of sediment. Sample bottle not rinsed with solvent.
- F-11** The hydrocarbon pattern indicates possible weathered diesel, mineral oil, or a contribution from a related component.
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified DL.
- Q-06** Internal Standard area outside of method specified limits. Data is Not Reported. See previous or subsequent runs for reportable sample data.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-24** The RPD for this spike and spike duplicate is above established control limits. Recoveries for both the spike and spike duplicate are within control limits.
- Q-29** Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
- Q-41** Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- R-04** Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.
- S-06** Surrogate recovery is outside of established control limits.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported.
- RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as "dry", "wet", or "" (blank) designation.
- "dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
- "wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
- " " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

- Standard practice is to evaluate the results from Blank QC Samples down to a level equal to one half of the Reporting Limit (RL).
- Blank results for gravimetric analyses are evaluated to the Reporting Level, not to half of the Reporting Level.
- For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
- For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.

Apex Laboratories

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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses. 'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: <u>DSV North Marine Dr.</u> Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation)
EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
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All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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

CHAIN OF CUSTODY

Lab # AUG1180 COC _____ of _____

Project Name: DSV North Marine Drive Project #: _____
 Phone: 503.822.0265 Email: gary.walvatne@aquariusenv.com PO # : _____

Company: Aquarius Environmental Project Mgr: Gary Walvatne

Address: 2117 NE Oregon St, Suite 502, PDX OR

Sampled by: Gary Walvatne, Kristofer Kaufman 7/23/24

Site Location: _____

State: OR County: Multnomah

SAMPLE ID	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-DX	NWTPH-GX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs Full List	8270 SIM PAHs	8270 Semt-Vols Full List	8082 PCBs	8081 Pesticides	RCRA Metals (8)	Priority Metals (13)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Cu, Fe, Ni, K, Hg, Mg, Mn, Mo, Ni, Pb, Se, Ag, Na, TL, V, Zn, TCDF, TCDF, TCDF	TCLP Metals (8)	EPA (Sub)	VPH (Sub)	01-050 (Sub)	Hold Sample	Frozen Archive		
																								ANALYSIS REQUEST	
B-20-10-12	7/12/24	12:38	Soil	10		X		X			X														
B-21-11-13		0952	Soil	3		X		X			X														
B-22-10.5-12		1047	Soil	3		X		X			X														
B-23-11-12		1147	Soil	3		X		X			X														
B-20-10-12 DUP		1238	Soil	10		X		X			X														
B-20	7/12/24	1338	Water	10		X		X			X														
B-21		1053		7		X		X			X														
B-22		1201		7		X		X			X														
B-23		1258		7		X		X			X														
B-20 DUP		1338		7		X		X			X														

Standard Turn Around Time (TAT) = 10 Business Days

TAT Requested (circle): 5 Day 1 Day 2 Day 3 Day Other: _____

SAMPLES ARE HELD FOR 90 DAYS

RELINQUISHED BY: _____
 Signature: Gary Walvatne Date: 7/12/24
 Printed Name: GARY WALVATNE Time: 17:23
 Company: AQUARIUS ENVIRONMENTAL

RECEIVED BY: _____
 Signature: _____ Date: _____
 Printed Name: _____ Time: _____
 Company: _____

SPECIAL INSTRUCTIONS:
 - EPA/VPH TO OREGON ACCREDITED LAB FOR WA DEPT. OF Ecology Test Methods
 - 01-050 TO PRECISION PETROLEUM LABS

Form Y-002 R-00

Apex Laboratories

C. O'Brien

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

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503-718-2323
ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A4G1180 - 07 25 24 2014
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APEX LABS COOLER RECEIPT FORM

Client: Aquarius Environmental Element WO#: A4 61180

Project/Project #: DSV North Marine Drive

Delivery Info:

Date/time received: 7/12/24 @ 17:23 By: ZA

Delivered by: Apex Client ESS FedEx UPS Radio Morgan SDS Evergreen Other

From USDA Regulated Origin? Yes No

Cooler Inspection Date/time inspected: 7/12/24 @ 17:23 By: ZA

Chain of Custody included? Yes No

Signed/dated by client? Yes No

Contains USDA Reg. Soils? Yes No Unsure (email RegSoils)

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>5.1</u>	<u>5.2</u>					
Custody seals? (Y/N)	<u>N</u>	<u>N</u>					
Received on ice? (Y/N)	<u>Y</u>	<u>Y</u>					
Temp. blanks? (Y/N)	<u>Y</u>	<u>Y</u>					
Ice type: (Gel/Real/Other)	<u>Real</u>	<u>Real</u>					
Condition (In/Out):	<u>IN</u>	<u>IN</u>					

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

Green dots applied to out of temperature samples? Yes No

Out of temperature samples form initiated? Yes No

Sample Inspection: Date/time inspected: 7/12/24 @ 1812 By: 1812 AAW

All samples intact? Yes No Comments: _____

Bottle labels/COCs agree? Yes No Comments: B-23 1/2 HCl Ambers have no T, B-22 Y2

11/22 Ambers have no T container B-21-11-13 and B-22-10.5-12 times

COC/container discrepancies form initiated? Yes No

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

Do VOA vials have visible headspace? Yes No NA

Comments: Sediment in all HCl vials

Water samples: pH checked: Yes No NA pH appropriate? Yes No NA pH ID: A23E172

Comments: on conts. vary

Labeled by: AAW

Witness: JAM

Cooler Inspected by: AAW

Form Y-003 R-02

CABri



3600 Fremont Ave N

Seattle, WA 98103

T: (206) 352-3790

F: (206) 352-7178

info@fremontanalytical.com

Apex Laboratories
Cameron O'Brien
6700 SW Sandburg St
Tigard, OR 97223

RE: A4G1180,
Work Order Number: 2407265

July 25, 2024

Attention Cameron O'Brien:

Fremont Analytical, Inc, an Alliance Technical Group company, received 4 sample(s) on 7/17/2024 for the analyses presented in the following report.

Extractable Petroleum Hydrocarbons by NWEPH

Sample Moisture (Percent Moisture)

Volatile Petroleum Hydrocarbons by NWVPH

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Please note, while the appearance of our logo and branding will update, our commitment to accuracy, speed, and customer service remain values celebrated and shared by Alliance Technical Group. Thank you for the opportunity to serve you.

Sincerely,

Brianna Barnes
Project Manager

CC:
Sub Data

*DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 for Environmental Testing
ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing
Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910*



Original

www.fremontanalytical.com



Date: 07/25/2024

CLIENT: Apex Laboratories
Project: A4G1180
Work Order: 2407265

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2407265-001	B-20-10-12	07/12/2024 12:38 PM	07/17/2024 10:55 AM
2407265-002	B-20-10-12 DUP	07/12/2024 12:38 PM	07/17/2024 10:55 AM
2407265-003	B-20	07/12/2024 1:38 PM	07/17/2024 10:55 AM
2407265-004	B-20 DUP	07/12/2024 1:38 PM	07/17/2024 10:55 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Original

CLIENT: Apex Laboratories

Project: A4G1180

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

- * - Associated LCS is outside of control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Method Detection Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- DUP - Sample Duplicate
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MCL - Maximum Contaminant Level
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- REP - Sample Replicate
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate

Client: Apex Laboratories

Collection Date: 7/12/2024 12:38:00 PM

Project: A4G1180

Lab ID: 2407265-001

Matrix: Soil

Client Sample ID: B-20-10-12

Analyses	Result	RL	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 44548

Analyst: AP

Aliphatic Hydrocarbon (C8-C10)	ND	29.0	14.5		mg/Kg-dry	1	07/22/24 21:38:00
Aliphatic Hydrocarbon (C10-C12)	ND	14.5	6.59		mg/Kg-dry	1	07/22/24 21:38:00
Aliphatic Hydrocarbon (C12-C16)	4.42	14.5	2.81	J	mg/Kg-dry	1	07/22/24 21:38:00
Aliphatic Hydrocarbon (C16-C21)	28.4	14.5	5.61		mg/Kg-dry	1	07/22/24 21:38:00
Aliphatic Hydrocarbon (C21-C34)	383	14.5	9.01		mg/Kg-dry	1	07/22/24 21:38:00
Aromatic Hydrocarbon (C8-C10)	ND	29.0	10.0		mg/Kg-dry	1	07/23/24 13:34:26
Aromatic Hydrocarbon (C10-C12)	ND	14.5	4.68		mg/Kg-dry	1	07/23/24 13:34:26
Aromatic Hydrocarbon (C12-C16)	10.7	14.5	3.22	J	mg/Kg-dry	1	07/23/24 13:34:26
Aromatic Hydrocarbon (C16-C21)	21.0	14.5	7.44		mg/Kg-dry	1	07/23/24 13:34:26
Aromatic Hydrocarbon (C21-C34)	30.5	14.5	11.0		mg/Kg-dry	1	07/23/24 13:34:26
Surr: 1-Chlorooctadecane	133	50 - 150	0		%Rec	1	07/22/24 21:38:00
Surr: o-Terphenyl	143	50 - 150	0		%Rec	1	07/23/24 13:34:26

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 44567

Analyst: SG

Aliphatic Hydrocarbon (C5-C6)	ND	2.70	0.355		mg/Kg-dry	1	07/19/24 1:29:00
Aliphatic Hydrocarbon (C6-C8)	1.24	2.70	0.580	J	mg/Kg-dry	1	07/19/24 1:29:00
Aliphatic Hydrocarbon (C8-C10)	2.12	2.70	1.55	J	mg/Kg-dry	1	07/19/24 1:29:00
Aliphatic Hydrocarbon (C10-C12)	ND	2.70	0.410		mg/Kg-dry	1	07/19/24 1:29:00
Aromatic Hydrocarbon (C8-C10)	3.79	2.70	0.238		mg/Kg-dry	1	07/19/24 1:29:00
Aromatic Hydrocarbon (C10-C12)	3.46	2.70	0.466		mg/Kg-dry	1	07/19/24 1:29:00
Aromatic Hydrocarbon (C12-C13)	10.6	2.70	0.774		mg/Kg-dry	1	07/19/24 1:29:00
Surr: 2,5-dibromotoluene	94.9	60 - 140	0		%Rec	1	07/19/24 1:29:00

Sample Moisture (Percent Moisture)

Batch ID: R93101

Analyst: GHG

Percent Moisture	31.7	0.500	0.100		wt%	1	07/18/24 10:02:58
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Client: Apex Laboratories

Collection Date: 7/12/2024 12:38:00 PM

Project: A4G1180

Lab ID: 2407265-002

Matrix: Soil

Client Sample ID: B-20-10-12 DUP

Analyses	Result	RL	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 44548

Analyst: AP

Aliphatic Hydrocarbon (C8-C10)	ND	27.3	13.6		mg/Kg-dry	1	07/23/24 13:56:01
Aliphatic Hydrocarbon (C10-C12)	ND	13.6	6.21		mg/Kg-dry	1	07/23/24 13:56:01
Aliphatic Hydrocarbon (C12-C16)	ND	13.6	2.64		mg/Kg-dry	1	07/23/24 13:56:01
Aliphatic Hydrocarbon (C16-C21)	27.5	13.6	5.28		mg/Kg-dry	1	07/23/24 13:56:01
Aliphatic Hydrocarbon (C21-C34)	337	13.6	8.49		mg/Kg-dry	1	07/23/24 13:56:01
Aromatic Hydrocarbon (C8-C10)	ND	27.3	9.41		mg/Kg-dry	1	07/23/24 13:56:01
Aromatic Hydrocarbon (C10-C12)	ND	13.6	4.41		mg/Kg-dry	1	07/23/24 13:56:01
Aromatic Hydrocarbon (C12-C16)	8.31	13.6	3.03	J	mg/Kg-dry	1	07/23/24 13:56:01
Aromatic Hydrocarbon (C16-C21)	18.8	13.6	7.01		mg/Kg-dry	1	07/23/24 13:56:01
Aromatic Hydrocarbon (C21-C34)	25.0	13.6	10.4		mg/Kg-dry	1	07/23/24 13:56:01
Surr: 1-Chlorooctadecane	149	50 - 150	0		%Rec	1	07/23/24 13:56:01
Surr: o-Terphenyl	144	50 - 150	0		%Rec	1	07/23/24 13:56:01

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 44567

Analyst: SG

Aliphatic Hydrocarbon (C5-C6)	ND	3.17	0.417		mg/Kg-dry	1	07/19/24 2:05:00
Aliphatic Hydrocarbon (C6-C8)	2.85	3.17	0.681	J	mg/Kg-dry	1	07/19/24 2:05:00
Aliphatic Hydrocarbon (C8-C10)	ND	3.17	1.82		mg/Kg-dry	1	07/19/24 2:05:00
Aliphatic Hydrocarbon (C10-C12)	ND	3.17	0.481		mg/Kg-dry	1	07/19/24 2:05:00
Aromatic Hydrocarbon (C8-C10)	5.02	3.17	0.279		mg/Kg-dry	1	07/19/24 2:05:00
Aromatic Hydrocarbon (C10-C12)	4.96	3.17	0.547		mg/Kg-dry	1	07/19/24 2:05:00
Aromatic Hydrocarbon (C12-C13)	18.1	3.17	0.909		mg/Kg-dry	1	07/19/24 2:05:00
Surr: 2,5-dibromotoluene	101	60 - 140	0		%Rec	1	07/19/24 2:05:00

Sample Moisture (Percent Moisture)

Batch ID: R93101

Analyst: GHG

Percent Moisture	29.7	0.500	0.100		wt%	1	07/18/24 10:02:58
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Client: Apex Laboratories

Collection Date: 7/12/2024 1:38:00 PM

Project: A4G1180

Lab ID: 2407265-003

Matrix: Water

Client Sample ID: B-20

Analyses	Result	RL	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 44557

Analyst: AP

Aliphatic Hydrocarbon (C8-C10)	ND	79.8	39.5		µg/L	1	07/23/24 13:34:26
Aliphatic Hydrocarbon (C10-C12)	ND	39.9	20.6		µg/L	1	07/23/24 13:34:26
Aliphatic Hydrocarbon (C12-C16)	ND	39.9	9.83		µg/L	1	07/23/24 13:34:26
Aliphatic Hydrocarbon (C16-C21)	ND	39.9	14.3		µg/L	1	07/23/24 13:34:26
Aliphatic Hydrocarbon (C21-C34)	38.7	39.9	22.5	J	µg/L	1	07/23/24 13:34:26
Aromatic Hydrocarbon (C8-C10)	ND	79.8	26.0		µg/L	1	07/22/24 19:48:53
Aromatic Hydrocarbon (C10-C12)	ND	39.9	8.88		µg/L	1	07/22/24 19:48:53
Aromatic Hydrocarbon (C12-C16)	14.1	39.9	6.97	J	µg/L	1	07/22/24 19:48:53
Aromatic Hydrocarbon (C16-C21)	20.8	39.9	12.7	J	µg/L	1	07/22/24 19:48:53
Aromatic Hydrocarbon (C21-C34)	ND	39.9	26.5		µg/L	1	07/22/24 19:48:53
Surr: 1-Chlorooctadecane	53.9	50 - 150			%Rec	1	07/23/24 13:34:26
Surr: o-Terphenyl	59.4	50 - 150			%Rec	1	07/22/24 19:48:53

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 44568

Analyst: SG

Aliphatic Hydrocarbon (C5-C6)	ND	50.0	21.2		µg/L	1	07/23/24 23:45:00
Aliphatic Hydrocarbon (C6-C8)	30.8	50.0	26.8	J	µg/L	1	07/23/24 23:45:00
Aliphatic Hydrocarbon (C8-C10)	27.3	50.0	14.2	J	µg/L	1	07/23/24 23:45:00
Aliphatic Hydrocarbon (C10-C12)	ND	40.0	10.3		µg/L	1	07/23/24 23:45:00
Aromatic Hydrocarbon (C8-C10)	30.5	60.0	29.9	J	µg/L	1	07/23/24 23:45:00
Aromatic Hydrocarbon (C10-C12)	31.4	50.0	2.13	J	µg/L	1	07/23/24 23:45:00
Aromatic Hydrocarbon (C12-C13)	20.2	50.0	7.40	J	µg/L	1	07/23/24 23:45:00
Surr: 2,5-dibromotoluene	91.0	60 - 140			%Rec	1	07/23/24 23:45:00

Client: Apex Laboratories

Collection Date: 7/12/2024 1:38:00 PM

Project: A4G1180

Lab ID: 2407265-004

Matrix: Water

Client Sample ID: B-20 DUP

Analyses	Result	RL	MDL	Qual	Units	DF	Date Analyzed
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Extractable Petroleum Hydrocarbons by NWEPH

Batch ID: 44557

Analyst: AP

Aliphatic Hydrocarbon (C8-C10)	ND	79.6	39.4		µg/L	1	07/22/24 20:32:32
Aliphatic Hydrocarbon (C10-C12)	ND	39.8	20.6		µg/L	1	07/22/24 20:32:32
Aliphatic Hydrocarbon (C12-C16)	ND	39.8	9.81		µg/L	1	07/22/24 20:32:32
Aliphatic Hydrocarbon (C16-C21)	ND	39.8	14.2		µg/L	1	07/22/24 20:32:32
Aliphatic Hydrocarbon (C21-C34)	42.3	39.8	22.5		µg/L	1	07/22/24 20:32:32
Aromatic Hydrocarbon (C8-C10)	ND	79.6	25.9		µg/L	1	07/22/24 20:32:32
Aromatic Hydrocarbon (C10-C12)	ND	39.8	8.87		µg/L	1	07/22/24 20:32:32
Aromatic Hydrocarbon (C12-C16)	11.7	39.8	6.95	J	µg/L	1	07/22/24 20:32:32
Aromatic Hydrocarbon (C16-C21)	41.9	39.8	12.7		µg/L	1	07/22/24 20:32:32
Aromatic Hydrocarbon (C21-C34)	ND	39.8	26.5		µg/L	1	07/22/24 20:32:32
Surr: 1-Chlorooctadecane	62.6	50 - 150			%Rec	1	07/22/24 20:32:32
Surr: o-Terphenyl	69.6	50 - 150			%Rec	1	07/22/24 20:32:32

Volatile Petroleum Hydrocarbons by NWVPH

Batch ID: 44568

Analyst: SG

Aliphatic Hydrocarbon (C5-C6)	ND	50.0	21.2		µg/L	1	07/19/24 4:29:00
Aliphatic Hydrocarbon (C6-C8)	34.7	50.0	26.8	J	µg/L	1	07/19/24 4:29:00
Aliphatic Hydrocarbon (C8-C10)	21.6	50.0	14.2	J	µg/L	1	07/19/24 4:29:00
Aliphatic Hydrocarbon (C10-C12)	ND	40.0	10.3		µg/L	1	07/19/24 4:29:00
Aromatic Hydrocarbon (C8-C10)	75.5	60.0	29.9		µg/L	1	07/19/24 4:29:00
Aromatic Hydrocarbon (C10-C12)	45.1	50.0	2.13	J	µg/L	1	07/19/24 4:29:00
Aromatic Hydrocarbon (C12-C13)	12.2	50.0	7.40	J	µg/L	1	07/19/24 4:29:00
Surr: 2,5-dibromotoluene	88.8	60 - 140			%Rec	1	07/19/24 4:29:00

Work Order: 2407265
 CLIENT: Apex Laboratories
 Project: A4G1180

QC SUMMARY REPORT
Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: MB-44548	SampType: MBLK	Units: mg/Kg			Prep Date: 7/17/2024	RunNo: 93180					
Client ID: MBLKS	Batch ID: 44548				Analysis Date: 7/19/2024	SeqNo: 1945054					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	ND	20.0									
Aliphatic Hydrocarbon (C10-C12)	ND	10.0									
Aliphatic Hydrocarbon (C12-C16)	ND	10.0									
Aliphatic Hydrocarbon (C16-C21)	ND	10.0									
Aliphatic Hydrocarbon (C21-C34)	ND	10.0									
Surr: 1-Chlorooctadecane	36.2		40.00		90.4	50	150				

Sample ID: MB-44548	SampType: MBLK	Units: mg/Kg			Prep Date: 7/17/2024	RunNo: 93181					
Client ID: MBLKS	Batch ID: 44548				Analysis Date: 7/19/2024	SeqNo: 1945067					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	ND	20.0									
Aromatic Hydrocarbon (C10-C12)	ND	10.0									
Aromatic Hydrocarbon (C12-C16)	ND	10.0									
Aromatic Hydrocarbon (C16-C21)	ND	10.0									
Aromatic Hydrocarbon (C21-C34)	ND	10.0									
Surr: o-Terphenyl	37.3		40.00		93.3	50	150				

Sample ID: LCS-44548	SampType: LCS	Units: mg/Kg			Prep Date: 7/17/2024	RunNo: 93181					
Client ID: LCSS	Batch ID: 44548				Analysis Date: 7/19/2024	SeqNo: 1945068					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	33.5	20.0	100.0	0	33.5	14.4	89.8				
Aromatic Hydrocarbon (C10-C12)	29.0	10.0	50.00	0	57.9	37.8	108				
Aromatic Hydrocarbon (C12-C16)	35.1	10.0	50.00	0	70.2	37.7	119				
Aromatic Hydrocarbon (C16-C21)	43.1	10.0	50.00	0	86.2	37.2	128				
Aromatic Hydrocarbon (C21-C34)	41.0	10.0	50.00	0	82.0	40.2	131				
Surr: o-Terphenyl	31.6		40.00		79.1	50	150				

Work Order: 2407265
 CLIENT: Apex Laboratories
 Project: A4G1180

QC SUMMARY REPORT
Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: LCS-44548	SampType: LCS	Units: mg/Kg				Prep Date: 7/17/2024	RunNo: 93180				
Client ID: LCSS	Batch ID: 44548					Analysis Date: 7/19/2024	SeqNo: 1945074				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	28.8	20.0	100.0	0	28.8	7.26	71.1				
Aliphatic Hydrocarbon (C10-C12)	21.9	10.0	50.00	0	43.8	27.3	91.9				
Aliphatic Hydrocarbon (C12-C16)	39.7	10.0	50.00	0	79.5	36.9	96.6				
Aliphatic Hydrocarbon (C16-C21)	47.4	10.0	50.00	0	94.8	42.6	95.1				
Aliphatic Hydrocarbon (C21-C34)	57.7	10.0	50.00	0	115	21.9	124				
Surr: 1-Chlorooctadecane	38.2		40.00		95.6	50	150				

Sample ID: 2407141-001AMS	SampType: MS	Units: mg/Kg-dry				Prep Date: 7/17/2024	RunNo: 93180				
Client ID: BATCH	Batch ID: 44548					Analysis Date: 7/19/2024	SeqNo: 1945058				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	32.3	26.2	130.8	0	24.7	5.92	63.1				H
Aliphatic Hydrocarbon (C10-C12)	35.9	13.1	65.41	0	54.9	5	112				H
Aliphatic Hydrocarbon (C12-C16)	90.5	13.1	65.41	27.22	96.7	5	158				H
Aliphatic Hydrocarbon (C16-C21)	132	13.1	65.41	61.10	108	17.3	103				SH
Aliphatic Hydrocarbon (C21-C34)	845	13.1	65.41	824.6	30.7	9.18	109				H
Surr: 1-Chlorooctadecane	47.8		52.33		91.3	50	150				H

NOTES:

S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Sample ID: 2407141-001AMS	SampType: MS	Units: mg/Kg-dry				Prep Date: 7/17/2024	RunNo: 93181				
Client ID: BATCH	Batch ID: 44548					Analysis Date: 7/19/2024	SeqNo: 1945071				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	37.0	26.2	130.8	0	28.2	16.6	74.1				H
Aromatic Hydrocarbon (C10-C12)	39.3	13.1	65.41	0	60.0	28.2	96.4				H
Aromatic Hydrocarbon (C12-C16)	66.2	13.1	65.41	13.94	79.9	9.59	118				H
Aromatic Hydrocarbon (C16-C21)	157	13.1	65.41	122.4	53.4	22.1	125				H
Aromatic Hydrocarbon (C21-C34)	177	13.1	65.41	122.7	83.0	8.01	145				H
Surr: o-Terphenyl	38.9		52.33		74.4	50	150				H

Work Order: 2407265
 CLIENT: Apex Laboratories
 Project: A4G1180

QC SUMMARY REPORT
Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: 2407141-001AMSD	SampType: MSD	Units: mg/Kg-dry			Prep Date: 7/17/2024	RunNo: 93180					
Client ID: BATCH	Batch ID: 44548				Analysis Date: 7/22/2024	SeqNo: 1945662					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	35.4	25.6	128.0	0	27.7	5.92	63.1	32.28	9.24	30	H
Aliphatic Hydrocarbon (C10-C12)	35.9	12.8	64.01	0	56.1	5	112	35.94	0.136	30	H
Aliphatic Hydrocarbon (C12-C16)	85.7	12.8	64.01	27.22	91.4	5	158	90.49	5.39	30	H
Aliphatic Hydrocarbon (C16-C21)	117	12.8	64.01	61.10	86.6	17.3	103	131.6	12.2	30	H
Aliphatic Hydrocarbon (C21-C34)	658	12.8	64.01	824.6	-260	9.18	109	844.7	24.8	30	SH
Surr: 1-Chlorooctadecane	38.1		51.21		74.4	50	150		0		H

NOTES:

S - Spiked amount was low relative to sample concentration. Outlying spike recoveries may be expected.

Sample ID: 2407141-001AMSD	SampType: MSD	Units: mg/Kg-dry			Prep Date: 7/17/2024	RunNo: 93181					
Client ID: BATCH	Batch ID: 44548				Analysis Date: 7/22/2024	SeqNo: 1945674					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	37.8	25.6	128.0	0	29.5	16.6	74.1	36.95	2.26	30	H
Aromatic Hydrocarbon (C10-C12)	39.4	12.8	64.01	0	61.5	28.2	96.4	39.25	0.321	30	H
Aromatic Hydrocarbon (C12-C16)	66.7	12.8	64.01	13.94	82.4	9.59	118	66.23	0.706	30	H
Aromatic Hydrocarbon (C16-C21)	153	12.8	64.01	122.4	47.7	22.1	125	157.3	2.81	30	H
Aromatic Hydrocarbon (C21-C34)	159	12.8	64.01	122.7	56.7	8.01	145	176.9	10.7	30	H
Surr: o-Terphenyl	31.4		51.21		61.3	50	150		0		H

Work Order: 2407265
 CLIENT: Apex Laboratories
 Project: A4G1180

QC SUMMARY REPORT
Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: MB-44557	SampType: MBLK	Units: µg/L				Prep Date: 7/17/2024	RunNo: 93220				
Client ID: MBLKW	Batch ID: 44557					Analysis Date: 7/22/2024	SeqNo: 1945737				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	ND	80.0		0	0						
Aliphatic Hydrocarbon (C10-C12)	ND	40.0		0	0						
Aliphatic Hydrocarbon (C12-C16)	13.2	40.0		0	0						J
Aliphatic Hydrocarbon (C16-C21)	19.4	40.0		0	0						J
Aliphatic Hydrocarbon (C21-C34)	ND	40.0		0	0						
Surr: 1-Chlorooctadecane	419		499.9		83.9	50	150				

Sample ID: MB-44557	SampType: MBLK	Units: µg/L				Prep Date: 7/17/2024	RunNo: 93221				
Client ID: MBLKW	Batch ID: 44557					Analysis Date: 7/22/2024	SeqNo: 1945747				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	ND	80.0		0	0						
Aromatic Hydrocarbon (C10-C12)	ND	40.0		0	0						
Aromatic Hydrocarbon (C12-C16)	22.1	40.0		0	0						J
Aromatic Hydrocarbon (C16-C21)	20.0	40.0		0	0						J
Aromatic Hydrocarbon (C21-C34)	ND	40.0		0	0						
Surr: o-Terphenyl	374		499.9		74.9	50	150				

Sample ID: LCS-44557	SampType: LCS	Units: µg/L				Prep Date: 7/17/2024	RunNo: 93220				
Client ID: LCSW	Batch ID: 44557					Analysis Date: 7/22/2024	SeqNo: 1945738				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	326	80.0	1,249	0	26.1	5	92.3				
Aliphatic Hydrocarbon (C10-C12)	285	40.0	624.7	0	45.6	12.8	95.6				
Aliphatic Hydrocarbon (C12-C16)	437	40.0	624.7	0	70.0	21.9	106				
Aliphatic Hydrocarbon (C16-C21)	536	40.0	624.7	0	85.7	20.7	113				
Aliphatic Hydrocarbon (C21-C34)	559	40.0	624.7	0	89.5	24.7	117				
Surr: 1-Chlorooctadecane	422		499.8		84.5	50	150				

Work Order: 2407265
 CLIENT: Apex Laboratories
 Project: A4G1180

QC SUMMARY REPORT
Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: LCS-44557	SampType: LCS	Units: µg/L				Prep Date: 7/17/2024	RunNo: 93221				
Client ID: LCSW	Batch ID: 44557					Analysis Date: 7/22/2024	SeqNo: 1945748				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	379	80.0	1,249	0	30.3	5	93.4				
Aromatic Hydrocarbon (C10-C12)	338	40.0	624.7	0	54.1	40.3	116				
Aromatic Hydrocarbon (C12-C16)	375	40.0	624.7	0	60.1	17.5	138				
Aromatic Hydrocarbon (C16-C21)	451	40.0	624.7	0	72.2	55	132				
Aromatic Hydrocarbon (C21-C34)	402	40.0	624.7	0	64.3	47.7	120				
Surr: o-Terphenyl	312		499.8		62.5	50	150				

Sample ID: LCSD-44557	SampType: LCSD	Units: µg/L				Prep Date: 7/17/2024	RunNo: 93220				
Client ID: LCSW02	Batch ID: 44557					Analysis Date: 7/22/2024	SeqNo: 1945739				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	188	79.9	1,249	0	15.0	5	92.3	325.8	53.8	20	
Aliphatic Hydrocarbon (C10-C12)	198	40.0	624.5	0	31.7	12.8	95.6	285.1	35.9	20	R
Aliphatic Hydrocarbon (C12-C16)	349	40.0	624.5	0	55.8	21.9	106	437.5	22.6	20	R
Aliphatic Hydrocarbon (C16-C21)	423	40.0	624.5	0	67.8	20.7	113	535.6	23.4	20	R
Aliphatic Hydrocarbon (C21-C34)	437	40.0	624.5	0	70.0	24.7	117	558.9	24.5	20	R
Surr: 1-Chlorooctadecane	338		499.6		67.7	50	150		0		

NOTES:

R - High RPD observed, spike recovery is within range.

Sample ID: LCSD-44557	SampType: LCSD	Units: µg/L				Prep Date: 7/17/2024	RunNo: 93221				
Client ID: LCSW02	Batch ID: 44557					Analysis Date: 7/22/2024	SeqNo: 1945749				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	238	79.9	1,249	0	19.0	5	93.4	378.7	45.7	20	
Aromatic Hydrocarbon (C10-C12)	262	40.0	624.5	0	42.0	40.3	116	338.1	25.3	20	R
Aromatic Hydrocarbon (C12-C16)	328	40.0	624.5	0	52.6	17.5	138	375.2	13.3	20	
Aromatic Hydrocarbon (C16-C21)	382	40.0	624.5	0	61.2	55	132	451.1	16.5	20	
Aromatic Hydrocarbon (C21-C34)	341	40.0	624.5	0	54.6	47.7	120	401.6	16.4	20	
Surr: o-Terphenyl	265		499.6		53.0	50	150		0		

NOTES:

R - High RPD observed, spike recovery is within range.

Work Order: 2407265
 CLIENT: Apex Laboratories
 Project: A4G1180

QC SUMMARY REPORT
Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: 2407265-003BDUP	SampType: DUP	Units: µg/L			Prep Date: 7/17/2024	RunNo: 93220					
Client ID: B-20	Batch ID: 44557				Analysis Date: 7/22/2024	SeqNo: 1945740					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	ND	79.4		0	0			0	0	25	
Aliphatic Hydrocarbon (C10-C12)	ND	39.7		0	0			0	0	25	
Aliphatic Hydrocarbon (C12-C16)	ND	39.7		0	0			0	0	25	
Aliphatic Hydrocarbon (C16-C21)	ND	39.7		0	0			0	0	25	
Aliphatic Hydrocarbon (C21-C34)	46.7	39.7		0	0			38.65	18.9	25	
Surr: 1-Chlorooctadecane	249		495.9		50.2	50	150		0		

Sample ID: 2407265-003BDUP	SampType: DUP	Units: µg/L			Prep Date: 7/17/2024	RunNo: 93221					
Client ID: B-20	Batch ID: 44557				Analysis Date: 7/22/2024	SeqNo: 1945751					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	ND	79.4		0	0			0	0	25	
Aromatic Hydrocarbon (C10-C12)	ND	39.7		0	0			0	0	25	
Aromatic Hydrocarbon (C12-C16)	13.0	39.7		0	0			14.14	8.07	25	J
Aromatic Hydrocarbon (C16-C21)	35.6	39.7		0	0			20.85	52.2	25	J
Aromatic Hydrocarbon (C21-C34)	ND	39.7		0	0			0	0	25	
Surr: o-Terphenyl	301		495.9		60.6	50	150		0		

Work Order: 2407265
 CLIENT: Apex Laboratories
 Project: A4G1180

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: LCS-44567	SampType: LCS	Units: mg/Kg				Prep Date: 7/18/2024	RunNo: 93241				
Client ID: LCSS	Batch ID: 44567					Analysis Date: 7/18/2024	SeqNo: 1946143				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	20.4	2.50	20.00	0	102	70	130				
Aliphatic Hydrocarbon (C6-C8)	8.48	2.50	10.00	0	84.8	70	130				
Aliphatic Hydrocarbon (C8-C10)	9.96	2.50	10.00	0	99.6	70	130				
Aliphatic Hydrocarbon (C10-C12)	11.3	2.50	10.00	0	113	70	130				
Aromatic Hydrocarbon (C8-C10)	47.6	2.50	50.00	0	95.1	70	130				
Aromatic Hydrocarbon (C10-C12)	9.88	2.50	10.00	0	98.8	70	130				
Aromatic Hydrocarbon (C12-C13)	9.82	2.50	10.00	0	98.2	70	130				
Surr: 2,5-dibromotoluene	2.67		2.500		107	60	140				

Sample ID: MB-44567	SampType: MBLK	Units: mg/Kg				Prep Date: 7/18/2024	RunNo: 93241				
Client ID: MBLKS	Batch ID: 44567					Analysis Date: 7/18/2024	SeqNo: 1946123				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	0.681	2.50		0	0						J
Aliphatic Hydrocarbon (C6-C8)	1.59	2.50		0	0						J
Aliphatic Hydrocarbon (C8-C10)	2.09	2.50		0	0						J
Aliphatic Hydrocarbon (C10-C12)	ND	2.50		0	0						J
Aromatic Hydrocarbon (C8-C10)	1.03	2.50		0	0						J
Aromatic Hydrocarbon (C10-C12)	1.41	2.50		0	0						J
Aromatic Hydrocarbon (C12-C13)	ND	2.50		0	0						J
Surr: 2,5-dibromotoluene	2.44		2.500		97.5	60	140				

Sample ID: LCSD-44567	SampType: LCSD	Units: mg/Kg				Prep Date: 7/18/2024	RunNo: 93241				
Client ID: LCSS02	Batch ID: 44567					Analysis Date: 7/19/2024	SeqNo: 1946141				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	21.7	2.50	20.00	0	108	70	130	20.43	5.84	20	
Aliphatic Hydrocarbon (C6-C8)	11.4	2.50	10.00	0	114	70	130	8.482	29.7	20	
Aliphatic Hydrocarbon (C8-C10)	9.28	2.50	10.00	0	92.8	70	130	9.958	7.07	20	
Aliphatic Hydrocarbon (C10-C12)	10.7	2.50	10.00	0	107	70	130	11.31	5.99	20	
Aromatic Hydrocarbon (C8-C10)	51.8	2.50	50.00	0	104	70	130	47.56	8.44	20	

Work Order: 2407265
CLIENT: Apex Laboratories
Project: A4G1180

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: LCSD-44567	SampType: LCSD	Units: mg/Kg	Prep Date: 7/18/2024	RunNo: 93241							
Client ID: LCSS02	Batch ID: 44567		Analysis Date: 7/19/2024	SeqNo: 1946141							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aromatic Hydrocarbon (C10-C12)	10.0	2.50	10.00	0	100	70	130	9.876	1.68	20	
Aromatic Hydrocarbon (C12-C13)	9.89	2.50	10.00	0	98.9	70	130	9.815	0.754	20	
Surr: 2,5-dibromotoluene	2.46		2.500		98.5	60	140		0	0	

Work Order: 2407265
 CLIENT: Apex Laboratories
 Project: A4G1180

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: LCS-44568	SampType: LCS	Units: µg/L				Prep Date: 7/18/2024	RunNo: 93244				
Client ID: LCSW	Batch ID: 44568					Analysis Date: 7/18/2024	SeqNo: 1946223				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	409	50.0	400.0	0	102	70	130				
Aliphatic Hydrocarbon (C6-C8)	170	50.0	200.0	0	84.8	70	130				
Aliphatic Hydrocarbon (C8-C10)	199	50.0	200.0	0	99.6	70	130				
Aliphatic Hydrocarbon (C10-C12)	226	40.0	200.0	0	113	70	130				
Aromatic Hydrocarbon (C8-C10)	951	60.0	1,000	0	95.1	70	130				
Aromatic Hydrocarbon (C10-C12)	198	50.0	200.0	0	98.8	70	130				
Aromatic Hydrocarbon (C12-C13)	196	50.0	200.0	0	98.2	70	130				
Surr: 2,5-dibromotoluene	53.5		50.00		107	60	140				

Sample ID: MB-44568	SampType: MBLK	Units: µg/L				Prep Date: 7/18/2024	RunNo: 93244				
Client ID: MBLKW	Batch ID: 44568					Analysis Date: 7/18/2024	SeqNo: 1946221				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	ND	50.0		0	0						
Aliphatic Hydrocarbon (C6-C8)	31.7	50.0		0	0						J
Aliphatic Hydrocarbon (C8-C10)	41.8	50.0		0	0						J
Aliphatic Hydrocarbon (C10-C12)	ND	40.0		0	0						
Aromatic Hydrocarbon (C8-C10)	ND	60.0		0	0						
Aromatic Hydrocarbon (C10-C12)	28.3	50.0		0	0						J
Aromatic Hydrocarbon (C12-C13)	ND	50.0		0	0						
Surr: 2,5-dibromotoluene	48.7		50.00		97.5	60	140				

Sample ID: LCS-44568	SampType: LCS	Units: µg/L				Prep Date: 7/18/2024	RunNo: 93244				
Client ID: LCSW02	Batch ID: 44568					Analysis Date: 7/19/2024	SeqNo: 1946222				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C5-C6)	433	50.0	400.0	0	108	70	130	408.6	5.84	20	
Aliphatic Hydrocarbon (C6-C8)	229	50.0	200.0	0	114	70	130	169.6	29.7	20	
Aliphatic Hydrocarbon (C8-C10)	186	50.0	200.0	0	92.8	70	130	199.2	7.07	20	
Aliphatic Hydrocarbon (C10-C12)	213	40.0	200.0	0	107	70	130	226.3	5.99	20	
Aromatic Hydrocarbon (C8-C10)	1,040	60.0	1,000	0	104	70	130	951.2	8.44	20	

Work Order: 2407265
CLIENT: Apex Laboratories
Project: A4G1180

QC SUMMARY REPORT
Volatile Petroleum Hydrocarbons by NWVPH

Sample ID: LCSD-44568	SampType: LCSD	Units: µg/L	Prep Date: 7/18/2024	RunNo: 93244							
Client ID: LCSW02	Batch ID: 44568		Analysis Date: 7/19/2024	SeqNo: 1946222							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aromatic Hydrocarbon (C10-C12)	201	50.0	200.0	0	100	70	130	197.5	1.68	20	
Aromatic Hydrocarbon (C12-C13)	198	50.0	200.0	0	98.9	70	130	196.3	0.754	20	
Surr: 2,5-dibromotoluene	49.2		50.00		98.5	60	140		0	0	

&OLHQP 1\$3(; /RJJHG E\Morgan Wilson	:RUN 2UGHU Date Received: \$ 0
---	-----------------------------------

Chain of Custody

- 1. ,V &KDLQ RI &XVWRG\ FRPSOHWH" <HV 1R 1RW 3U /HQW
- 2. +RZ ZDV WKH VDP SOH GHOLYHUHG " 836

Log In

- 3. Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact) Yes No Not Present
- 4. :DV DQ DWWHPSW PDGH WR FRRO WKH VDP SOHV HV " 1R 1\$
- 5. Were all items received at a temperature of >2°C to 6°C * Yes No NA
- 6. Sample(s) in proper container(s)? Yes No
- 7. Sufficient sample volume for indicated test(s)? Yes No
- 8. \$UH VDP SOHV SURSHUO\ SUHVHUYHG " <HV 1R
- 9. :DV SUHVHUYDWLYH DGGHG WR ERWWOHV <HV 1R 1\$
- 10. ,V WKHUH KH DGV SDFH LQ WKH 92\$ YLDOV <HV 1R 1\$
- 11. 'LG DOO VDP SOHV FRQWDLQHUV DUULYH LQ HV RG FRRO WLRQ XQEURNHQ "
- 12. 'RHV SDSHUZRUN PDWFK ERWWOH ODEHOV <HV 1R
- 13. \$UH PDWULFHV FRUHFWO\ LGHQWLILHG RQ KDLQ RIR XVWRG\ "
- 14. ,V LW FOHDU ZKDW DQDO\VVH ZHUH UHTXHM HG " 1R
- 15. Were all hold times (except field parameters, pH e.g.) able to be met? Yes No

Special Handling (if applicable)

- 16. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

17. Additional remarks:

.WHP .QIRUPDWLRQ

Item #	Temp °C
Sample	2.3

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

SUBCONTRACT ORDER

Apex Laboratories

2407265

B 7/12/24

A4G1180

11A1B3

SENDING LABORATORY:

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

RECEIVING LABORATORY:

Alliance Technical Group
3600 Fremont Avenue N.
Seattle, WA 98103
Phone: (206) 352-3790
Fax: (206) 352-7178

Sample Name: B-20-10-12

Soil

Sampled: 07/12/24 12:38

(A4G1180-01)

Analysis	Due	Expires	Comments
NWTPH-EPH (Sub)	07/19/24 17:00	07/26/24 12:38	
NWTPH-VPH (Sub)	07/19/24 17:00	07/26/24 12:38	
<i>Containers Supplied:</i>			
(B)4 oz Glass Jar			
(G)40 mL VOA - 5035 (MeOH)			

Sample Name: B-20-10-12 DUP

Soil

Sampled: 07/12/24 12:38

(A4G1180-05)

Analysis	Due	Expires	Comments
NWTPH-EPH (Sub)	07/19/24 17:00	07/26/24 12:38	
NWTPH-VPH (Sub)	07/19/24 17:00	07/26/24 12:38	
<i>Containers Supplied:</i>			
(A)4 oz Glass Jar			
(B)40 mL VOA - 5035 (MeOH)			
(C)40 mL VOA - 5035 (MeOH)			

Sample Name: B-20

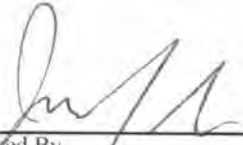
Water

Sampled: 07/12/24 13:38

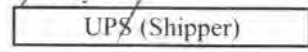
(A4G1180-06)

Analysis	Due	Expires	Comments
NWTPH-EPH (Sub)	07/19/24 17:00	07/26/24 13:38	Limited volume
NWTPH-VPH (Sub)	07/19/24 17:00	07/26/24 13:38	3/3 Voas have visible sediment
<i>Containers Supplied:</i>			
(D)40 mL VOA - HCL			
(E)40 mL VOA - HCL			
(F)40 mL VOA - HCL			
(I) 1 Amber Glass - HCL			

5 day TAT if possible

Released By:  Date: 7/15/24

Received By:  Date: 7/17 10:55 AM

Released By:  Date: _____

Received By: _____ Date: _____

UPS (Shipper)

UPS (Shipper)

SUBCONTRACT ORDER

2407265

Apex Laboratories

OB 7/12/24 A4G1180

WAS

Sample Name: B-20 DUP


Water


Sampled: 07/12/24 13:38

(A4G1180-10)

Analysis	Due	Expires	Comments
NWTPH-EPH (Sub)	07/19/24 17:00	07/26/24 13:38	Limited volume
NWTPH-VPH (Sub)	07/19/24 17:00	07/26/24 13:38	3/3 Voas have visible sediment
<i>Containers Supplied:</i>			
(A) 40 mL VOA - HCL			
(B) 40 mL VOA - HCL			
(C) 40 mL VOA - HCL			
(D) 1 L Amber Glass - HCL			

5 day TAT if possible

Released By  Date 7/15/24

Received By  Date 7/17 10:55 AM

Released By UPS (Shipper) Date

Received By UPS (Shipper) Date

PRECISION PETROLEUM LABS, INC.

CERTIFICATE OF ANALYSIS

LABORATORY ADDRESS 5915 Star Lane, Houston, TX 77057 Ph. 713-680-9425 Fax: 713-680-9564 Website: precisionlabs.org	Client Name: Apex Laboratories Street Address: 6700 SW Sandburg St City, State, Zip: Tigard, OR 97223
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INVOICE No.:	103404	DATE/TIME COLLECTED:	07/12/2024 @12:38
LAB REFERENCE No.:	2024-07-289	MATRIX TYPE:	Solid
AUTHORIZED BY:	Cameron O'Brien	SAMPLE TYPE:	Bulk
PRODUCT ID:	(A4G1180-01) B-20-10-12		
DATE RECEIVED:	07/17/2024		

GAS CHROMATOGRAPHY, WT%

TEST RESULT

C-1 TO C-4 (Methane to Butanes)	< 0.01
C-5 (Pentanes)	< 0.01
C-6 (Hexanes)	< 0.01
C-7 (Heptanes)	< 0.01
C-8 (Octanes)	< 0.01
C-9 (Nonanes)	< 0.01
C-10 (Decanes)	< 0.01
C-11 (Undecanes)	< 0.01
C-12 (Dodecanes)	< 0.01
C-13 (Tridecanes)	< 0.01
C-14 (Tetradecanes)	< 0.01
C-15 (Pentadecanes)	< 0.01
C-16 (Hexadecanes)	< 0.01
C-17 (Heptadecanes)	< 0.01
C-18 (Octadecanes)	< 0.01
C-19 (Nonadecanes)	< 0.01
C-20 (Eicosanes)	< 0.01
C-21 (Heneicosanes)	< 0.01
C-22 (Docosanes)	< 0.01
C-23 (Tricosanes)	< 0.01
C-24 (Tetracosanes)	< 0.01
C-25 (Pentacosane)	< 0.01
C-26 (Hexacosane)	< 0.01
C-27 (Heptacosanes)	< 0.01
C-28 (Octacosanes)	< 0.01
C-29 (Nonacosanes)	< 0.01
C-30 (Triacontanes)	< 0.01

Daniel Zabihi
QA Manager

Date: 07/19/2024



PRIMARY ACCREDITATION TCEQ, #T104704203-23-17
ARIZONA LICENSE # AZ0630

QUALIFIERS & ABBREVIATIONS: BRL - Below Reporting Limit; SCL - Test performed by an approved subcontract laboratory; B - Analyte was detected in the associated method blank; Matrix spike/matrix spike duplicate (M), Laboratory control sample (L), Calibration criteria (C), and Surrogate (S) recoveries were outside acceptance limits. Test deviation applied to Method 8260 (VOCS). Sample date analyzed for each test is available upon request. *Not on laboratory's field of accreditation.

COMMENTS: This certificate is Confidential Business Information and will only be provided to designated customer point-of-contact(s). Other production of this report requires prior authorization from the customer. There were no quality assurance anomalies associated with these tests.

PRECISION PETROLEUM LABS, INC.'S RESPONSIBILITY FOR THE ABOVE ANALYSIS, OPINIONS OR INTERPRETATIONS IS LIMITED TO THE INVOICE AMOUNT. RESULTS ARE REPORTED ON AN "AS IS" BASIS, UNLESS OTHERWISE NOTED. THE TEST RESULTS RELATE ONLY TO THE SUBMITTED SAMPLE IDENTIFIED ON THIS REPORT. TEST RESULTS MEET ALL REQUIREMENTS OF NELAC FOR TESTS LISTED ON THE LABORATORY'S CURRENT FIELDS OF ACCREDITATION (EPA 1010, 6010, 8082, 8260, and 9075).

PRECISION PETROLEUM LABS, INC.

CERTIFICATE OF ANALYSIS

LABORATORY ADDRESS 5915 Star Lane, Houston, TX 77057 Ph. 713-680-9425 Fax: 713-680-9564 Website: precisionlabs.org	Client Name: Apex Laboratories Street Address: 6700 SW Sandburg St City, State, Zip: Tigard, OR 97223
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INVOICE No.:	103404	DATE/TIME COLLECTED:	07/12/2024 @13:38
LAB REFERENCE No.:	2024-07-290	MATRIX TYPE:	Solid
AUTHORIZED BY:	Cameron O'Brien	SAMPLE TYPE:	Bulk
PRODUCT ID:	(A4G1180-06) B-20		
DATE RECEIVED:	07/17/2024		

GAS CHROMATOGRAPHY, WT%

TEST RESULT

C-1 TO C-4 (Methane to Butanes)	< 0.01
C-5 (Pentanes)	< 0.01
C-6 (Hexanes)	< 0.01
C-7 (Heptanes)	< 0.01
C-8 (Octanes)	< 0.01
C-9 (Nonanes)	< 0.01
C-10 (Decanes)	< 0.01
C-11 (Undecanes)	< 0.01
C-12 (Dodecanes)	< 0.01
C-13 (Tridecanes)	< 0.01
C-14 (Tetradecanes)	< 0.01
C-15 (Pentadecanes)	< 0.01
C-16 (Hexadecanes)	< 0.01
C-17 (Heptadecanes)	< 0.01
C-18 (Octadecanes)	< 0.01
C-19 (Nonadecanes)	< 0.01
C-20 (Eicosanes)	< 0.01
C-21 (Heneicosanes)	< 0.01
C-22 (Docosanes)	< 0.01
C-23 (Tricosanes)	< 0.01
C-24 (Tetracosanes)	< 0.01
C-25 (Pentacosane)	< 0.01
C-26 (Hexacosane)	< 0.01
C-27 (Heptacosanes)	< 0.01
C-28 (Octacosanes)	< 0.01
C-29 (Nonacosanes)	< 0.01
C-30 (Triacontanes)	< 0.01

Daniel Zabihi
QA Manager

Date: 07/19/2024



PRIMARY ACCREDITATION TCEQ, #T104704203-23-17
ARIZONA LICENSE # AZ0630

QUALIFIERS & ABBREVIATIONS: BRL - Below Reporting Limit; SCL - Test performed by an approved subcontract laboratory; B - Analyte was detected in the associated method blank; Matrix spike/matrix spike duplicate (M), Laboratory control sample (L), Calibration criteria (C), and Surrogate (S) recoveries were outside acceptance limits. Test deviation applied to Method 8260 (VOCS). Sample date analyzed for each test is available upon request. *Not on laboratory's field of accreditation.

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PRECISION PETROLEUM LABS, INC.'S RESPONSIBILITY FOR THE ABOVE ANALYSIS, OPINIONS OR INTERPRETATIONS IS LIMITED TO THE INVOICE AMOUNT. RESULTS ARE REPORTED ON AN "AS IS" BASIS, UNLESS OTHERWISE NOTED. THE TEST RESULTS RELATE ONLY TO THE SUBMITTED SAMPLE IDENTIFIED ON THIS REPORT. TEST RESULTS MEET ALL REQUIREMENTS OF NELAC FOR TESTS LISTED ON THE LABORATORY'S CURRENT FIELDS OF ACCREDITATION (EPA 1010, 6010, 8082, 8260, and 9075).

PRECISION PETROLEUM LABS, INC.

CERTIFICATE OF ANALYSIS

LABORATORY ADDRESS 5915 Star Lane, Houston, TX 77057 Ph. 713-680-9425 Fax: 713-680-9564 Website: precisionlabs.org	Client Name: Apex Laboratories Street Address: 6700 SW Sandburg St City, State, Zip: Tigard, OR 97223
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INVOICE No.:	103404	DATE/TIME COLLECTED:	07/12/2024 @13:38
LAB REFERENCE No.:	2024-07-290	MATRIX TYPE:	Solid
AUTHORIZED BY:	Cameron O'Brien	SAMPLE TYPE:	Bulk
PRODUCT ID:	(A4G1180-06) B-20		
DATE RECEIVED:	07/17/2024		

GAS CHROMATOGRAPHY, WT%

TEST RESULT

C-31 (Hentriacontanes)	< 0.01
C-32 (Dotriacontanes)	< 0.01
C-33 (Tritriacontanes)	< 0.01
C-34 (Tetratriacontanes)	< 0.01
C-35 (Pentatriacontanes)	< 0.01
C-36 (Hexatriacontanes)	< 0.01
C-37 (Heptatriacontanes)	< 0.01
C-38 (Octatriacontanes)	< 0.01
C-39 (Nonatriacontanes)	< 0.01
C-40 (Tetracontanes)	< 0.01
C-41 (Hentetracontane)	< 0.01
C-42 (Dotetracontane)	< 0.01
C-43 (Triatetracontane)	< 0.01
C-44 (Tetratetracontane)	< 0.01
C-45 (Pentatetracontane)	< 0.01
C-46 (Hexatetracontane)	< 0.01
C-47 (Heptatetracontane)	< 0.01
C-48 (Octatetracontane)	< 0.01
C-49 (Nonatetracontane)	< 0.01
C-50 (Pentacontane)	< 0.01
>C-50 (Pentacontane)	< 0.01

Daniel Zabihi
QA Manager

Date: 07/19/2024



PRIMARY ACCREDITATION TCEQ, #T104704203-23-17
ARIZONA LICENSE # AZ0630

QUALIFIERS & ABBREVIATIONS: BRL - Below Reporting Limit; SCL - Test performed by an approved subcontract laboratory; B - Analyte was detected in the associated method blank; Matrix spike/matrix spike duplicate (M), Laboratory control sample (L), Calibration criteria (C), and Surrogate (S) recoveries were outside acceptance limits. Test deviation applied to Method 8260 (VOCS). Sample date analyzed for each test is available upon request. *Not on laboratory's field of accreditation.

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Appendix D
Soil Disposal Tickets

WASCO COUNTY LANDFILL

2550 Steele Road

The Dalles, OR 97058

684

TRICTER RIG

WILSONVILLE, OR 97070

Ticket: 463942

Date In: 3/29/2023

Time In: 07:28:26

Date Out: 3/29/2023

Time Out: 07:59:37

Ref: MCDE 864

Description

Scale 3 Gross Weight:	98520	Vehicle:	WC-23-34
Scale 7 Tare Weight:	42080	Roll- Off:	
Net Weight:	56440	Tons:	28.22

PETR CONT SOIL - OUT

PETR CONT SOIL - OUT

OPERATOR: BLWEST

PO:

TRAILER:

DRIVER: MCDE 864

BY SIGNING THIS, I CERTIFY THAT THIS DISPOSAL MATERIAL
ORIGINATED IN THE COUNTY/STATE AS STATED ABOVE. I ALSO
CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THIS LOAD
CONTAINS NO HAZARDOUS WASTE. ****OFFICE PH# (541)296-4082****

Signature: _____

WASCO COUNTY LANDFILL

2550 Steele Road

The Dalles, OR 97058

684

TRICTER RIG

WILSONVILLE, OR 97070

Ticket: 463943

Date In: 3/29/2023

Time In: 07:29:27

Date Out: 3/29/2023

Time Out: 08:00:36

Ref: MCDE 857

Description

Scale 3 Gross Weight:	103280	Vehicle:	WC-23-34
Scale 7 Tare Weight:	41360	Roll- Off:	
Net Weight:	61920	Tons:	30.96

PETR CONT SOIL - OUT

PETR CONT SOIL - OUT

OPERATOR: BLWEST

PO:

TRAILER:

DRIVER: MCDE 857

BY SIGNING THIS, I CERTIFY THAT THIS DISPOSAL MATERIAL
ORIGINATED IN THE COUNTY/STATE AS STATED ABOVE. I ALSO
CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THIS LOAD
CONTAINS NO HAZARDOUS WASTE. **OFFICE PH# (541)296-4082**

Signature: _____

WASCO COUNTY LANDFILL

2550 Steele Road

The Dalles, OR 97058

684

TRICTER RIG

WILSONVILLE, OR 97070

Ticket: 464032

Date In: 3/29/2023

Time In: 12:17:00

Date Out: 3/29/2023

Time Out: 12:39:43

Ref: MCDE 865

Description

Scale 3 Gross Weight:	106100	Vehicle:	WC-23-34
Scale 7 Tare Weight:	42200	Roll- Off:	
Net Weight:	63900	Tons:	31.95

PETR CONT SOIL - OUT

PETR CONT SOIL - OUT

OPERATOR: BLWEST

PO:

TRAILER:

DRIVER: MCDE 865

BY SIGNING THIS, I CERTIFY THAT THIS DISPOSAL MATERIAL
ORIGINATED IN THE COUNTY/STATE AS STATED ABOVE. I ALSO
CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THIS LOAD
CONTAINS NO HAZARDOUS WASTE. **OFFICE PH# (541)296-4082**

Signature: _____

WASCO COUNTY LANDFILL

2550 Steele Road

The Dalles, OR 97058

684

TRICTER RIG

WILSONVILLE, OR 97070

Ticket: 464113

Date In: 3/30/2023

Time In: 07:48:17

Date Out: 3/30/2023

Time Out: 08:16:04

Ref: MCDE 864

Description

Scale 3 Gross Weight:	101100	Vehicle:	WC-23-34
Scale 7 Tare Weight:	41900	Roll- Off:	
Net Weight:	59200	Tons:	29.60

PETR CONT SOIL - OUT

PETR CONT SOIL - OUT

OPERATOR: LINDAM

PO:

TRAILER:

DRIVER: MCDE 864

BY SIGNING THIS, I CERTIFY THAT THIS DISPOSAL MATERIAL
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CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THIS LOAD
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Signature: _____

WASCO COUNTY LANDFILL

2550 Steele Road

The Dalles, OR 97058

684

TRICTER RIG

WILSONVILLE, OR 97070

Ticket: 464269

Date In: 3/31/2023

Time In: 07:45:59

Date Out: 3/31/2023

Time Out: 08:12:39

Ref: MCDE 865

Description

Scale 3 Gross Weight:	103120	Vehicle:	WC-23-34
Scale 7 Tare Weight:	41940	Roll- Off:	
Net Weight:	61180	Tons:	30.59

PETR CONT SOIL - OUT

PETR CONT SOIL - OUT

OPERATOR: SBEAVER

PO:

TRAILER:

DRIVER: MCDE 865

BY SIGNING THIS, I CERTIFY THAT THIS DISPOSAL MATERIAL
ORIGINATED IN THE COUNTY/STATE AS STATED ABOVE. I ALSO
CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THIS LOAD
CONTAINS NO HAZARDOUS WASTE. **OFFICE PH# (541)296-4082**

Signature: _____

WASCO COUNTY LANDFILL

2550 Steele Road

The Dalles, OR 97058

684

TRICTER RIG

WILSONVILLE, OR 97070

Ticket: 464287

Date In: 3/31/2023

Time In: 08:58:24

Date Out: 3/31/2023

Time Out: 08:58:24

Ref: MCDE 864

Description

Scale Gross Weight:	101420	Vehicle:	WC-23-34
Scale 7 Tare Weight:	41800	Roll- Off:	
Net Weight:	59620	Tons:	29.81

PETR CONT SOIL - OUT

PETR CONT SOIL - OUT

OPERATOR: SBEAVER

PO:

TRAILER:

DRIVER: MCDE 864

BY SIGNING THIS, I CERTIFY THAT THIS DISPOSAL MATERIAL
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CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THIS LOAD
CONTAINS NO HAZARDOUS WASTE. **OFFICE PH# (541)296-4082**

Signature: _____

WASCO COUNTY LANDFILL

2550 Steele Road

The Dalles, OR 97058

684

TRICTER RIG

WILSONVILLE, OR 97070

Ticket: 464631

Date In: 4/4/2023

Time In: 10:01:42

Date Out: 4/4/2023

Time Out: 10:21:44

Ref: 857 MCDE

Description

Scale 3 Gross Weight:	59260	Vehicle:	WC-23-34
Scale 7 Tare Weight:	41180	Roll- Off:	
Net Weight:	18080	Tons:	9.04

PETR CONT SOIL - OUT

PETR CONT SOIL - OUT

OPERATOR: LINDAM

PO:

TRAILER:

DRIVER: MCDE 857

BY SIGNING THIS, I CERTIFY THAT THIS DISPOSAL MATERIAL
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CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THIS LOAD
CONTAINS NO HAZARDOUS WASTE. **OFFICE PH# (541)296-4082**

Signature: _____

WASCO COUNTY LANDFILL

2550 Steele Road

The Dalles, OR 97058

684

TRICTER RIG

WILSONVILLE, OR 97070

Ticket: 465480

Date In: 4/11/2023

Time In: 10:29:55

Date Out: 4/11/2023

Time Out: 10:58:36

Ref: 608 HINES

Description

Scale 3 Gross Weight:

34060

Vehicle: WC-23-34

Scale 7 Tare Weight:

24920

Roll- Off:

Net Weight:

9140

Tons: 4.57

PETR CONT SOIL - OUT

PETR CONT SOIL - OUT

OPERATOR: LINDAM

PO:

TRAILER:

DRIVER: DON HINES 608

BY SIGNING THIS, I CERTIFY THAT THIS DISPOSAL MATERIAL
ORIGINATED IN THE COUNTY/STATE AS STATED ABOVE. I ALSO
CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THIS LOAD
CONTAINS NO HAZARDOUS WASTE. **OFFICE PH# (541)296-4082**

Signature: _____

Appendix E
Water Disposal Records

Friday, May 12, 2023



Plant Receiving Manifest

Profile #: 562446 **Manifest ID:** 148070
Generator Name: DSV Road North America **Address:** 110 North Marine Dr.
 Portland, OR, 97217

Wash out?: No **Same as Transporter?:** No

Billing Firm: Tricter Rig

Transportation Company: Patriot Environmental

Waste Description (choose one): Storm Water **Unit:** Gallons

Gallons: 2241 **Solids?:** No

Color: Brown **Total Weight (lbs):** 0

Odor: Mild **pH:** 8

Liquid Phase: 95 **Sludge/Solids:** 5

Total Gallons: 2128.95 **Total Solids (Tons):** 0.62

Method of Shipment: Tanker **Weight Ticket:** Manifest...pdf

Does This Manifest Need a Change Order?: No

Technician: Johnson Hooks **Driver Name:** Charlie Culpepper


Date: Friday, May 12, 2023 **Truck License #:** P-09

Acceptance: Approved

Time: 10:37 AM

Thursday, April 13, 2023

Patriot Plant Receiving Manifest
Environmental Services

Profile #: 562446 **Manifest ID:** 147495
Generator Name: DSV Road North America **Address:** 110 North Marine Dr.
Portland, OR, 97217
Wash out?: No **Same as Transporter?:** No
Billing Firm: Tricter Rig
Transportation Company: Patriot Environmental
Waste Description (choose one): Storm Water **Unit:** Gallons
Gallons: 5966 **Solids?:** No
Color: Opaque Clear **Total Weight (lbs):** 0
Odor: Mild **pH:** 9
Liquid Phase: 95 **Sludge/Solids:** 5
Total Gallons: 5667.70 **Total Solids (Tons):** 1.64
Method of Shipment: Tanker **Weight Ticket:**  Manifes... .pdf
Does This Manifest Need a Change Order?: No
Technician: Johnson Hooks **Driver Name:** Charlie Culpepper
Date: Thursday, April 13, 2023 **Truck License #:** P-09
Acceptance: Approved
Time: 3:05 PM

Friday, April 14, 2023

Patriot Plant Receiving Manifest
Environmental Services

Profile #: 562446

Manifest ID

147505

Generator Name: DSV Road North America

Address:

110 N Marine Dr
Portland, OR, 97217

Wash out?: No

Same as
Transporter?

No

Billing Firm: Tricter Rig

Transportation Company:

Patriot Environmental

Waste Description
(choose one):

Unit:

Gallons: 6000

Solids?:

No

Color: Clear

Total Weight (lbs): 0

Odor

pH: 7

Liquid Phase: 100

Sludge/Solids: 0

Total Gallons: 6000

Total Solids (Tons): 0

Method of
Shipment:

Weight Ticket:



Manifes... .pdf

Does This Manifest Need a Change
Order?:

No

Technician: Rob Webb

Driver Name:

Charlie Culpepper

Date: Friday, April 14, 2023

Truck License #:

P-9

Acceptance:

Time

10:07 AM

Friday, April 14, 2023

Patriot Plant Receiving Manifest

Environmental Services

Profile #: 562446 **Manifest ID:** 147515
Generator Name: DSV Road North America **Address:** 110 North Marine Dr.
Portland, OR, 97217

Wash out?: No **Same as Transporter?:** No

Billing Firm: Tricter Rig

Transportation Company: Patriot Environmental

Waste Description (choose one): Storm Water **Unit:** Gallons

Gallons: 5908 **Solids?:** No

Color: Clear **Total Weight (lbs):** 0

Odor: Mild **pH:** 8

Liquid Phase: 95 **Sludge/Solids:** 5

Total Gallons: 5612.60 **Total Solids (Tons):** 1.62

Method of Shipment: Tanker **Weight Ticket:**  Manifes... .pdf

Does This Manifest Need a Change Order?: No

Technician: Johnson Hooks **Driver Name:** Charlie Culpepper

Date: Friday, April 14, 2023 **Truck License #:** P-09

Acceptance: Approved

Time: 12:18 PM

Appendix K:

Water Disposal, City of Portland Permit

PERMIT #: 2023-010

EXPIRATION DATE:

6/10/2023

CITY OF PORTLAND
DEWATERING DISCHARGE PERMIT

Table with 2 columns: Field Name and Value. Fields include Issued For, Discharge Permit Number, Building Permit #/Project #, Effective Date, and Expiration Date.

The Permittee/Responsible Party:

Table with 4 columns: Field Name, Value, Field Name, Value. Fields include Contact Name, Company Name, Company Address, City, State Zip, Telephone, Mobile Phone, and Email Address.

Site Information:

Table with 4 columns: Field Name, Value, Field Name, Value. Fields include Project Name, Site Contact Name, Company Name, Site Address, City, State Zip, Telephone, Mobile Phone, and Email Address.

Permitted Activities

The permittee is authorized to discharge impounded stormwater and groundwater to the City of Portland's sanitary sewer system, in compliance with Chapter 17 of the City Code, the Bureau of Environmental Services Administrative Rules and any applicable provisions of federal or state laws or regulations and in accordance with discharge point(s), effluent limitations, monitoring requirements, and all other conditions set forth in the attachments to this permit.

It is the permittee's duty to comply with all conditions of this permit. Any noncompliance with permit requirements constitutes a violation of Chapter 17 of Portland's City Code and, as such, subjects the permittee to enforcement action(s).

Katrina Dorsey, Industrial Permitting Section Manager

Handwritten signature of Katrina Dorsey

Ph: 503-823-5600 Fax: 503-823-5656 www.portlandoregon.gov/bes Using recycled paper An Equal Opportunity Employer

The Bureau of Environmental Services is committed to providing meaningful access. For accommodations, modifications, translation, interpretation or other services, please call 503-823-7740, or use City TTY 503-823-6868, or Oregon Relay Service 711.

Table with 4 columns: Language/Script and Translation/Service. Includes Spanish, Vietnamese, Chinese, and Arabic with corresponding translation services.

503-823-7740

**Attachment A
DISCHARGE LIMITATIONS**

Listed below are the discharge limitations not to be exceeded. Applicable regulations include Chapters 17.34, 17.36 and 17.39 of the Code of the City of Portland. The permittee must comply with these limitations at the point of discharge to the City collection system, AAC137 (see Attachment E).

Pollutant Name	Local Limit (mg/L) Maximum Daily Limit
Metals	
Arsenic	0.20
Cadmium	0.70
Chromium	3.53
Copper	2.80
Lead	0.70
Mercury	0.010
Molybdenum	1.40
Nickel	2.80
Selenium	0.60
Silver	0.40
Zinc	3.70
Non-Metals (Inorganics)	
Cyanide	1.20
Nonpolar Oil & Grease	100
pH (see note 2)	5.0-11.5 s.u.
Non-Metals (Organics)	
1,2-Dichloroethane	0.50
2,4-Dinitrotoluene	0.13
Acrylonitrile	1.00
Chlordane	0.03
Chlorobenzene	0.20
Chloroform	0.20
Nitrobenzene	2.00
Pentachlorophenol	0.04
Trichloroethylene	0.20

Wastewater Discharge Limitations, Notes:

1. In addition to the limits stated in Attachment A, the permittee shall comply with all other applicable City, State and Federal regulations.
2. pH is an instantaneous limitation.
3. The City has Pollutant Prohibitions for certain individual organic compounds that are not amenable to biological treatment or that have a screening value or local limit that is less than the practical method detection level (MDL). Discharges containing concentrations of a prohibited pollutant above the MDL, as listed in the table below, is a violation of City Code and this permit.

PERMIT #: 2023-010

EXPIRATION DATE: 6/10/2023

Pollutant Prohibitions	Limit (mg/L)	Pollutant Prohibitions	Limit (mg/L)
Volatiles		Pesticides	
Bromodichloromethane	0.0025	4,4-DDD (p,p-TDE)	0.0002
Bromoform	0.0025	4,4-DDE (p,p-DEX)	0.0002
Bromomethane	0.005	4,4-DDT	0.0002
1,1,1,2-Tetrachloroethane	0.0025	a-BHC (alpha)	0.0001
1,1,2-Trichloroethane	0.005	b-BHC (beta)	0.0002
1,1-Dichloroethene	0.005	d-BHC (delta)	0.0001
Chloroethane	0.050	Dieldrin	0.0002
Chloromethane	0.005	Endosulfan Sulfate	0.0002
Dibromochloromethane	0.0025	Endosulfan-I (alpha)	0.0002
Vinyl Chloride	0.0025	Endosulfan II (beta)	0.0002
Base/Neutral extractables		Endrin	0.0002
1,2,4-Trichlorobenzene	0.005	Endrin Aldehyde	0.0005
1,2-Dichlorobenzene	0.005	g-BHC (gamma) (Lindane)	0.001
1,2-Diphenylhydrazine	0.0025	Heptachlor	0.0001
1,3-Dichlorobenzene	0.0025	Heptachlor Epoxide	0.0001
1,4-Dichlorobenzene	0.005	Toxaphene	0.0009
2,6-Dinitrotoluene	0.010	Polychlorinated biphenyls (PCBs)	
4-Bromophenyl-Phenyl Ether	0.010	PCB 1016	0.00025
Bis (2-Chloroethoxy)methane	0.010	PCB 1221	0.0005
Bis (2-Chloroisopropyl)ether	0.010	PCB 1232	0.00025
Hexachlorobenzene	0.010	PCB 1242	0.00025
Hexachlorobutadiene	0.010	PCB 1248	0.00025
Hexachlorocyclopentadiene	0.010	PCB 1254	0.00025
N-Nitroso-Di-N-Propylamine	0.010	PCB 1260	0.00025

**Attachment B
MONITORING AND REPORTING REQUIREMENTS**

The permittee shall monitor for pollutants and submit monitoring reports according to the following schedule:

Periodic Compliance Self-Monitoring Report, Schedule:

Sampling shall occur at the last discharge location prior to comingling with AAC137(see Attachment E).

Parameter	Sample Type	Monitoring Frequency	Due Dates
Metals			
Copper (total)	Grab	April & May	15 th of the following month
Zinc (total)			
Non-Metals (Inorganics)			
Oil & Grease (nonpolar)	Grab	April & May	15 th of the following month
pH	Grab	Monthly	15 th of the following month
Total Suspended Solids	Grab	Monthly	15 th of the following month
Others			
Discharge Volume (gals)	Calculated or Measured	Monthly	15 th of the following month
Max Flow Rate (gpm)			
Discharge Summary Report	N/A; Report	Once	Within 30 days after the permit expiration date

Periodic Compliance Self-Monitoring Report, Notes:

1. Periodic Compliance Reports are to be submitted to the Environmental Compliance Division by the 15th of the month following the conclusion of the reporting period. Sampling, analysis, and reporting will follow the schedule above.
2. Periodic Compliance Reports shall consist of:
 - a. Statement of compliance/noncompliance, signed by the officially designated contact person (statement is found on bottom of the self-monitoring report form).
 - b. Sample analysis results recorded on the appropriate self-monitoring report form and chain of custody for sample collected.
 - c. Originals of all laboratory analysis sheets showing who analyzed sample, date and time sample was analyzed, analytical methods used, method detection limit, test result, and quality assurance/quality control.
 - d. Copies of pH charts (if any) showing violations (if any).
 - e. The discharge volume and flow rate through the authorized discharge location during the report period.

PERMIT #: 2023-010

EXPIRATION DATE: 6/10/2023

3. All compliance samples will be collected after treatment at the designated sampling point/port(s) authorized by the City. The permittee shall install and maintain an apparatus from which samples will be taken. This sampling station must be readily accessible by City personnel.
4. All sampling and analytical methods used to meet the monitoring requirements specified in this permit shall, unless otherwise approved in writing by the City, conform to the Guidelines Establishing Test Procedures for the Analysis of Pollutants as specified in **40 CFR Part 136**. Laboratory quality assurance and quality control programs should be documented. EPA QA/QC programs should be followed.
5. The permittee shall analyze samples for all listed parameters plus any other which might be expected to be present in significant quantities.
6. The permittee shall submit all self-monitoring results to the Environmental Compliance Division as part of their monitoring and reporting requirements by the due date(s) listed in Attachment B.
7. All monitoring results are to be mailed to:

Water Pollution Control Lab
Attn: Batch Discharge Program
6543 N Burlington Ave
Portland, OR 97203
8. The City may reduce or increase the frequency of sampling, based on the analytical results submitted.
9. If there is no discharge from a sampling port in the entire reporting period, the permittee shall sign and submit a "no discharge certification" report in lieu of monitoring.

Attachment C
SPECIAL CONDITIONS

1. The permittee is authorized to discharge impounded stormwater and groundwater to the City of Portland sanitary sewer at a maximum flow rate of **50 gallons per minute (gpm)** at the authorized discharge location.
 - a. The discharge must not take place during a rain event in accordance with City of Portland's National Pollutant Discharge Elimination System Discharge Permit #101505 Schedule A(3)(C). A rain event is when measurable rainfall occurs in the area of the discharge location. A rain event is over when there has been no rain in the area for 8 consecutive hours.
 - b. The annual average storm peak flow is exceeded when 1 inch or more of rain in any 6-hour increment is received. The permittee must not discharge during when the annual average storm peak flow is exceeded or is likely to exceed.
2. The designated discharge location shall be the private sanitary line located on the property prior to the private lift station. The lift station pumps to the sanitary sewer manhole at AAC137 (see Attachment E).
3. The permittee is not authorized to begin discharging until a system for accurately measuring the discharge volume has been reviewed and approved by the City.
4. If the approved method of measure requires installation of a flow meter(s), it must meet the following conditions:
 - a. It is the responsibility of the permittee to provide and install a totalizing flow meter(s) to accurately determine daily flow measurements at the point(s) of discharge to the sewer system. The permittee must ensure that the equipment is properly calibrated, operated, and maintained according to the manufacturer's recommendations.
 - b. The permittee is not authorized to start discharging until a non-resettable, totalizing flow meter has been installed on all permitted discharge lines, the meter has been inspected by the City, and a starting read has been recorded.
5. Best management practices (i.e., filtering, settling, etc.) must be utilized and systems maintained to reduce solids entering the City's sanitary sewer system. Any material other than domestic waste larger than ¼" in any dimension are prohibited under 17.34.030(B)(7).
6. If treatment is required to be installed for the project, the permittee must operate and maintain all treatment systems according to the manufacturer's recommendations.

Attachment D
GENERAL CONDITIONS

1. Administrative review and appeal of permit or permit modification

Upon receipt of an industrial wastewater discharge permit or permit modification, a permittee may request administrative review of any of its terms or conditions in accordance with provisions established in PCC Chapter 17.34 and its associated administrative rules. The request must be made within 20 business days of receipt of the permit.

2. Authorized Discharge

All discharge and activities authorized herein shall be consistent with the terms and conditions of this permit, Chapter 17.34 of the City Code and the Administrative rules. The discharge of any pollutant in excess of these limits shall constitute a violation of the terms and conditions of this permit.

3. Cessation of Discharge

The permittee shall immediately cease all discharge activities if the discharge; causes an overflow or interference in the collection system, exceeds pollutant limitations, violates permit conditions, or presents a hazard to the general public. Upon ceasing all activities, the permittee must submit a written report to the City, detailing the circumstances of the event. The discharge shall not resume until the permittee receives written authorization from the City.

4. Enforcement Provision

A violation of any conditions, standards or requirements of this permit constitutes a violation of Chapter 17 of the City Code and any rules promulgated thereunder. Therefore, the City may seek any or all of the remedies or penalties provided for in Section 17 of the City Code, including recovery of costs incurred by the City, in response to the following:

- a. Any violation by the permittee of the provisions in this Industrial Wastewater Discharge Permit.
- b. Any violation by the permittee of the provisions of the City Code.

The range or severity of enforcement actions taken by the City against the permittee will be determined by, but not limited to, the nature, magnitude, duration, and frequency of the violation as provided by City Code and Administrative Rules.

5. Inspection and Entry

The permittee shall, at all reasonable times, allow authorized representatives of the City:

- a. To enter the permittee's premises where an effluent source or disposal system is located or where any records associated with this permit are kept.
- b. To have access to any required records and permission to copy these records. At no time can wastewater effluent data be claimed or held as confidential information.
- c. To inspect and evaluate any monitoring equipment or monitoring methods required by this permit.
- d. To sample any discharge to the sewer system.

6. Liability

The City of Portland, its officers, agents or employees shall not sustain any liability due to the issuance of this permit or the construction or maintenance of facilities resulting from this permit.

7. Property Rights or Privileges

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges; it does not authorize any injury to private property or any invasion of personal rights; and it does not authorize any infringements or federal, state, or local laws or regulations.

8. Records Retention

All records of monitoring activities and results, including all original strip chart recordings for continuous monitoring instrumentation (and calibration and maintenance records), shall be retained by the permittee for a minimum of three years. This retention period shall be extended during the course of any unresolved litigation pertaining to the discharge of pollutants by the permittee, or whenever it is requested by the City, the Approval Authority (DEQ), the Regional Administrator (EPA).

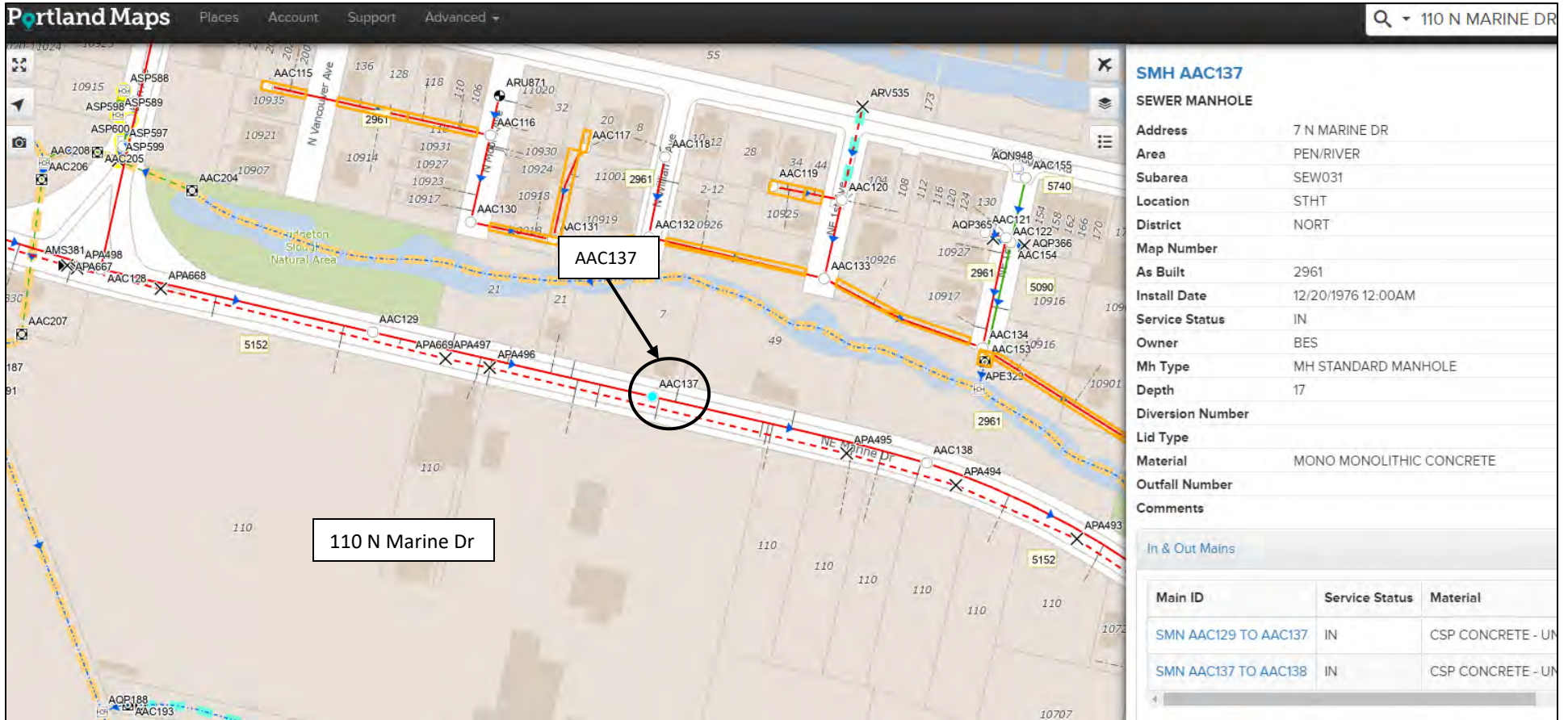
9. Severability

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to the other circumstances and the remainder of this permit shall not be affected.

Attachment E
 AUTHORIZED DISCHARGE LOCATION

AAC137 is the authorized discharge location of impounded stormwater and groundwater from dewatering operations.

<https://www.portlandmaps.com/>





**BATCH DISCHARGE/DEWATERING PROGRAM
WASTEWATER DISCHARGE
SELF-MONITORING REPORT**

INDUSTRY NAME:

PERMIT NUMBER:

SAMPLING EVENT: Apr/May discharge events

DUE DATE: The 15th of the following month

ECD Use Only	
Date Received/Postmarked	Date Entered/By whom
Comments: _____	

SAMPLE DATE	SAMPLE TIME	SAMPLE LOCATION	SAMPLE TYPE	DISCHARGE FLOW RATE (gpm)	DISCHARGE VOLUME (gals)
PARAMETER	ANALYSIS METHOD	RESULT (mg/L) ¹	DAILY MAX LIMIT (mg/L)	COMMENTS	
Copper			2.80		
Zinc			3.70		
Oil & Grease - nonpolar			100		
pH			<5 or >11.5 s.u.		
TSS			N/A - ESSC		

¹If the result is below the lab's reporting limit, write <MRL, e.g., <0.005 mg/L

NO DISCHARGE CERTIFICATION	
** Complete this portion only if <u>no discharges</u> of stormwater, groundwater, or process wastewater have occurred. **	
Initial Below:	Based on my inquiry of person or persons directly responsible for environmental compliance, I certify that, to the best of my knowledge and belief, no discharges of any regulated wastewaters have occurred during the reporting period.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name: _____ Signature: _____ Date: _____

INSTRUCTIONS

All self-monitoring reports (SMR) must include the following, if applicable, to be considered complete. If you have any questions, please contact your permit manager for assistance.

Self-Monitoring Report Check List:

- Chain of Custody form
- Analytical Results with Method Reporting Limits (MRL)
- QA/QC Results, if applicable
- Signed Signatory Certification Statement (Printed on bottom of SMR)
- Completed Self-Monitoring Report form
- Meter reads or method description for flow estimates
- If flow meter installed, attach photo of meter read

Whenever appropriate:

- Hand Composite Sample form
- Copies of pH charts showing the violation
- Any other required reports

To assure prompt delivery, mail all monitoring results to:

Water Pollution Control Lab
Attn: Batch Discharge Program
6543 N Burlington Ave
Portland, OR 97203-5452

In addition to the mailed report, you may email a copy to batchdischarge@portlandoregon.gov.



TECHNICAL MEMORANDUM

May 8, 2023

Prepared for: City of Portland Batch Discharge Group

Prepared by: Daniel Scarpine, PE - Aquarius Environmental, LLC

RE: Discharge Permit #2023-010

DSV Marine Drive

Flow Calculations and Self-Monitoring Report for April 2023

Initial Batch Discharge

Batch Discharge Permit #2023-010 was issued on Thursday 4/20/2023. As of Friday 4/21/2023, the site had two Baker Tanks ready for discharge with both at about 12” from full (105-inch depth, or approximately 19,400 gallons per a chart mounted on one of the tanks).

Discharge to the sanitary sewer was initiated from the first tank at approximately 10:05 a.m. on 4/21/2023 and a water quality sample was collected for laboratory analyses. A flowmeter from United Rentals had not yet been delivered at the time of initial discharge. Based on visual observations in the sanitary manhole, the flow was estimated at 20 – 35 gpm. Flow was stopped at approximately 4:00 p.m. on 4/21/2023 with the tank water surface now at the 73-inch depth (or approximately 13,100 gallons remaining). The estimated discharge from the first tank on 4/21/2023 was approximately 6,300 gallons (i.e., 19,400 gallons - 13,100 gallons).

Following the weekend, on Monday 4/24/2023, a rented flowmeter was installed and the discharge rate was observed to be about 35 – 38 gpm. The starting meter reading was “250092.” The tanks were allowed to discharge for 2 days. The meter reading on Wednesday, 4/26/2023 was “250226,” which is a difference of $134 \times 10 = 1,340$ gallons. This discharge reading was deemed inaccurate based on the measured total volume of water, approximately 38,800 gallons, in both tanks on 4/21/2023, but both tanks were drained to an “empty” level by 4/26/2023.

A new meter was installed on Friday, 4/28/2023, with a starting meter reading of “090193” and final meter reading for April of “090718,” for a total volume of $525 \times 10 = 5,250$ gallons.

Based on the flow meter issues and the observed full tanks, the quantity discharged during the period of 4/21 – 4/28 is estimated to be 38,800 gallons. The meter reading from 4/28 – 5/1 is 5,250 gallons. Thus, the total discharged volume during the April 2023 reporting period is the sum of the estimated discharge and the metered discharge:

$$38,800 \text{ gallons (estimated)} + 5,250 \text{ gallons (metered)} = \mathbf{44,050 \text{ gallons}}$$

The following are presented as attachments to this memo:

- Photos of the initial and final readings of the flow meter for April 2023.
- April 2023 Self-Monitoring Report with signed Signatory Certification Statement.
- Laboratory Analytical Report, including Chain of Custody and Quality Control Results.

If you have any questions about this report, you can contact me at 503.828.0246 or daniels@aquariusenv.com.

Sincerely,



Daniel A. Scarpine, PE
Principal



Figure 1. Initial flow meter reading: 090193.



Figure 2. Final flow meter reading: 090718.



ANALYTICAL REPORT

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

Friday, May 5, 2023
Daniel Scarpine
Aquarius Environmental LLC
2117 NE Oregon St, Suite 502
Portland, OR 97232

RE: A3D1497 - DSV Dewatering - [none]

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A3D1497, which was received by the laboratory on 4/21/2023 at 5:53:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: cobrien@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Default Cooler 4.4 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

<u>Aquarius Environmental LLC</u> 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: <u>DSV Dewatering</u> Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3D1497 - 05 05 23 1553
---	--	--

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
001	A3D1497-01	Water	04/21/23 10:43	04/21/23 17:53

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

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<u>Aquarius Environmental LLC</u> 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3D1497 - 05 05 23 1553
---	---	---

ANALYTICAL REPORT FOR SAMPLES

FIELD DATA (Provided by Sampler)

Lab Number	Sample Name	<u>Conductivity</u>	<u>pH</u>	<u>@Temp(C)</u>	<u>Flow</u> (gal/min)	<u>Residual Cl</u> (mg/L)	<u>Turbidity</u> (NTU)
A3D1497-01	001	----	8.38	---	---	---	---

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Cameron O'Brien, Project Manager



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<u>Aquarius Environmental LLC</u> 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3D1497 - 05 05 23 1553
---	--	---

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
001 (A3D1497-01)				Matrix: Water				
Batch: 23E0139								
Copper	0.00757	---	0.00200	mg/L	1	05/03/23 16:14	EPA 200.8	
Zinc	0.0303	---	0.00400	mg/L	1	05/03/23 16:14	EPA 200.8	

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Cameron O'Brien, Project Manager



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<u>Aquarius Environmental LLC</u> 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3D1497 - 05 05 23 1553
---	--	--

ANALYTICAL SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664B

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
001 (A3D1497-01)				Matrix: Water		Batch: 23E0064		
HEM (Oil and Grease)	10.1	---	5.00	mg/L	1	05/03/23 10:45	EPA 1664B	
SGT-HEM (Non-polar Material)	7.50	---	5.00	mg/L	1	05/03/23 15:46	EPA 1664B (SGT)	

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Cameron O'Brien, Project Manager



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<u>Aquarius Environmental LLC</u> 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3D1497 - 05 05 23 1553
---	--	--

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
001 (A3D1497-01)				Matrix: Water				
<u>Batch: 23D1105</u>								
Total Suspended Solids	5.00	---	5.00	mg/L	1	04/27/23 13:25	SM 2540 D	EST_s

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Cameron O'Brien, Project Manager



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ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3D1497 - 05 05 23 1553
---	---	--

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23E0139 - EPA 3015A						Water						
Blank (23E0139-BLK1)		Prepared: 05/03/23 08:21		Analyzed: 05/03/23 15:25								
<u>EPA 200.8</u>												
Copper	ND	---	0.00200	mg/L	1	---	---	---	---	---	---	---
Zinc	ND	---	0.00400	mg/L	1	---	---	---	---	---	---	---
LCS (23E0139-BS1)						Prepared: 05/03/23 08:21 Analyzed: 05/03/23 15:30						
<u>EPA 200.8</u>												
Copper	0.0566	---	0.00200	mg/L	1	0.0556	---	102	85 - 115%	---	---	---
Zinc	0.0588	---	0.00400	mg/L	1	0.0556	---	106	85 - 115%	---	---	---
Matrix Spike (23E0139-MS2)						Prepared: 05/03/23 08:21 Analyzed: 05/03/23 16:19						
<u>QC Source Sample: 001 (A3D1497-01)</u>												
<u>EPA 200.8</u>												
Copper	0.0636	---	0.00200	mg/L	1	0.0556	0.00757	101	70 - 130%	---	---	---
Zinc	0.0837	---	0.00400	mg/L	1	0.0556	0.0303	96	70 - 130%	---	---	---

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Cameron O'Brien, Project Manager



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503-718-2323
ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3D1497 - 05 05 23 1553
---	---	--

QUALITY CONTROL (QC) SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	% REC Limits	RPD RPD	RPD Limit	Notes
Batch 23E0064 - EPA 1664B - 2022						Water						
Blank (23E0064-BLK1)												
Prepared: 05/02/23 06:54 Analyzed: 05/03/23 10:45												
EPA 1664B												
HEM (Oil and Grease)	ND	---	5.00	mg/L	1	---	---	---	---	---	---	---
Blank (23E0064-BLK2)												
Prepared: 05/03/23 10:43 Analyzed: 05/03/23 15:46												
EPA 1664B (SGT)												
SGT-HEM (Non-polar Material)	ND	---	5.00	mg/L	1	---	---	---	---	---	---	---
LCS (23E0064-BS1)												
Prepared: 05/02/23 06:54 Analyzed: 05/03/23 10:45												
EPA 1664B												
HEM (Oil and Grease)	37.3	---		mg/L	1	40.0	---	93	78 - 114%	---	---	
LCS (23E0064-BS2)												
Prepared: 05/03/23 10:43 Analyzed: 05/03/23 15:46												
EPA 1664B (SGT)												
SGT-HEM (Non-polar Material)	16.1	---		mg/L	1	20.0	---	80	64 - 132%	---	---	
LCS Dup (23E0064-BSD1)												
Prepared: 05/02/23 06:54 Analyzed: 05/03/23 10:45												
EPA 1664B												
HEM (Oil and Grease)	36.6	---		mg/L	1	40.0	---	92	78 - 114%	2	18%	
LCS Dup (23E0064-BSD2)												
Prepared: 05/03/23 10:43 Analyzed: 05/03/23 15:46												
EPA 1664B (SGT)												
SGT-HEM (Non-polar Material)	15.8	---		mg/L	1	20.0	---	79	64 - 132%	2	34%	

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---	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23D1105 - Total Suspended Solids - 2022						Water						
Blank (23D1105-BLK1)		Prepared: 04/27/23 13:25 Analyzed: 04/27/23 13:25										
<u>SM 2540 D</u>												
Total Suspended Solids	ND	---	5.00	mg/L	1	---	---	---	---	---	---	
Reference (23D1105-SRM1)		Prepared: 04/27/23 13:25 Analyzed: 04/27/23 13:25										
<u>SM 2540 D</u>												
Total Suspended Solids	913	---		mg/L	1	926		98.6	85 - 116%	---	---	

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3D1497 - 05 05 23 1553
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SAMPLE PREPARATION INFORMATION

Total Metals by EPA 200.8 (ICPMS)

Prep: EPA 3015A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23E0139</u>							
A3D1497-01	Water	EPA 200.8	04/21/23 10:43	05/03/23 08:21	45mL/50mL	45mL/50mL	1.00

HEM (Oil and Grease) and SGT-HEM by EPA 1664B

Prep: EPA 1664B - 2022					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23E0064</u>							
A3D1497-01	Water	EPA 1664B	04/21/23 10:43	05/02/23 06:54			NA
A3D1497-01	Water	EPA 1664B (SGT)	04/21/23 10:43	05/02/23 06:54			NA

Solid and Moisture Determinations

Prep: Total Suspended Solids - 2022					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23D1105</u>							
A3D1497-01	Water	SM 2540 D	04/21/23 10:43	04/27/23 13:25			NA

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

<u>Aquarius Environmental LLC</u> 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: <u>DSV Dewatering</u> Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3D1497 - 05 05 23 1553
--	--	--

QUALIFIER DEFINITIONS

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

Apex Laboratories

EST_s Solids results are reported as estimates when less than 2.5 mg residue is recovered during analysis. All method QC requirements have been met for samples, and reporting levels are adjusted based on volume filtered. Results meet regulatory requirements.

Apex Laboratories

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ANALYTICAL REPORT

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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3D1497 - 05 05 23 1553
---	---	---

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported.
- RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as "dry", "wet", or " " (blank) designation.
 - "dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
 - "wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
 - " " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

Apex Laboratories

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Cameron O'Brien, Project Manager



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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3D1497 - 05 05 23 1553
---	---	---

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation)
EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
--------	----------	--------	---------	--------	---------------

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3D1497 - 05 05 23 1553
---	---	--

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

CHAIN OF CUSTODY

Lab # **A3D1497** COC 1 of 1

Company: Aquarius Environmental	Project Mgr: Daniel Scarpine	Project Name: DSV Dewatering	Project #:	
Address: 2117 NE Oregon St, Suite 502, Portland 97232		Phone: 503.317.5114	NO #	
ANALYSIS REQUEST				
Sampled by: Daniel Scarpine / Gary Walvatne				
Site Location: OR WA				
CA				
AK ID				
SAMPLE ID				
001				
LAB ID #				
DATE				
TIME				
MATRIX				
# OF CONTAINERS				
NWTPH-HCID				
NWTPH-DX				
NWTPH-GX				
8260 BTEX				
8260 RBDM VOCs				
8260 Halo VOCs				
8260 VOCs Full List				
8270 SIM PAHs				
8270 Semi-Vols Full List				
8082 PCBs				
8081 Pest				
RCRA Metals (8)				
Priority Metals (13)				
Cu, Zn				
TOTAL (200.8)				
TSS (SM2540)				
Non-Polar O+C (HEM 1664)				
Archive				

Normal Turn Around Time (TAT) = 10 Business Days

TAT Requested (circle): **1 Day** 2 Day 3 Day 4 DAY 5 DAY Other: _____

Field pH (last CAL): **8.38**

SPECIAL INSTRUCTIONS:

RELINQUISHED BY:

Signature: *Gary Walvatne* Date: 4/21/23

Printed Name: Gary Walvatne Time: 5:53 pm

Company: Apex

RECEIVED BY:

Signature: *Alissa Wilbur* Date: 4/21/23

Printed Name: Alissa Wilbur Time: 17:53

Company: Apex

Apex Laboratories

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C. O'Brien

Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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503-718-2323
ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3D1497 - 05 05 23 1553
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APEX LABS COOLER RECEIPT FORM

Client: Aquarius Environmental Element WO#: A3D1497

Project/Project #: DSV Dewatering

Delivery Info:
 Date/time received: 4/21/23 @ 17:53 By: AAW
 Delivered by: Apex Client ESS FedEx UPS Radio Morgan SDS Evergreen Other

Cooler Inspection Date/time inspected: 4/21/23 @ 17:54 By: AAW
 Chain of Custody included? Yes No
 Signed/dated by client? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>4.4</u>						
Custody seals? (Y/N)	<u>N</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition (In/Out):	<u>In</u>						

Cooler out of temp? (Y/N) Possible reason why: _____
 Green dots applied to out of temperature samples? Yes No
 Out of temperature samples form initiated? Yes No
Sample Inspection: Date/time inspected: 4/21/23 @ 18:13 By: KAM
 All samples intact? Yes No Comments: _____

Bottle labels/COCs agree? Yes No Comments: _____

COC/container discrepancies form initiated? Yes No
 Containers/volumes received appropriate for analysis? Yes No Comments: _____

Do VOA vials have visible headspace? Yes No NA
 Comments: _____

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

Additional information: _____

Labeled by: KAM Witness: AAW Cooler Inspected by: KAM

Form Y-003 R-00

Apex Laboratories

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CABri

Cameron O'Brien, Project Manager



**BATCH DISCHARGE/DEWATERING PROGRAM
WASTEWATER DISCHARGE
SELF-MONITORING REPORT**

INDUSTRY NAME:

PERMIT NUMBER:

SAMPLING EVENT: Apr/May discharge events

DUE DATE: The 15th of the following month

ECD Use Only	
Date Received/Postmarked	Date Entered/By whom
Comments: _____	

SAMPLE DATE	SAMPLE TIME	SAMPLE LOCATION	SAMPLE TYPE	DISCHARGE FLOW RATE (gpm)	DISCHARGE VOLUME (gals)
PARAMETER	ANALYSIS METHOD	RESULT (mg/L) ¹	DAILY MAX LIMIT (mg/L)	COMMENTS	
Copper			2.80		
Zinc			3.70		
Oil & Grease - nonpolar			100		
pH			<5 or >11.5 s.u.		
TSS			N/A - ESSC		

¹If the result is below the lab's reporting limit, write <MRL, e.g., <0.005 mg/L

NO DISCHARGE CERTIFICATION	
** Complete this portion only if <u>no discharges</u> of stormwater, groundwater, or process wastewater have occurred. **	
Initial Below:	Based on my inquiry of person or persons directly responsible for environmental compliance, I certify that, to the best of my knowledge and belief, no discharges of any regulated wastewaters have occurred during the reporting period.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name: _____ Signature: _____ Date: _____



TECHNICAL MEMORANDUM

May 24, 2023

Prepared for: City of Portland Batch Discharge Group

Prepared by: Daniel Scarpine, PE - Aquarius Environmental, LLC

RE: Discharge Permit #2023-010

DSV Marine Drive

Flow Calculations and Self-Monitoring Report for May 2023

Batch Discharge

As discussed in the April 2023 Self-Monitoring Report, groundwater from dewatering an excavation was managed in Baker tanks at the site. The volume of water discharged to the sanitary sewer was determined with a flowmeter. The discharge rate was observed to be about 35 – 38 gpm. The starting meter reading for May 2023 was "090718," which was also the final reading for April. The final meter reading of "091365" was recorded on May 8, 2023 following the backfilling of the excavation with controlled density fill (CDF), which eliminated any further need to dewater the excavation. Some water from the CDF backfill was removed and pumped to the Baker tank. The total volume of water discharged in May was $647 \times 10 = 6,470$ gallons.

Note that the field pH result was 10.07, which was greater than the April 2023 field pH of 8.38. The difference is attributed to collecting the May 2023 water sample from the final CDF waters pumped to the Baker tank, which would be expected to have a higher pH due to the cement.

The following are presented as attachments to this memo:

- Photos of the initial and final readings of the flow meter for May 2023.
- May 2023 Self-Monitoring Report with signed Signatory Certification Statement.
- Laboratory Analytical Report, including Chain of Custody and Quality Control Results.

If you have any questions about the overall project schedule, you can contact me at 503.828.0246 or daniels@aquariusenv.com.

Sincerely,

A handwritten signature in blue ink that reads "Daniel A. Scarpine".

Daniel A. Scarpine, PE
Principal



Figure 1. Initial flow meter reading: 090718.



Figure 2. Final flow meter reading: 091365.



ANALYTICAL REPORT

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

Wednesday, May 24, 2023
Daniel Scarpine
Aquarius Environmental LLC
2117 NE Oregon St, Suite 502
Portland, OR 97232

RE: A3E1259 - DSV Dewatering - [none]

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A3E1259, which was received by the laboratory on 5/10/2023 at 5:51:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: cobrien@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Default Cooler 2.9 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



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Cameron O'Brien, Project Manager



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Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3E1259 - 05 24 23 0908
---	--	--

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
002	A3E1259-01	Water	05/10/23 10:31	05/10/23 17:51

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<u>Aquarius Environmental LLC</u> 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3E1259 - 05 24 23 0908
---	---	---

ANALYTICAL REPORT FOR SAMPLES

FIELD DATA (Provided by Sampler)

Lab Number	Sample Name	<u>Conductivity</u>	<u>pH</u>	<u>@Temp(C)</u>	<u>Flow</u> (gal/min)	<u>Residual Cl</u> (mg/L)	<u>Turbidity</u> (NTU)
A3E1259-01	002	----	10.07	---	---	---	---

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---	--	--

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
002 (A3E1259-01)				Matrix: Water				
Batch: 23E0920								
Copper	0.0243	---	0.00200	mg/L	1	05/22/23 20:00	EPA 200.8	
Zinc	0.00790	---	0.00400	mg/L	1	05/22/23 20:00	EPA 200.8	

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---	--	--

ANALYTICAL SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664B

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
002 (A3E1259-01)				Matrix: Water		Batch: 23E0663		
HEM (Oil and Grease)	ND	---	4.67	mg/L	1	05/17/23 13:30	EPA 1664B	O-01

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---	--	--

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
002 (A3E1259-01)				Matrix: Water				
<u>Batch: 23E0585</u>								
Total Suspended Solids	14.0	---	5.00	mg/L	1	05/12/23 18:07	SM 2540 D	EST_s

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---	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23E0920 - EPA 3015A						Water						
Blank (23E0920-BLK1)		Prepared: 05/22/23 11:33 Analyzed: 05/22/23 19:05										
<u>EPA 200.8</u>												
Copper	ND	---	0.00200	mg/L	1	---	---	---	---	---	---	---
Zinc	ND	---	0.00400	mg/L	1	---	---	---	---	---	---	---
LCS (23E0920-BS1)		Prepared: 05/22/23 11:33 Analyzed: 05/22/23 19:11										
<u>EPA 200.8</u>												
Copper	0.0556	---	0.00200	mg/L	1	0.0556	---	100	85 - 115%	---	---	---
Zinc	0.0584	---	0.00400	mg/L	1	0.0556	---	105	85 - 115%	---	---	---

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---	---	--

QUALITY CONTROL (QC) SAMPLE RESULTS

HEM (Oil and Grease) and SGT-HEM by EPA 1664B

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	% REC Limits	RPD RPD	RPD Limit	Notes
Batch 23E0663 - EPA 1664B - 2022						Water						
Blank (23E0663-BLK1)		Prepared: 05/16/23 09:56 Analyzed: 05/17/23 13:30										
EPA 1664B												
HEM (Oil and Grease)	ND	---	5.00	mg/L	1	---	---	---	---	---	---	---
Blank (23E0663-BLK2)		Prepared: 05/17/23 13:08 Analyzed: 05/17/23 17:23										
EPA 1664B (SGT)												
SGT-HEM (Non-polar Material)	ND	---	5.00	mg/L	1	---	---	---	---	---	---	---
LCS (23E0663-BS1)		Prepared: 05/16/23 09:56 Analyzed: 05/17/23 13:30										
EPA 1664B												
HEM (Oil and Grease)	34.4	---		mg/L	1	40.0	---	86	78 - 114%	---	---	
LCS (23E0663-BS2)		Prepared: 05/17/23 13:08 Analyzed: 05/17/23 17:23										
EPA 1664B (SGT)												
SGT-HEM (Non-polar Material)	14.2	---		mg/L	1	20.0	---	71	64 - 132%	---	---	
LCS Dup (23E0663-BSD1)		Prepared: 05/16/23 09:56 Analyzed: 05/17/23 13:30										
EPA 1664B												
HEM (Oil and Grease)	34.6	---		mg/L	1	40.0	---	86	78 - 114%	0.6	18%	
LCS Dup (23E0663-BSD2)		Prepared: 05/17/23 13:08 Analyzed: 05/17/23 17:23										
EPA 1664B (SGT)												
SGT-HEM (Non-polar Material)	15.2	---		mg/L	1	20.0	---	76	64 - 132%	7	34%	

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---	---	---

QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23E0585 - Total Suspended Solids - 2022						Water						
Blank (23E0585-BLK1)		Prepared: 05/12/23 16:07 Analyzed: 05/12/23 18:07										
<u>SM 2540 D</u>												
Total Suspended Solids	ND	---	5.00	mg/L	1	---	---	---	---	---	---	
Reference (23E0585-SRM1)		Prepared: 05/12/23 16:07 Analyzed: 05/12/23 18:07										
<u>SM 2540 D</u>												
Total Suspended Solids	1010	---		mg/L	1	931		109	85 - 116%	---	---	

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ANALYTICAL REPORT

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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3E1259 - 05 24 23 0908
---	---	---

SAMPLE PREPARATION INFORMATION

Total Metals by EPA 200.8 (ICPMS)

Prep: EPA 3015A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23E0920</u>							
A3E1259-01	Water	EPA 200.8	05/10/23 10:31	05/22/23 11:33	45mL/50mL	45mL/50mL	1.00

HEM (Oil and Grease) and SGT-HEM by EPA 1664B

Prep: EPA 1664B - 2022					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23E0663</u>							
A3E1259-01	Water	EPA 1664B	05/10/23 10:31	05/16/23 09:56			NA

Solid and Moisture Determinations

Prep: Total Suspended Solids - 2022					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
<u>Batch: 23E0585</u>							
A3E1259-01	Water	SM 2540 D	05/10/23 10:31	05/12/23 16:07			NA

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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3E1259 - 05 24 23 0908
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QUALIFIER DEFINITIONS

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

Apex Laboratories

- EST_s** Solids results are reported as estimates when less than 2.5 mg residue is recovered during analysis. All method QC requirements have been met for samples, and reporting levels are adjusted based on volume filtered. Results meet regulatory requirements.
- O-01** Result for total Hexane Extractable Material (HEM) is below reporting level for this sample. Silica Gel Treatment (HEM-SGT) analysis was therefore not performed.

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---	---	---

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported.
- RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as "dry", "wet", or " " (blank) designation.
- "dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
- "wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
- " " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
-For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

Apex Laboratories

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Cameron O'Brien, Project Manager



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---	---	---

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3E1259 - 05 24 23 0908
---	---	---

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation)
EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
--------	----------	--------	---------	--------	---------------

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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Cameron O'Brien, Project Manager



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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV Dewatering Project Number: [none] Project Manager: Daniel Scarpine	Report ID: A3E1259 - 05 24 23 0908
---	---	--

APEX LABS COOLER RECEIPT FORM

Client: Aquarius Environmental Element WO#: A3 E1259

Project/Project #: DSV Dewatering Samples

Delivery Info:
 Date/time received: 5/10/23 @ 17:51 By: APW
 Delivered by: Apex Client ESS FedEx UPS Radio Morgan SDS Evergreen Other

Cooler Inspection Date/time inspected: 5/10/23 @ 17:52 By: APW
 Chain of Custody included? Yes No
 Signed/dated by client? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>2.9</u>						
Custody seals? (Y/N)	<u>N</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition (In/Out):	<u>In</u>						

Cooler out of temp? (Y/N) Possible reason why: _____
 Green dots applied to out of temperature samples? Yes No
 Out of temperature samples form initiated? Yes No
Sample Inspection: Date/time inspected: 5/10/23 @ 18:38 By: ZAM
 All samples intact? Yes No Comments: _____
 Bottle labels/COCs agree? Yes No Comments: _____
 COC/container discrepancies form initiated? Yes No
 Containers/volumes received appropriate for analysis? Yes No Comments: _____
 Do VOA vials have visible headspace? Yes No NA
 Comments: _____
 Water samples: pH checked: Yes No NA pH appropriate? Yes No NA
 Comments: _____
 Additional information: _____
 Labeled by: ZAM Witness: APW Cooler Inspected by: ZAM Form Y-003 R-00

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CABri



CITY OF PORTLAND ENVIRONMENTAL SERVICES



Water Pollution Control Laboratory

6543 N Burlington Ave, Bldg 217, Portland, Oregon 97203 ■ Mingus Mapps, Commissioner ■ Dawn Uchiyama, Director

DEWATERING DISCHARGE REPORT

Must be submitted to the City within **30 days** of the final discharge event.

SITE INFORMATION

Generator		Contact Information	
Site / Project Name		Site Contact	
Site Address		Phone #	
City, State, Zip		Email	

BILLING INFORMATION

Responsible Party		Contact Information	
Company Name		Site Contact	
Site Address		Phone #	
City, State, Zip		Email	

DISCHARGE INFORMATION

Authorization # (YYYY - ###)		Total Volume Discharged (gals)	
Discharge Start Date		Meter Start Read	
Discharge End Date		Meter End Read	
Discharge Rate (gpm)			

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name

Signature

Date

Email (preferred delivery method): batchdischarge@portlandoregon.gov

Or mail:

Water Pollution Control Lab
Attn: Batch Discharge Program
6543 N Burlington Ave
Portland, OR 97203-5452

Ph: 503-823-5600 Fax: 503-823-5656 ■ www.portlandoregon.gov/bes ■ Using recycled paper ■ An Equal Opportunity Employer

The City of Portland complies with all non-discrimination laws including Title VI (Civil Rights) and Title II (ADA).

To request a translation, accommodation or additional information, please call 503-823-7740, or use City TTY 503-823-6868, or Oregon Relay Service: 711.

Appendix F

Laboratory Report, Verification Soil Samples G1 to G8



ANALYTICAL REPORT

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

Friday, April 14, 2023
Gary Walvatne
Aquarius Environmental LLC
2117 NE Oregon St, Suite 502
Portland, OR 97232

RE: A3C1166 - DSV North Marine Dr. - [none]

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A3C1166, which was received by the laboratory on 3/31/2023 at 12:07:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: cobrien@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Default Cooler	5.6 degC
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This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3C1166 - 04 14 23 1441
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ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
G-1	A3C1166-01	Soil	03/31/23 08:05	03/31/23 12:07
G-2	A3C1166-02	Soil	03/31/23 08:08	03/31/23 12:07
G-3	A3C1166-03	Soil	03/31/23 08:11	03/31/23 12:07
G-4	A3C1166-04	Soil	03/31/23 08:14	03/31/23 12:07
G-5	A3C1166-05	Soil	03/31/23 08:17	03/31/23 12:07
G-6	A3C1166-06	Soil	03/31/23 08:20	03/31/23 12:07
G-7	A3C1166-07	Soil	03/31/23 08:23	03/31/23 12:07
G-8	A3C1166-08	Soil	03/31/23 08:26	03/31/23 12:07

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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3C1166 - 04 14 23 1441
---	--	---

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G-1 (A3C1166-01)				Matrix: Soil		Batch: 23D0446		
Diesel	ND	---	33.7	mg/kg dry	1	04/12/23 21:00	NWTPH-Dx/SG	
Oil	ND	---	67.3	mg/kg dry	1	04/12/23 21:00	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 86 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>04/12/23 21:00</i>	<i>NWTPH-Dx/SG</i>
G-2 (A3C1166-02)				Matrix: Soil		Batch: 23D0446		
Diesel	ND	---	33.2	mg/kg dry	1	04/12/23 21:40	NWTPH-Dx/SG	
Oil	ND	---	66.4	mg/kg dry	1	04/12/23 21:40	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 97 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>04/12/23 21:40</i>	<i>NWTPH-Dx/SG</i>
G-3 (A3C1166-03)				Matrix: Soil		Batch: 23D0446		
Diesel	ND	---	35.2	mg/kg dry	1	04/12/23 22:01	NWTPH-Dx/SG	
Oil	117	---	70.4	mg/kg dry	1	04/12/23 22:01	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>04/12/23 22:01</i>	<i>NWTPH-Dx/SG</i>
G-4 (A3C1166-04)				Matrix: Soil		Batch: 23D0446		
Diesel	ND	---	37.0	mg/kg dry	1	04/12/23 22:21	NWTPH-Dx/SG	
Oil	ND	---	74.0	mg/kg dry	1	04/12/23 22:21	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>04/12/23 22:21</i>	<i>NWTPH-Dx/SG</i>
G-5 (A3C1166-05)				Matrix: Soil		Batch: 23D0446		
Diesel	ND	---	36.6	mg/kg dry	1	04/12/23 22:41	NWTPH-Dx/SG	
Oil	ND	---	73.2	mg/kg dry	1	04/12/23 22:41	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 78 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>04/12/23 22:41</i>	<i>NWTPH-Dx/SG</i>
G-6 (A3C1166-06)				Matrix: Soil		Batch: 23D0446		
Diesel	ND	---	53.3	mg/kg dry	1	04/12/23 23:01	NWTPH-Dx/SG	
Oil	160	---	107	mg/kg dry	1	04/12/23 23:01	NWTPH-Dx/SG	F-03
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 97 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>04/12/23 23:01</i>	<i>NWTPH-Dx/SG</i>
G-7 (A3C1166-07)				Matrix: Soil		Batch: 23D0446		
Diesel	ND	---	44.9	mg/kg dry	1	04/12/23 23:21	NWTPH-Dx/SG	
Oil	2230	---	89.9	mg/kg dry	1	04/12/23 23:21	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 102 %</i>		<i>Limits: 50-150 %</i>		<i>1</i>	<i>04/12/23 23:21</i>	<i>NWTPH-Dx/SG</i>
G-8 (A3C1166-08)				Matrix: Soil		Batch: 23D0446		
Diesel	ND	---	43.5	mg/kg dry	1	04/12/23 23:42	NWTPH-Dx/SG	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

<u>Aquarius Environmental LLC</u> 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: <u>DSV North Marine Dr.</u> Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3C1166 - 04 14 23 1441
---	---	---

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G-8 (A3C1166-08)				Matrix: Soil		Batch: 23D0446		
Oil	1250	---	87.0	mg/kg dry	1	04/12/23 23:42	NWTPH-Dx/SG	
<i>Surrogate: o-Terphenyl (Surr)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>	<i>1</i>	<i>04/12/23 23:42</i>	<i>NWTPH-Dx/SG</i>	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

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ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3C1166 - 04 14 23 1441
---	--	--

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G-1 (A3C1166-01)				Matrix: Soil		Batch: 23D0427		R-04
Acenaphthene	ND	---	0.0474	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
Acenaphthylene	ND	---	0.0474	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
Anthracene	ND	---	0.0474	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
Benz(a)anthracene	ND	---	0.0474	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
Benzo(a)pyrene	ND	---	0.0711	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.0711	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.0711	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.0474	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
Chrysene	ND	---	0.0474	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.0474	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
Fluoranthene	ND	---	0.0474	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
Fluorene	ND	---	0.0474	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.0474	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
1-Methylnaphthalene	ND	---	0.0947	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
2-Methylnaphthalene	ND	---	0.0947	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
Naphthalene	ND	---	0.0947	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
Phenanthrene	ND	---	0.0474	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
Pyrene	ND	---	0.0474	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
Dibenzofuran	ND	---	0.0474	mg/kg dry	10	04/12/23 14:19	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 103 %</i>		<i>Limits: 37-122 %</i>		<i>10</i>	<i>04/12/23 14:19</i>	<i>EPA 8270E</i>
<i>2-Fluorobiphenyl (Surr)</i>				<i>97 %</i>		<i>44-120 %</i>		<i>10</i>
<i>Phenol-d6 (Surr)</i>				<i>95 %</i>		<i>33-122 %</i>		<i>10</i>
<i>p-Terphenyl-d14 (Surr)</i>				<i>96 %</i>		<i>54-127 %</i>		<i>10</i>
<i>2-Fluorophenol (Surr)</i>				<i>75 %</i>		<i>35-120 %</i>		<i>10</i>
<i>2,4,6-Tribromophenol (Surr)</i>				<i>111 %</i>		<i>39-132 %</i>		<i>10</i>

G-2 (A3C1166-02)				Matrix: Soil		Batch: 23D0427		R-04
Acenaphthene	ND	---	0.0458	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
Acenaphthylene	ND	---	0.0458	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
Anthracene	ND	---	0.0458	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
Benz(a)anthracene	ND	---	0.0458	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
Benzo(a)pyrene	ND	---	0.0686	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.0686	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.0686	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.0458	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
Chrysene	ND	---	0.0458	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.0458	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
Fluoranthene	ND	---	0.0458	mg/kg dry	10	04/12/23 15:59	EPA 8270E	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3C1166 - 04 14 23 1441
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G-2 (A3C1166-02)			Matrix: Soil		Batch: 23D0427		R-04	
Fluorene	ND	---	0.0458	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.0458	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
1-Methylnaphthalene	ND	---	0.0914	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
2-Methylnaphthalene	ND	---	0.0914	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
Naphthalene	ND	---	0.0914	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
Phenanthrene	ND	---	0.0458	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
Pyrene	ND	---	0.0458	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
Dibenzofuran	ND	---	0.0458	mg/kg dry	10	04/12/23 15:59	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 102 %</i>	<i>Limits: 37-122 %</i>	<i>10</i>	<i>04/12/23 15:59</i>	<i>EPA 8270E</i>	
<i>2-Fluorobiphenyl (Surr)</i>			<i>101 %</i>	<i>44-120 %</i>	<i>10</i>	<i>04/12/23 15:59</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>			<i>93 %</i>	<i>33-122 %</i>	<i>10</i>	<i>04/12/23 15:59</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>			<i>101 %</i>	<i>54-127 %</i>	<i>10</i>	<i>04/12/23 15:59</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>			<i>76 %</i>	<i>35-120 %</i>	<i>10</i>	<i>04/12/23 15:59</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>			<i>113 %</i>	<i>39-132 %</i>	<i>10</i>	<i>04/12/23 15:59</i>	<i>EPA 8270E</i>	
G-3 (A3C1166-03)			Matrix: Soil		Batch: 23D0427		R-04	
Acenaphthene	ND	---	0.0470	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
Acenaphthylene	ND	---	0.0470	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
Anthracene	ND	---	0.0470	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
Benz(a)anthracene	ND	---	0.0470	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
Benzo(a)pyrene	ND	---	0.0705	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.0705	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.0705	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.0470	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
Chrysene	ND	---	0.0470	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.0470	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
Fluoranthene	ND	---	0.0470	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
Fluorene	ND	---	0.0470	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.0470	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
1-Methylnaphthalene	ND	---	0.0939	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
2-Methylnaphthalene	ND	---	0.0939	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
Naphthalene	ND	---	0.0939	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
Phenanthrene	ND	---	0.0470	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
Pyrene	ND	---	0.0470	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
Dibenzofuran	ND	---	0.0470	mg/kg dry	10	04/12/23 16:33	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 103 %</i>	<i>Limits: 37-122 %</i>	<i>10</i>	<i>04/12/23 16:33</i>	<i>EPA 8270E</i>	
<i>2-Fluorobiphenyl (Surr)</i>			<i>107 %</i>	<i>44-120 %</i>	<i>10</i>	<i>04/12/23 16:33</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>			<i>96 %</i>	<i>33-122 %</i>	<i>10</i>	<i>04/12/23 16:33</i>	<i>EPA 8270E</i>	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

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ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3C1166 - 04 14 23 1441
---	--	---

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G-3 (A3C1166-03)				Matrix: Soil		Batch: 23D0427		R-04
<i>Surrogate: p-Terphenyl-d14 (Surr)</i>		<i>Recovery: 105 %</i>		<i>Limits: 54-127 %</i>		<i>10</i>	<i>04/12/23 16:33</i>	<i>EPA 8270E</i>
<i>2-Fluorophenol (Surr)</i>		<i>75 %</i>		<i>35-120 %</i>		<i>10</i>	<i>04/12/23 16:33</i>	<i>EPA 8270E</i>
<i>2,4,6-Tribromophenol (Surr)</i>		<i>116 %</i>		<i>39-132 %</i>		<i>10</i>	<i>04/12/23 16:33</i>	<i>EPA 8270E</i>
G-4 (A3C1166-04)				Matrix: Soil		Batch: 23D0427		
Acenaphthene	ND	---	0.0512	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
Acenaphthylene	ND	---	0.0512	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
Anthracene	ND	---	0.0512	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
Benz(a)anthracene	ND	---	0.0512	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
Benzo(a)pyrene	ND	---	0.0768	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.0768	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.0768	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.0512	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
Chrysene	ND	---	0.0512	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.0512	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
Fluoranthene	ND	---	0.0512	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
Fluorene	0.0588	---	0.0512	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.0512	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
1-Methylnaphthalene	ND	---	0.102	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
2-Methylnaphthalene	0.153	---	0.102	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
Naphthalene	0.205	---	0.102	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
Phenanthrene	0.148	---	0.0512	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
Pyrene	ND	---	0.0512	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
Dibenzofuran	ND	---	0.0512	mg/kg dry	10	04/12/23 17:07	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 98 %</i>		<i>Limits: 37-122 %</i>		<i>10</i>	<i>04/12/23 17:07</i>	<i>EPA 8270E</i>
<i>2-Fluorobiphenyl (Surr)</i>		<i>96 %</i>		<i>44-120 %</i>		<i>10</i>	<i>04/12/23 17:07</i>	<i>EPA 8270E</i>
<i>Phenol-d6 (Surr)</i>		<i>91 %</i>		<i>33-122 %</i>		<i>10</i>	<i>04/12/23 17:07</i>	<i>EPA 8270E</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>89 %</i>		<i>54-127 %</i>		<i>10</i>	<i>04/12/23 17:07</i>	<i>EPA 8270E</i>
<i>2-Fluorophenol (Surr)</i>		<i>74 %</i>		<i>35-120 %</i>		<i>10</i>	<i>04/12/23 17:07</i>	<i>EPA 8270E</i>
<i>2,4,6-Tribromophenol (Surr)</i>		<i>108 %</i>		<i>39-132 %</i>		<i>10</i>	<i>04/12/23 17:07</i>	<i>EPA 8270E</i>
G-5 (A3C1166-05RE1)				Matrix: Soil		Batch: 23D0427		
Acenaphthene	ND	---	0.00504	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
Acenaphthylene	ND	---	0.00504	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
Anthracene	ND	---	0.00504	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
Benz(a)anthracene	ND	---	0.00504	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
Benzo(a)pyrene	ND	---	0.00754	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.00754	mg/kg dry	1	04/12/23 19:58	EPA 8270E	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3C1166 - 04 14 23 1441
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G-5 (A3C1166-05RE1)			Matrix: Soil		Batch: 23D0427			
Benzo(k)fluoranthene	ND	---	0.00754	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.00504	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
Chrysene	ND	---	0.00504	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.00504	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
Fluoranthene	ND	---	0.00504	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
Fluorene	ND	---	0.00504	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.00504	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
1-Methylnaphthalene	ND	---	0.0101	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
2-Methylnaphthalene	ND	---	0.0101	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
Naphthalene	ND	---	0.0101	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
Phenanthrene	ND	---	0.00504	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
Pyrene	ND	---	0.00504	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
Dibenzofuran	ND	---	0.00504	mg/kg dry	1	04/12/23 19:58	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 37-122 %</i>		<i>1</i>	<i>04/12/23 19:58</i>	<i>EPA 8270E</i>
<i>2-Fluorobiphenyl (Surr)</i>		<i>81 %</i>		<i>44-120 %</i>		<i>1</i>	<i>04/12/23 19:58</i>	<i>EPA 8270E</i>
<i>Phenol-d6 (Surr)</i>		<i>79 %</i>		<i>33-122 %</i>		<i>1</i>	<i>04/12/23 19:58</i>	<i>EPA 8270E</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>80 %</i>		<i>54-127 %</i>		<i>1</i>	<i>04/12/23 19:58</i>	<i>EPA 8270E</i>
<i>2-Fluorophenol (Surr)</i>		<i>79 %</i>		<i>35-120 %</i>		<i>1</i>	<i>04/12/23 19:58</i>	<i>EPA 8270E</i>
<i>2,4,6-Tribromophenol (Surr)</i>		<i>98 %</i>		<i>39-132 %</i>		<i>1</i>	<i>04/12/23 19:58</i>	<i>EPA 8270E</i>

G-6 (A3C1166-06RE1)			Matrix: Soil		Batch: 23D0427			R-04
Acenaphthene	ND	---	0.0719	mg/kg dry	10	04/12/23 18:50	EPA 8270E	
Acenaphthylene	ND	---	0.0719	mg/kg dry	10	04/12/23 18:50	EPA 8270E	
Anthracene	ND	---	0.0719	mg/kg dry	10	04/12/23 18:50	EPA 8270E	
Benz(a)anthracene	ND	---	0.0719	mg/kg dry	10	04/12/23 18:50	EPA 8270E	
Benzo(a)pyrene	ND	---	0.108	mg/kg dry	10	04/12/23 18:50	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.108	mg/kg dry	10	04/12/23 18:50	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.108	mg/kg dry	10	04/12/23 18:50	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.0719	mg/kg dry	10	04/12/23 18:50	EPA 8270E	
Chrysene	ND	---	0.0719	mg/kg dry	10	04/12/23 18:50	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.0719	mg/kg dry	10	04/12/23 18:50	EPA 8270E	
Fluoranthene	ND	---	0.0719	mg/kg dry	10	04/12/23 18:50	EPA 8270E	
Fluorene	ND	---	0.0719	mg/kg dry	10	04/12/23 18:50	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.0719	mg/kg dry	10	04/12/23 18:50	EPA 8270E	
1-Methylnaphthalene	ND	---	0.143	mg/kg dry	10	04/12/23 18:50	EPA 8270E	
2-Methylnaphthalene	ND	---	0.143	mg/kg dry	10	04/12/23 18:50	EPA 8270E	
Naphthalene	ND	---	0.143	mg/kg dry	10	04/12/23 18:50	EPA 8270E	
Phenanthrene	ND	---	0.0719	mg/kg dry	10	04/12/23 18:50	EPA 8270E	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3C1166 - 04 14 23 1441
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
G-6 (A3C1166-06RE1)				Matrix: Soil		Batch: 23D0427		R-04	
Pyrene	ND	---	0.0719	mg/kg dry	10	04/12/23 18:50	EPA 8270E		
Dibenzofuran	ND	---	0.0719	mg/kg dry	10	04/12/23 18:50	EPA 8270E		
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 106 %</i>		<i>Limits: 37-122 %</i>		<i>10</i>	<i>04/12/23 18:50</i>	<i>EPA 8270E</i>	
<i>2-Fluorobiphenyl (Surr)</i>				<i>100 %</i>		<i>44-120 %</i>	<i>10</i>	<i>04/12/23 18:50</i>	<i>EPA 8270E</i>
<i>Phenol-d6 (Surr)</i>				<i>84 %</i>		<i>33-122 %</i>	<i>10</i>	<i>04/12/23 18:50</i>	<i>EPA 8270E</i>
<i>p-Terphenyl-d14 (Surr)</i>				<i>101 %</i>		<i>54-127 %</i>	<i>10</i>	<i>04/12/23 18:50</i>	<i>EPA 8270E</i>
<i>2-Fluorophenol (Surr)</i>				<i>76 %</i>		<i>35-120 %</i>	<i>10</i>	<i>04/12/23 18:50</i>	<i>EPA 8270E</i>
<i>2,4,6-Tribromophenol (Surr)</i>				<i>111 %</i>		<i>39-132 %</i>	<i>10</i>	<i>04/12/23 18:50</i>	<i>EPA 8270E</i>
G-7 (A3C1166-07)				Matrix: Soil		Batch: 23D0427		R-04	
Acenaphthene	ND	---	0.0615	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
Acenaphthylene	ND	---	0.0615	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
Anthracene	ND	---	0.0615	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
Benz(a)anthracene	ND	---	0.0615	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
Benzo(a)pyrene	ND	---	0.0921	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
Benzo(b)fluoranthene	ND	---	0.0921	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
Benzo(k)fluoranthene	ND	---	0.0921	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
Benzo(g,h,i)perylene	ND	---	0.0615	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
Chrysene	ND	---	0.0615	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
Dibenz(a,h)anthracene	ND	---	0.0615	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
Fluoranthene	ND	---	0.0615	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
Fluorene	ND	---	0.0615	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
Indeno(1,2,3-cd)pyrene	ND	---	0.0615	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
1-Methylnaphthalene	ND	---	0.123	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
2-Methylnaphthalene	ND	---	0.123	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
Naphthalene	ND	---	0.123	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
Phenanthrene	ND	---	0.0615	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
Pyrene	ND	---	0.0615	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
Dibenzofuran	ND	---	0.0615	mg/kg dry	10	04/12/23 18:16	EPA 8270E		
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 37-122 %</i>		<i>10</i>	<i>04/12/23 18:16</i>	<i>EPA 8270E</i>	
<i>2-Fluorobiphenyl (Surr)</i>				<i>88 %</i>		<i>44-120 %</i>	<i>10</i>	<i>04/12/23 18:16</i>	<i>EPA 8270E</i>
<i>Phenol-d6 (Surr)</i>				<i>90 %</i>		<i>33-122 %</i>	<i>10</i>	<i>04/12/23 18:16</i>	<i>EPA 8270E</i>
<i>p-Terphenyl-d14 (Surr)</i>				<i>83 %</i>		<i>54-127 %</i>	<i>10</i>	<i>04/12/23 18:16</i>	<i>EPA 8270E</i>
<i>2-Fluorophenol (Surr)</i>				<i>71 %</i>		<i>35-120 %</i>	<i>10</i>	<i>04/12/23 18:16</i>	<i>EPA 8270E</i>
<i>2,4,6-Tribromophenol (Surr)</i>				<i>101 %</i>		<i>39-132 %</i>	<i>10</i>	<i>04/12/23 18:16</i>	<i>EPA 8270E</i>
G-8 (A3C1166-08)				Matrix: Soil		Batch: 23D0427		R-04	
Acenaphthene	ND	---	0.0572	mg/kg dry	10	04/12/23 13:11	EPA 8270E		

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3C1166 - 04 14 23 1441
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ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
G-8 (A3C1166-08)				Matrix: Soil		Batch: 23D0427		R-04
Acenaphthylene	ND	---	0.0572	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
Anthracene	ND	---	0.0572	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
Benz(a)anthracene	ND	---	0.0572	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
Benzo(a)pyrene	ND	---	0.0857	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
Benzo(b)fluoranthene	ND	---	0.0857	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
Benzo(k)fluoranthene	ND	---	0.0857	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
Benzo(g,h,i)perylene	ND	---	0.0572	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
Chrysene	ND	---	0.0572	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
Dibenz(a,h)anthracene	ND	---	0.0572	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
Fluoranthene	ND	---	0.0572	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
Fluorene	ND	---	0.0572	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	---	0.0572	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
1-Methylnaphthalene	ND	---	0.114	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
2-Methylnaphthalene	ND	---	0.114	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
Naphthalene	ND	---	0.114	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
Phenanthrene	ND	---	0.0572	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
Pyrene	ND	---	0.0572	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
Dibenzofuran	ND	---	0.0572	mg/kg dry	10	04/12/23 13:11	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>			<i>Recovery: 104 %</i>	<i>Limits: 37-122 %</i>	<i>10</i>	<i>04/12/23 13:11</i>	<i>EPA 8270E</i>	
<i>2-Fluorobiphenyl (Surr)</i>			<i>111 %</i>	<i>44-120 %</i>	<i>10</i>	<i>04/12/23 13:11</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>			<i>94 %</i>	<i>33-122 %</i>	<i>10</i>	<i>04/12/23 13:11</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>			<i>111 %</i>	<i>54-127 %</i>	<i>10</i>	<i>04/12/23 13:11</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>			<i>75 %</i>	<i>35-120 %</i>	<i>10</i>	<i>04/12/23 13:11</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>			<i>116 %</i>	<i>39-132 %</i>	<i>10</i>	<i>04/12/23 13:11</i>	<i>EPA 8270E</i>	

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3C1166 - 04 14 23 1441
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ANALYTICAL SAMPLE RESULTS

Percent Dry Weight									
Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
G-1 (A3C1166-01)				Matrix: Soil		Batch: 23D0025			
% Solids	55.5	---	1.00	%	1	04/04/23 06:51	EPA 8000D		
G-2 (A3C1166-02)				Matrix: Soil		Batch: 23D0025			
% Solids	57.4	---	1.00	%	1	04/04/23 06:51	EPA 8000D		
G-3 (A3C1166-03)				Matrix: Soil		Batch: 23D0025			
% Solids	55.7	---	1.00	%	1	04/04/23 06:51	EPA 8000D		
G-4 (A3C1166-04)				Matrix: Soil		Batch: 23D0025			
% Solids	52.0	---	1.00	%	1	04/04/23 06:51	EPA 8000D		
G-5 (A3C1166-05)				Matrix: Soil		Batch: 23D0025			
% Solids	51.9	---	1.00	%	1	04/04/23 06:51	EPA 8000D		
G-6 (A3C1166-06)				Matrix: Soil		Batch: 23D0025			
% Solids	36.7	---	1.00	%	1	04/04/23 06:51	EPA 8000D		
G-7 (A3C1166-07)				Matrix: Soil		Batch: 23D0025			
% Solids	43.1	---	1.00	%	1	04/04/23 06:51	EPA 8000D		
G-8 (A3C1166-08)				Matrix: Soil		Batch: 23D0025			
% Solids	45.3	---	1.00	%	1	04/04/23 06:51	EPA 8000D		

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC

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503-718-2323
ORELAP ID: OR100062

Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3C1166 - 04 14 23 1441
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QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	RPD Limits RPD	RPD Limit	Notes
Batch 23D0446 - EPA 3546 w/SG+Acid (NWTPH)						Soil					
Blank (23D0446-BLK1)		Prepared: 04/12/23 09:52 Analyzed: 04/12/23 20:19									
<u>NWTPH-Dx/SG</u>											
Diesel	ND	---	20.0	mg/kg wet	1	---	---	---	---	---	---
Oil	ND	---	40.0	mg/kg wet	1	---	---	---	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 95 % Limits: 50-150 % Dilution: 1x</i>									
LCS (23D0446-BS1)		Prepared: 04/12/23 09:52 Analyzed: 04/12/23 20:40									
<u>NWTPH-Dx/SG</u>											
Diesel	109	---	20.0	mg/kg wet	1	125	---	87	38 - 132%	---	---
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 100 % Limits: 50-150 % Dilution: 1x</i>									
Duplicate (23D0446-DUP1)		Prepared: 04/12/23 09:52 Analyzed: 04/12/23 21:20									
<u>QC Source Sample: G-1 (A3C1166-01)</u>											
<u>NWTPH-Dx/SG</u>											
Diesel	ND	---	34.8	mg/kg dry	1	---	ND	---	---	---	30%
Oil	ND	---	69.5	mg/kg dry	1	---	ND	---	---	---	30%
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 89 % Limits: 50-150 % Dilution: 1x</i>									

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Cameron O'Brien, Project Manager



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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3C1166 - 04 14 23 1441
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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	RPD RPD	Notes
Batch 23D0427 - EPA 3546						Soil				
Blank (23D0427-BLK1)		Prepared: 04/12/23 04:58 Analyzed: 04/12/23 11:20								
EPA 8270E										
Acenaphthene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Acenaphthylene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Anthracene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Benz(a)anthracene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Benzo(a)pyrene	ND	---	0.00400	mg/kg wet	1	---	---	---	---	---
Benzo(b)fluoranthene	ND	---	0.00400	mg/kg wet	1	---	---	---	---	---
Benzo(k)fluoranthene	ND	---	0.00400	mg/kg wet	1	---	---	---	---	---
Benzo(g,h,i)perylene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Chrysene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Dibenz(a,h)anthracene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Fluoranthene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Fluorene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
1-Methylnaphthalene	ND	---	0.00533	mg/kg wet	1	---	---	---	---	---
2-Methylnaphthalene	ND	---	0.00533	mg/kg wet	1	---	---	---	---	---
Naphthalene	ND	---	0.00533	mg/kg wet	1	---	---	---	---	---
Phenanthrene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Pyrene	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
Carbazole	ND	---	0.00400	mg/kg wet	1	---	---	---	---	---
Dibenzofuran	ND	---	0.00267	mg/kg wet	1	---	---	---	---	---
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 104 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 1x</i>				
<i>2-Fluorobiphenyl (Surr)</i>		<i>95 %</i>		<i>44-120 %</i>		<i>"</i>				
<i>Phenol-d6 (Surr)</i>		<i>84 %</i>		<i>33-122 %</i>		<i>"</i>				
<i>p-Terphenyl-d14 (Surr)</i>		<i>96 %</i>		<i>54-127 %</i>		<i>"</i>				
<i>2-Fluorophenol (Surr)</i>		<i>87 %</i>		<i>35-120 %</i>		<i>"</i>				
<i>2,4,6-Tribromophenol (Surr)</i>		<i>92 %</i>		<i>39-132 %</i>		<i>"</i>				

LCS (23D0427-BS1)						Prepared: 04/12/23 04:58 Analyzed: 04/12/23 11:54				
EPA 8270E										
Acenaphthene	0.515	---	0.0107	mg/kg wet	4	0.533	---	97	40 - 123%	---
Acenaphthylene	0.489	---	0.0107	mg/kg wet	4	0.533	---	92	32 - 132%	---
Anthracene	0.537	---	0.0107	mg/kg wet	4	0.533	---	101	47 - 123%	---
Benz(a)anthracene	0.537	---	0.0107	mg/kg wet	4	0.533	---	101	49 - 126%	---

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Cameron O'Brien, Project Manager



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Aquarius Environmental LLC 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: DSV North Marine Dr. Project Number: [none] Project Manager: Gary Walvatne	Report ID: A3C1166 - 04 14 23 1441
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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23D0427 - EPA 3546						Soil						
LCS (23D0427-BS1)			Prepared: 04/12/23 04:58		Analyzed: 04/12/23 11:54							
Benzo(a)pyrene	0.486	---	0.0160	mg/kg wet	4	0.533	---	91	45 - 129%	---	---	
Benzo(b)fluoranthene	0.480	---	0.0160	mg/kg wet	4	0.533	---	90	45 - 132%	---	---	
Benzo(k)fluoranthene	0.502	---	0.0160	mg/kg wet	4	0.533	---	94	47 - 132%	---	---	
Benzo(g,h,i)perylene	0.541	---	0.0107	mg/kg wet	4	0.533	---	102	43 - 134%	---	---	
Chrysene	0.539	---	0.0107	mg/kg wet	4	0.533	---	101	50 - 124%	---	---	
Dibenz(a,h)anthracene	0.537	---	0.0107	mg/kg wet	4	0.533	---	101	45 - 134%	---	---	
Fluoranthene	0.553	---	0.0107	mg/kg wet	4	0.533	---	104	50 - 127%	---	---	
Fluorene	0.487	---	0.0107	mg/kg wet	4	0.533	---	91	43 - 125%	---	---	
Indeno(1,2,3-cd)pyrene	0.497	---	0.0107	mg/kg wet	4	0.533	---	93	45 - 133%	---	---	
1-Methylnaphthalene	0.485	---	0.0213	mg/kg wet	4	0.533	---	91	40 - 120%	---	---	
2-Methylnaphthalene	0.530	---	0.0213	mg/kg wet	4	0.533	---	99	38 - 122%	---	---	
Naphthalene	0.488	---	0.0213	mg/kg wet	4	0.533	---	92	35 - 123%	---	---	
Phenanthrene	0.520	---	0.0107	mg/kg wet	4	0.533	---	98	50 - 121%	---	---	
Pyrene	0.558	---	0.0107	mg/kg wet	4	0.533	---	105	47 - 127%	---	---	
Carbazole	0.565	---	0.0160	mg/kg wet	4	0.533	---	106	50 - 123%	---	---	
Dibenzofuran	0.510	---	0.0107	mg/kg wet	4	0.533	---	96	44 - 120%	---	---	
<i>Surr: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 100 %</i>		<i>Limits: 37-122 %</i>		<i>Dilution: 4x</i>						
<i>2-Fluorobiphenyl (Surr)</i>		<i>105 %</i>		<i>44-120 %</i>		<i>"</i>						
<i>Phenol-d6 (Surr)</i>		<i>100 %</i>		<i>33-122 %</i>		<i>"</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>108 %</i>		<i>54-127 %</i>		<i>"</i>						
<i>2-Fluorophenol (Surr)</i>		<i>88 %</i>		<i>35-120 %</i>		<i>"</i>						
<i>2,4,6-Tribromophenol (Surr)</i>		<i>100 %</i>		<i>39-132 %</i>		<i>"</i>						

Duplicate (23D0427-DUP1) Prepared: 04/12/23 04:58 Analyzed: 04/12/23 15:25 **R-04**

QC Source Sample: G-1 (A3C1166-01)

EPA 8270E												
Acenaphthene	ND	---	0.0477	mg/kg dry	10	---	ND	---	---	---	30%	
Acenaphthylene	ND	---	0.0477	mg/kg dry	10	---	ND	---	---	---	30%	
Anthracene	ND	---	0.0477	mg/kg dry	10	---	ND	---	---	---	30%	
Benz(a)anthracene	ND	---	0.0477	mg/kg dry	10	---	ND	---	---	---	30%	
Benzo(a)pyrene	ND	---	0.0715	mg/kg dry	10	---	ND	---	---	---	30%	
Benzo(b)fluoranthene	ND	---	0.0715	mg/kg dry	10	---	ND	---	---	---	30%	
Benzo(k)fluoranthene	ND	---	0.0715	mg/kg dry	10	---	ND	---	---	---	30%	
Benzo(g,h,i)perylene	ND	---	0.0477	mg/kg dry	10	---	ND	---	---	---	30%	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC % REC	% REC Limits RPD	RPD Limit	Notes
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Batch 23D0427 - EPA 3546

Soil

Duplicate (23D0427-DUP1) Prepared: 04/12/23 04:58 Analyzed: 04/12/23 15:25 **R-04**

QC Source Sample: G-1 (A3C1166-01)

Chrysene	ND	---	0.0477	mg/kg dry	10	---	ND	---	---	---	30%
Dibenz(a,h)anthracene	ND	---	0.0477	mg/kg dry	10	---	ND	---	---	---	30%
Fluoranthene	ND	---	0.0477	mg/kg dry	10	---	ND	---	---	---	30%
Fluorene	ND	---	0.0477	mg/kg dry	10	---	ND	---	---	---	30%
Indeno(1,2,3-cd)pyrene	ND	---	0.0477	mg/kg dry	10	---	ND	---	---	---	30%
1-Methylnaphthalene	ND	---	0.0953	mg/kg dry	10	---	ND	---	---	---	30%
2-Methylnaphthalene	ND	---	0.0953	mg/kg dry	10	---	ND	---	---	---	30%
Naphthalene	ND	---	0.0953	mg/kg dry	10	---	ND	---	---	---	30%
Phenanthrene	ND	---	0.0477	mg/kg dry	10	---	ND	---	---	---	30%
Pyrene	ND	---	0.0477	mg/kg dry	10	---	ND	---	---	---	30%
Carbazole	ND	---	0.0715	mg/kg dry	10	---	ND	---	---	---	30%
Dibenzofuran	ND	---	0.0477	mg/kg dry	10	---	ND	---	---	---	30%

<i>Surr: Nitrobenzene-d5 (Surr)</i>	<i>Recovery: 95 %</i>	<i>Limits: 37-122 %</i>	<i>Dilution: 10x</i>
<i>2-Fluorobiphenyl (Surr)</i>	<i>94 %</i>	<i>44-120 %</i>	<i>"</i>
<i>Phenol-d6 (Surr)</i>	<i>90 %</i>	<i>33-122 %</i>	<i>"</i>
<i>p-Terphenyl-d14 (Surr)</i>	<i>91 %</i>	<i>54-127 %</i>	<i>"</i>
<i>2-Fluorophenol (Surr)</i>	<i>72 %</i>	<i>35-120 %</i>	<i>"</i>
<i>2,4,6-Tribromophenol (Surr)</i>	<i>101 %</i>	<i>39-132 %</i>	<i>"</i>

Matrix Spike (23D0427-MS1)

Prepared: 04/12/23 04:58 Analyzed: 04/12/23 13:45

QC Source Sample: G-8 (A3C1166-08)

EPA 8270E

Acenaphthene	0.996	---	0.0571	mg/kg dry	10	1.14	ND	87	40 - 123%	---	---
Acenaphthylene	0.951	---	0.0571	mg/kg dry	10	1.14	ND	83	32 - 132%	---	---
Anthracene	1.04	---	0.0571	mg/kg dry	10	1.14	ND	91	47 - 123%	---	---
Benz(a)anthracene	0.944	---	0.0571	mg/kg dry	10	1.14	ND	83	49 - 126%	---	---
Benzo(a)pyrene	0.921	---	0.0856	mg/kg dry	10	1.14	ND	81	45 - 129%	---	---
Benzo(b)fluoranthene	0.879	---	0.0856	mg/kg dry	10	1.14	ND	77	45 - 132%	---	---
Benzo(k)fluoranthene	0.925	---	0.0856	mg/kg dry	10	1.14	ND	81	47 - 132%	---	---
Benzo(g,h,i)perylene	0.999	---	0.0571	mg/kg dry	10	1.14	ND	88	43 - 134%	---	---
Chrysene	0.983	---	0.0571	mg/kg dry	10	1.14	ND	86	50 - 124%	---	---
Dibenz(a,h)anthracene	1.03	---	0.0571	mg/kg dry	10	1.14	ND	90	45 - 134%	---	---
Fluoranthene	0.926	---	0.0571	mg/kg dry	10	1.14	ND	81	50 - 127%	---	---

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 23D0427 - EPA 3546							Soil						
Matrix Spike (23D0427-MS1)			Prepared: 04/12/23 04:58 Analyzed: 04/12/23 13:45										
QC Source Sample: G-8 (A3C1166-08)													
Fluorene	0.982	---	0.0571	mg/kg dry	10	1.14	ND	86	43 - 125%	---	---		
Indeno(1,2,3-cd)pyrene	0.916	---	0.0571	mg/kg dry	10	1.14	ND	80	45 - 133%	---	---		
1-Methylnaphthalene	0.950	---	0.114	mg/kg dry	10	1.14	ND	83	40 - 120%	---	---		
2-Methylnaphthalene	1.02	---	0.114	mg/kg dry	10	1.14	ND	90	38 - 122%	---	---		
Naphthalene	0.957	---	0.114	mg/kg dry	10	1.14	ND	84	35 - 123%	---	---		
Phenanthrene	0.980	---	0.0571	mg/kg dry	10	1.14	ND	86	50 - 121%	---	---		
Pyrene	0.902	---	0.0571	mg/kg dry	10	1.14	ND	79	47 - 127%	---	---		
Carbazole	0.981	---	0.0856	mg/kg dry	10	1.14	ND	86	50 - 123%	---	---		
Dibenzofuran	0.972	---	0.0571	mg/kg dry	10	1.14	ND	85	44 - 120%	---	---		
<i>Surr: Nitrobenzene-d5 (Surr)</i>													
			<i>Recovery: 98 %</i>									<i>Limits: 37-122 %</i>	<i>Dilution: 10x</i>
<i>2-Fluorobiphenyl (Surr)</i>			<i>104 %</i>									<i>44-120 %</i>	<i>"</i>
<i>Phenol-d6 (Surr)</i>			<i>96 %</i>									<i>33-122 %</i>	<i>"</i>
<i>p-Terphenyl-d14 (Surr)</i>			<i>105 %</i>									<i>54-127 %</i>	<i>"</i>
<i>2-Fluorophenol (Surr)</i>			<i>76 %</i>									<i>35-120 %</i>	<i>"</i>
<i>2,4,6-Tribromophenol (Surr)</i>			<i>112 %</i>									<i>39-132 %</i>	<i>"</i>

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QUALITY CONTROL (QC) SAMPLE RESULTS

Percent Dry Weight

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC Limits	RPD Limit	Notes
Batch 23D0025 - Total Solids (Dry Weight)						Soil				

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

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SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Prep: EPA 3546 w/SG+Acid (NWTPH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 23D0446</u>							
A3C1166-01	Soil	NWTPH-Dx/SG	03/31/23 08:05	04/12/23 09:52	10.7g/5mL	10g/5mL	0.94
A3C1166-02	Soil	NWTPH-Dx/SG	03/31/23 08:08	04/12/23 09:52	10.5g/5mL	10g/5mL	0.95
A3C1166-03	Soil	NWTPH-Dx/SG	03/31/23 08:11	04/12/23 09:52	10.2g/5mL	10g/5mL	0.98
A3C1166-04	Soil	NWTPH-Dx/SG	03/31/23 08:14	04/12/23 09:52	10.4g/5mL	10g/5mL	0.96
A3C1166-05	Soil	NWTPH-Dx/SG	03/31/23 08:17	04/12/23 09:52	10.52g/5mL	10g/5mL	0.95
A3C1166-06	Soil	NWTPH-Dx/SG	03/31/23 08:20	04/12/23 09:52	10.23g/5mL	10g/5mL	0.98
A3C1166-07	Soil	NWTPH-Dx/SG	03/31/23 08:23	04/12/23 09:52	10.33g/5mL	10g/5mL	0.97
A3C1166-08	Soil	NWTPH-Dx/SG	03/31/23 08:26	04/12/23 09:52	10.16g/5mL	10g/5mL	0.98

Selected Semivolatile Organic Compounds by EPA 8270E

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 23D0427</u>							
A3C1166-01	Soil	EPA 8270E	03/31/23 08:05	04/12/23 04:58	15.21g/2mL	15g/2mL	0.99
A3C1166-02	Soil	EPA 8270E	03/31/23 08:08	04/12/23 04:58	15.25g/2mL	15g/2mL	0.98
A3C1166-03	Soil	EPA 8270E	03/31/23 08:11	04/12/23 04:58	15.29g/2mL	15g/2mL	0.98
A3C1166-04	Soil	EPA 8270E	03/31/23 08:14	04/12/23 04:58	15.04g/2mL	15g/2mL	1.00
A3C1166-05RE1	Soil	EPA 8270E	03/31/23 08:17	04/12/23 04:58	15.32g/2mL	15g/2mL	0.98
A3C1166-06RE1	Soil	EPA 8270E	03/31/23 08:20	04/12/23 04:58	15.19g/2mL	15g/2mL	0.99
A3C1166-07	Soil	EPA 8270E	03/31/23 08:23	04/12/23 04:58	15.12g/2mL	15g/2mL	0.99
A3C1166-08	Soil	EPA 8270E	03/31/23 08:26	04/12/23 04:58	15.47g/2mL	15g/2mL	0.97

Percent Dry Weight

Prep: Total Solids (Dry Weight)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 23D0025</u>							
A3C1166-01	Soil	EPA 8000D	03/31/23 08:05	04/03/23 09:25			NA
A3C1166-02	Soil	EPA 8000D	03/31/23 08:08	04/03/23 09:25			NA
A3C1166-03	Soil	EPA 8000D	03/31/23 08:11	04/03/23 09:25			NA
A3C1166-04	Soil	EPA 8000D	03/31/23 08:14	04/03/23 09:25			NA
A3C1166-05	Soil	EPA 8000D	03/31/23 08:17	04/03/23 09:25			NA
A3C1166-06	Soil	EPA 8000D	03/31/23 08:20	04/03/23 09:25			NA
A3C1166-07	Soil	EPA 8000D	03/31/23 08:23	04/03/23 09:25			NA
A3C1166-08	Soil	EPA 8000D	03/31/23 08:26	04/03/23 09:25			NA

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Cameron O'Brien, Project Manager



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Apex Laboratories, LLC

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

<u>Aquarius Environmental LLC</u> 2117 NE Oregon St, Suite 502 Portland, OR 97232	Project: <u>DSV North Marine Dr.</u> Project Number: [none] Project Manager: Gary Walvatne	<u>Report ID:</u> A3C1166 - 04 14 23 1441
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SAMPLE PREPARATION INFORMATION

Percent Dry Weight



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QUALIFIER DEFINITIONS

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

Apex Laboratories

- F-03 The result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of the fuel pattern reported.
- R-04 Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported.
- RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

- Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as "dry", "wet", or "" (blank) designation.
- "dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
- "wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
- " " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).
-For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

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REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

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Cameron O'Brien, Project Manager



ANALYTICAL REPORT

Apex Laboratories, LLC
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503-718-2323
ORELAP ID: OR100062

Table with 3 columns: Client (Aquarius Environmental LLC), Project (DSV North Marine Dr.), and Report ID (A3C1166 - 04 14 23 1441).

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation)
EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Table header with columns: Matrix, Analysis, TNI_ID, Analyte, TNI_ID, Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

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Handwritten signature of Cameron O'Brien

Cameron O'Brien, Project Manager



ANALYTICAL REPORT

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APEX LABS COOLER RECEIPT FORM

Client: Aquarius Environmental Element WO#: A3C1166

Project/Project #: DSV-N, Marine Drive

Delivery Info:
 Date/time received: 3/3/23 @ 12:07 By: ZAM
 Delivered by: Apex Client ESS FedEx UPS Radio Morgan SDS Evergreen Other

Cooler Inspection Date/time inspected: 3/3/23 @ 12:13 By: ZAM
 Chain of Custody included? Yes No
 Signed/dated by client? Yes No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>5.6</u>						
Custody seals? (Y/N)	<u>N</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition (In/Out):	<u>N</u>						

Cooler out of temp? (Y/N) Possible reason why: _____
 Green dots applied to out of temperature samples? Yes No
 Out of temperature samples form initiated? Yes No
Sample Inspection: Date/time inspected: 3/3/23 @ 16:39 By: ZAM
 All samples intact? Yes No Comments: _____

 Bottle labels/COCs agree? Yes No Comments: _____

 COC/container discrepancies form initiated? Yes No
 Containers/volumes received appropriate for analysis? Yes No Comments: _____

 Do VOA vials have visible headspace? Yes No NA
 Comments: _____
 Water samples: pH checked: Yes No NA pH appropriate? Yes No NA
 Comments: _____

Additional information:

 Labeled by: ZAM Witness: DSS Cooler Inspected by: ZAM Form Y-003 R-00

C O'Brien

Appendix G

Well Logs for Nearby Water Wells

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

MULTI 430

SEP 26 1991
 WATER RESOURCES DEPT. (START CARD) # 26641
 1N/1E/3 da

(1) OWNER: Well Number: _____
 Name DAVID THOMPSON
 Address 901 NE GORTZ RD
 City PORTLAND State OR Zip 97211

(2) TYPE OF WORK:
 New Well Deepen Recondition Abandon

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

(4) PROPOSED USE:
 Domestic Community Industrial Irrigation
 Thermal Injection Other _____

(5) BORE HOLE CONSTRUCTION:
 Special Construction approval Yes No Depth of Completed Well 115 ft.
 Explosives used Type _____ Amount _____

HOLE		SEAL		Material	Amount	
Diameter	From To	From To	sacks		or pounds	
10	1 23	GRANULAR BENTONITE	12			
6	23 116					

How was seal placed: Method A B C D E
 Other GRANULAR BENTONITE METHOD
 Backfill placed from _____ ft. to _____ ft. Material _____
 Gravel placed from 108 ft. to 116 ft. Size of gravel 1/4"

(6) CASING/LINER:

Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing: <u>6</u>	<u>0</u>	<u>112</u>	<u>.25</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner: <u>4 1/2</u>	<u>1</u>	<u>115</u>	<u>CL160</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Final location of shoe(s) 112

(7) PERFORATIONS/SCREENS:
 Perforations Method _____
 Screens Type SCOTTED Material POC

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
<u>109</u>	<u>114</u>	<u>.30</u>		<u>4 1/2</u>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

(8) WELL TESTS: Minimum testing time is 1 hour
 Pump Bailer Air Flowing Artesian
 Yield gal/min 45 Drawdown 9 Drill stem at _____ Time 1 hr.

Temperature of water 52 Depth Artesian Flow Found _____
 Was a water analysis done? Yes By whom _____
 Did any strata contain water not suitable for intended use? Too little
 Salty Muddy Odor Colored Other _____
 Depth of strata: _____

(9) LOCATION OF WELL by legal description:
 County MULTNAMA Latitude _____ Longitude _____
 Township 1N N or S, Range 1E E or W, WM.
 Section 3 NE 1/4 SE 1/4
 Tax Lot _____ Lot _____ Block _____ Subdivision _____
 Street Address of Well (or nearest address) 10360 N VANAVILLE

(10) STATIC WATER LEVEL:
12 ft. below land surface. Date 20 SEP
 Artesian pressure _____ lb. per square inch. Date _____

(11) WATER BEARING ZONES:
 Depth at which water was first found 30

From	To	Estimated Flow Rate	SWL
<u>95</u>	<u>114</u>		<u>12</u>

(12) WELL LOG: Ground elevation _____

Material	From	To	SWL
<u>GRAVEL FILL</u>	<u>1</u>	<u>3</u>	
<u>CLAY</u>	<u>3</u>	<u>27</u>	
<u>CLAY SANDY GREY</u>	<u>27</u>	<u>35</u>	
<u>GREY CLAY SILTY w/ WOOD</u>	<u>35</u>	<u>95</u>	
<u>GRAVEL CEMENTED GREY</u>	<u>95</u>	<u>114</u>	

Date started SEP 17 Completed SEP 20

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

(bonded) Water Well Constructor Certification:
 I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. all work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.
 WWC Number 743
 Signed Richard Beck Date SEP 22, 1991

Appendix H
Site-Specific Risk-Based Concentrations

Risk-Based Concentrations for TPH: Site-Specific Data

Fuel Fraction	RBCs					RBCso			RBCsi			RBCsw			RBCtw			RBCwo			RBCwi			RBCwe	RBCair			RBCsg		
	Residential	Urban Residential	Occupational	Construction Worker	Excavation Worker	Residential	Urban Residential	Occupational	Residential	Urban Residential	Occupational	Residential	Urban Residential	Occupational	Residential	Urban Residential	Occupational	Residential	Urban Residential	Occupational	Residential	Urban Residential	Occupational	Construction & Excavation Worker	Residential	Urban Residential	Occupational	Residential	Urban Residential	Occupational
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/m ³)	(ug/m ³)	(ug/m ³)	(ug/m ³)	(ug/m ³)
Aliphatic C5-C6	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.5E+03	1.5E+03	6.1E+03	6.5E+04	6.5E+04	2.7E+05	2.9E+03	2.9E+03	3.7E+04	1.7E+05	7.3E+02	7.3E+02	3.1E+03	1.5E+05	1.5E+05	3.1E+06
Aliphatic >C6-C8	2.5E-03	2.5E-03	1.5E-03	5.9E-04	5.5E-05	1.3E-02	1.3E-02	3.1E-03	2.9E-02	2.9E-02	2.3E-03	5.2E-04	5.2E-04	1.2E-04	1.5E+03	1.5E+03	6.1E+03	4.3E+04	4.3E+04	1.8E+05	1.9E+03	1.9E+03	2.4E+04	1.7E+05	7.3E+02	7.3E+02	3.1E+03	1.5E+05	1.5E+05	3.1E+06
Aliphatic >C8-C10	8.9E-02	9.1E-02	6.8E-02	7.1E-02	6.6E-03	4.1E-02	4.1E-02	9.8E-03	3.4E-02	3.4E-02	2.7E-03	6.0E-04	6.0E-04	1.5E-04	1.3E+02	1.3E+02	5.5E+02	3.8E+03	3.8E+03	1.6E+04	1.7E+02	1.7E+02	2.2E+03	2.0E+03	1.0E+02	1.0E+02	4.4E+02	2.1E+04	2.1E+04	4.4E+05
Aliphatic >C10-C12	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.3E+02	1.3E+02	5.5E+02	2.6E+03	2.6E+03	1.1E+04	1.1E+02	1.1E+02	1.4E+03	6.7E+02	1.0E+02	1.0E+02	4.4E+02	2.1E+04	2.1E+04	4.4E+05
Aliphatic >C12-C16	1.7E-01	1.7E-01	1.5E-01	1.8E-01	1.7E-02	6.4E-04	6.4E-04	1.5E-04	5.3E-04	5.3E-04	4.2E-05	5.2E-07	5.2E-07	1.3E-07	3.7E+02	3.7E+02	1.5E+03	5.9E+02	5.9E+02	2.5E+03	2.6E+01	2.6E+01	3.3E+02	1.2E+02	1.0E+02	1.0E+02	4.4E+02	-	-	-
Aliphatic >C16-C21	3.7E-03	3.7E-03	3.2E-03	4.0E-03	3.7E-04	9.5E-22	9.5E-22	2.3E-22	7.8E-22	7.8E-22	6.2E-23	2.7E-11	2.7E-11	6.8E-12	1.1E+05	1.1E+05	4.4E+05	6.3E+18	6.3E+18	2.6E+19	2.8E+17	2.8E+17	3.5E+18	2.4E+03	1.0E+19	1.0E+19	4.4E+19	-	-	-
Aliphatic >C21-C34	4.9E-02	5.0E-02	4.3E-02	5.3E-02	5.0E-03	1.1E-24	1.1E-24	2.5E-25	8.7E-25	8.7E-25	6.9E-26	1.5E-15	1.5E-15	3.7E-16	1.1E+05	1.1E+05	4.4E+05	3.1E+17	3.1E+17	1.3E+18	1.4E+16	1.4E+16	1.7E+17	9.0E+02	1.0E+19	1.0E+19	4.4E+19	-	-	-
Aromatic >C8-C10	6.3E-19	6.4E-19	4.2E-19	2.4E-19	2.2E-20	7.2E-19	7.2E-19	1.7E-19	5.9E-19	5.9E-19	4.7E-20	1.2E-18	1.2E-18	2.8E-19	2.0E+19	2.0E+19	8.3E+19	5.0E+22	5.0E+22	2.1E+23	2.7E+21	2.7E+21	3.4E+22	2.1E+21	1.0E+19	1.0E+19	4.4E+19	-	-	-
Aromatic >C10-C12	6.1E-02	5.4E-02	3.8E-02	4.2E-02	3.6E-03	6.8E-03	6.8E-03	1.6E-03	5.6E-03	5.6E-03	4.4E-04	4.3E-02	4.3E-02	1.0E-02	1.8E+02	1.8E+02	7.3E+02	1.2E+06	1.2E+06	4.9E+06	8.9E+04	8.9E+04	1.1E+06	1.4E+04	1.0E+02	1.0E+02	4.4E+02	2.1E+04	2.1E+04	4.4E+05
Aromatic >C12-C16	1.3E-01	1.2E-01	9.4E-02	1.1E-01	1.0E-02	1.6E-03	1.6E-03	3.8E-04	1.3E-03	1.3E-03	1.1E-04	2.7E-02	2.7E-02	6.4E-03	1.8E+02	1.8E+02	7.3E+02	1.9E+06	1.9E+06	7.9E+06	2.3E+05	2.3E+05	2.9E+06	1.2E+04	1.0E+02	1.0E+02	4.4E+02	2.1E+04	2.1E+04	4.4E+05
Aromatic >C16-C21	2.1E-01	2.1E-01	1.7E-01	2.1E-01	2.0E-02	6.9E-05	6.9E-05	1.6E-05	5.7E-05	5.7E-05	4.5E-06	4.7E-03	4.7E-03	1.1E-03	1.8E+02	1.8E+02	7.3E+02	3.8E+06	3.8E+06	1.6E+07	8.9E+05	8.9E+05	1.1E+07	9.5E+03	1.0E+02	1.0E+02	4.4E+02	2.1E+04	2.1E+04	4.4E+05
Aromatic >C21-C34	2.9E-01	3.0E-01	2.6E-01	3.2E-01	3.0E-02	4.2E-25	4.2E-25	1.0E-25	3.4E-25	3.4E-25	2.7E-26	6.5E-06	6.5E-06	1.6E-06	1.5E+03	1.5E+03	5.8E+03	4.2E+24	4.2E+24	1.8E+25	1.7E+24	1.7E+24	2.1E+25	7.3E+03	1.0E+19	1.0E+19	4.4E+19	-	-	-
n-Hexane	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.8E+02	8.8E+02	3.6E+03	2.1E+05	2.1E+05	9.0E+05	9.5E+03	9.5E+03	1.2E+05	6.5E+04	7.3E+02	7.3E+02	3.1E+03	1.5E+05	1.5E+05	3.1E+06
Benzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.4E+01	4.4E+01	1.8E+02	2.8E+05	2.8E+05	1.2E+06	1.9E+04	1.9E+04	2.4E+05	5.7E+03	3.1E+01	3.1E+01	1.3E+02	6.3E+03	6.3E+03	1.3E+05
Toluene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.3E+03	2.3E+03	9.2E+03	4.4E+07	4.4E+07	1.8E+08	2.7E+06	2.7E+06	3.4E+07	2.1E+05	5.2E+03	5.2E+03	2.2E+04	1.0E+06	1.0E+06	2.2E+07
Ethylbenzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.3E+03	1.3E+03	5.5E+03	8.8E+06	8.8E+06	3.7E+07	5.3E+05	5.3E+05	6.6E+06	1.1E+05	1.0E+03	1.0E+03	4.4E+03	2.1E+05	2.1E+05	4.4E+06
Total Xylenes	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.0E+02	2.0E+02	8.5E+02	9.2E+05	9.2E+05	3.9E+06	5.9E+04	5.9E+04	7.4E+05	2.3E+04	1.0E+02	1.0E+02	4.4E+02	2.1E+04	2.1E+04	4.4E+05
1,2,4-trimethylbenzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.5E+01	1.5E+01	6.1E+01	8.0E+04	8.0E+04	3.3E+05	5.0E+03	5.0E+03	6.4E+04	1.7E+03	7.3E+00	7.3E+00	3.1E+01	1.5E+03	1.5E+03	3.1E+04
1,3,5-trimethylbenzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.7E+02	3.7E+02	1.5E+03	9.2E+22	9.2E+22	3.9E+23	5.4E+21	5.4E+21	6.8E+22	2.3E+04	1.0E+19	1.0E+19	4.4E+19	-	-	-
Naphthalene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.2E+00	6.2E+00	2.6E+01	1.4E+05	1.4E+05	5.7E+05	2.9E+04	2.9E+04	3.7E+05	7.2E+02	3.1E+00	3.1E+00	1.3E+01	6.3E+02	6.3E+02	1.3E+04
TPH RBC* →	11,000	22,000	>MAX	46,000	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	490	490	2,000	>S	>S	>S	>S	>S	>S	>S	450	450	1,900	90,000	90,000	1,900,000
Generic Gasoline	1,200	2,500	20,000	9,700	>MAX	5,900	5,900	69,000	94	94	>MAX	31	31	130	110	110	450	>S	>S	>S	22,000	22,000	>S	14,000	390	390	1,700	79,000	79,000	1,700,000
Generic Diesel / Heating Oil	1,100	2,200	14,000	4,600	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	9,500	9,500	>MAX	100	100	430	>S	>S	>S	>S	>S	>S	>S	100	100	440	21,000	21,000	440,000
Generic Mineral Insulating Oil	2,800	5,700	36,000	11,000	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	300	300	1,300	>S	>S	>S	>S	>S	>S	>S	150	150	620	30,000	30,000	620,000

TPH Fraction Composition (Weight Fraction)

Fuel Fractions	Site-Specific Data			Generic Weight Fraction Data		
	Raw Data mg/kg (ppm)	Adjusted Data mg/kg (ppm)	Weight Fraction	Gasoline	Diesel	Mineral Oil
Aliphatic C5-C6	0	0	0.00E+00	2.06E-01	0.00E+00	0.00E+00
Aliphatic >C6-C8	1	1	2.54E-03	2.20E-01	0.00E+00	0.00E+00
Aliphatic >C8-C10	2	2	4.34E-03	9.00E-02	2.00E-02	1.00E-03
Aliphatic >C10-C12	0	0	0.00E+00	3.00E-02	7.00E-02	3.00E-03
Aliphatic >C12-C16	4	4	9.05E-03	0.00E+00	3.50E-01	1.60E-01
Aliphatic >C16-C21	28	28	5.81E-02	0.00E+00	3.40E-01	7.00E-01
Aliphatic >C21-C34	383	383	7.84E-01	0.00E+00	0.00E+00	0.00E+00
Aromatic >C8-C10	4	4	7.76E-03	9.02E-02	2.52E-03	1.00E-03
Aromatic >C10-C12	3	3	7.08E-03	2.25E-02	7.40E-03	1.00E-03
Aromatic >C12-C16	11	11	2.19E-02	0.00E+00	8.00E-02	7.00E-03
Aromatic >C16-C21	21	21	4.30E-02	0.00E+00	1.20E-01	8.00E-02
Aromatic >C21-C34	31	31	6.24E-02	0.00E+00	0.00E+00	4.60E-02
n-Hexane	0.0	0.0	0.00E+00	2.40E-02	0.00E+00	0.00E+00
Benzene	0.0	0.0	0.00E+00	2.50E-02	2.90E-04	0.00E+00
Toluene	0.0	0.0	0.00E+00	1.20E-01	1.80E-03	0.00E+00
Ethylbenzene	0.0	0.0	0.00E+00	2.00E-02	6.80E-04	0.00E+00
Total Xylenes	0.0	0.0	0.00E+00	1.10E-01	5.00E-03	0.00E+00
1,2,4-trimethylbenzene	0.0	0.0	0.00E+00	3.00E-02	0.00E+00	0.00E+00
1,3,5-trimethylbenzene	0.0	0.0	0.00E+00	9.80E-03	1.80E-03	0.00E+00
Naphthalene	0.0	0.0	0.00E+00	2.50E-03	2.60E-03	0.00E+00
Total	489	489	1.00	1.00	1.00	1.00

Use one of the following two options for site-specific TPH RBC calculations.

OPTION 1: Estimate TPH Fractions	(1) Enter TPH data (mg/kg or ppm) into the cell on the right. <input type="text"/>	<input type="button" value="Gasoline Estimate"/> <input type="button" value="Diesel Estimate"/>
	(2) Enter BTEX, TMB, and naphthalene data in the "Raw Data" column above.	
	(3) Use one of the buttons at the right to identify the predominant product.	
OR		
OPTION 2: Use VPH and EPH Results	(1) Enter TPH fraction <u>and</u> constituent data in the "Raw Data" column above.	<input type="button" value="Gasoline Fractions"/> <input type="button" value="Non-Gas Fractions"/>
	(2) Use one of the buttons at the right to identify the predominant product.	

For references, please refer to *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* (DEQ, 2003).

Appendix I
Ecological Risk Screening Checklist

General Site Information	
ECSI File No. or LUST File No.:	
Site Name:	MARKET TRANSPORT TERMINAL FACILITY
Site Location (address, city, and/or county):	110 North Marine Drive, Portland
Latitude/Longitude or other location documentation for site:	45.600233° / -122.667039°
Current and Historical Site Use (gas station, dry cleaner, jet hangar, etc.)¹:	Shop for truck maintenance
Zoning:	Industrial
Site² Features:	All work inside building, concrete floor.
Chemicals of Interest³:	Gear oil and related constituents (DRO, RRO, PAHs)

¹ Include contaminant management, treatment, storage or disposal and areas where a release may have occurred. Historical sources should be identified using sources of information which help in identifying current or past uses or occupants of a site including aerial photographs, fire insurance maps, property tax files, recorded land title records, United States Geological Survey (USGS) 7.5 minute topographic maps, local street directories, building department records, zoning or land use records. Any previous site assessments, environmental assessments or studies should be summarized

² Facility or Site (OAR 340-122-0115(26)) means any building, structure, installation, equipment, pipe or pipeline including any pipe into a sewer or publicly owned treatment works, well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, above ground tank, underground storage tank, motor vehicle, rolling stock, aircraft, or any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located and where a release has occurred or where there is a threat of a release, but does not include any consumer product in consumer use or any vessel.

³ A COI list should include chemicals that are detected or are suspected to be present based on historical and current operations. For Stage 1, the site-specific history of hazardous substance uses and releases is usually the source of potential chemical information. Identify hazardous substances that have the potential to bioaccumulate in Section C2 of Attachment 1.

Site Conditions – Provide Approximate Areas (acreage or square feet)

These habitats may occur in a range of natural and protected areas, including parks and green space found within urban areas. More information and habitat classification can be found at: <https://oregonexplorer.info/content/classification-wildlife-habitats>

Site Adjacent to Site

_____ **Terrestrial Open Habitat / Grasslands:** Dominated by short to medium-tall grasses, low to medium shrubs, or bare soil.

_____ **Forest or Woodland Habitats:** Woodlands (maple, alder, aspen), conifer forest (Douglas fir, hemlock, cedar, spruce), mixed-woodland, juniper, pine (ponderosa, lodgepole).

_____ **Wetland⁴:** May be either tidal or non-tidal wetlands with emergent herbaceous plants.

_____ **Riparian Zone:** Patches or linear strips of land adjacent to waterbodies (rivers, streams, waterbodies), or on nearby floodplains and terraces. May be impacted by periodic riverine flooding or perennial flowing water. May or may not also contain wetlands.

_____ **Aquatic Open Water:** Ponds, lakes, reservoirs, rivers, creeks, streams, bays, estuaries, and nearshore marine and intertidal.

Impermeable Surface: Pavement, structures.

Documentation

- Aerial Site Vicinity Map(s) identifying zoning and Site features. Include topographic map.
- Summarize known or potential contaminated soil, groundwater, migration pathways.
- Figure illustrating source/release areas, sample locations, estimated areas of contamination, and surface features such as pavement, stormwater catch basins/drainage system including outfalls, dry wells or stormwater swales.
- Aerial Map showing habitat types described above both within and adjacent to the Site by at least 1/4 mile from Site boundary. Definitions and tools⁵ for identifying wetlands include:

⁴ Covered Under Oregon Statewide Wetlands Inventory (ORS 196.674)

<https://www.oregon.gov/dsl/WW/Pages/SWI.aspx>

⁵ Information shown on the Local Wetland Inventory maps is for planning purposes only, as wetland information is subject to change. There may be unmapped wetland and waters subject to regulation and all wetlands and waters boundary mapping is approximate. In all cases, actual field conditions determine the presence, absence and boundaries of wetlands and waters.

https://www.oregon.gov/dsl/WW/Pages/Inventories.aspx http://tools.oregonexplorer.info/oe_map_viewer_2_0/viewer.html?Viewer=orwap National Wetlands Inventory: https://www.fws.gov/wetlands/Data/Mapper.html	
Checklist Completed By: (name and title/expertise)	Date: