AECOM

Environment

Prepared for
Port of Vancouver USA
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Submitted by
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Submitted to
Washington Department of Ecology

60624310
March 2023

Groundwater Monitoring Letter Report – December 2022

Former Automotive Services, Inc. Site

Port of Vancouver USA
2327 West Mill Plain Boulevard
Vancouver, Washington

AECOM

March 9, 2023

Mr. Panjini Balaraju
Washington Department of Ecology
Toxics Cleanup Program
Lacey, Washington
(PDF copy via email: PBAL461@ecy.wa.gov)

Re: Groundwater Monitoring Letter Report – December 2022
Former Automotive Services, Inc. Site
Port of Vancouver USA
2327 West Mill Plain Boulevard
Vancouver, Washington
AECOM Job No. 60519969

Dear Mr. Balaraju:

AECOM has prepared this Groundwater Monitoring Letter Report (herein referred to as the report) on behalf of the Port of Vancouver USA (the Port). This report summarizes the results of the December 2022 groundwater monitoring event conducted at the Former Automotive Services, Inc. (ASI) Site (herein referred to as the Site).

1 Site Location and Background

The Site is located at 2327 West Mill Plain Boulevard in Vancouver, Washington (Figure 1). The Site consists of approximately 4.33 acres of nearly level concrete paved land. The current tax parcel number is 059115-068 and is owned by the Port (Ecology, 2014). The Port currently leases the Site to CalPortland, which operates an aggregate distribution plant (Figure 2).

The Site was historically an agricultural field before the ASI car wash facility was constructed in 1972 and 1973. ASI used hot water with kerosene to remove a Cosmoline-based protective coating from imported cars arriving at the Port's auto terminals. The Mill Plain Boulevard extension dissected the car wash facility in 1998. Residual contamination and former car wash areas are located at the Site as summarized below (Ecology, 2014).

- In 1980, due to a process malfunction in the facility's water treatment system, water with kerosene flowed onto the ground surface west of the car wash building resulting in petroleum soil contamination.
- In 1991, four underground storage tanks (USTs) (containing kerosene, gasoline, and diesel) at the car wash facility were removed; soil samples collected following the removal activities indicated residual petroleum contamination. During the UST removal activities, approximately 1,500 cubic yards of petroleum contaminated soil was excavated; however, an on-Site structure prevented complete removal and residual contaminated soil was left in place.
- In 1992, diesel-impacted soil was encountered on the west side of the Site near the adjacent Marathon aboveground storage tank farm. The source, based on field evidence, appeared to be from a surface spill in the 1960s prior to placement of Columbia River sand and silt dredge spoils over the area.

Between September 1999 and February 2001, cleanup activities included the on-Site bioremediation of diesel- and kerosene-impacted soils from two soil excavation events described below (Ecology, 2014):

- In August 1999, during the initial excavation event, soils were excavated to approximately 16 feet below ground surface (bgs) where a change in lithology was observed, and groundwater was encountered. The excavation was halted because of the presence of groundwater, lack of available stockpile space, and constraints along the Marathon property boundary.
- In July 2000, diesel contamination remaining from the initial event was removed. Excavation depths ranged from 17 to 20 feet bgs, and the footprint of the excavation area was expanded to follow contamination in all directions, including the adjoining Marathon property. Soil sampling from the

sidewalls and bottom of the final excavation indicated approximately 389 cubic yards of diesel-impacted soil remained at the Site below 16 feet bgs. Groundwater impacts are limited to the center of the Site around well GL-2 (Figure 2).

As detailed in the 2014 No Further Action (NFA) letter from the Washington State Department of Ecology (Ecology), an Environmental Covenant 3407456 was filed with Clark County in 2012 and revised in September 2013 to address the remaining impacted areas (Ecology, 2014). To confirm the long-term effectiveness of the cleanup operations completed at the Site, confirmational groundwater monitoring is necessary; the data will be used by Ecology during periodic reviews. In the NFA, Ecology approved a monitoring plan for the Site's monitoring wells; the monitoring program is summarized in Section 3 below.

A total of seven monitoring wells have been installed at the Site: GL-1, GL-2 and GL-3 (formerly identified as MW-1, MW-2 and MW-3) in 1991 and GL-4, GL-5, GL-6 and GL-7 in 2002. All monitoring wells listed on Table 1 are constructed with screened intervals of 10 to 30 feet below top of casing (btoc).

2 Site Hydrogeology and Soils

The depth to groundwater seasonally ranges between 14 to 21 feet bgs (Ecology, 2014). The groundwater gradient is relatively flat ranging between northwest and south-southeast. Site soils are classified as Hillsboro loam with McBee silty clay loam across the center of the property trending from the northwest corner to southeast corner. The soils become sandy at approximately 10 to 15 feet bgs and the sand becomes coarser at 18 to 20 feet bgs (Ecology, 2014).

3 Groundwater Monitoring Program and Cleanup Levels

As part of Ecology's NFA, a site-specific monitoring plan was required. Long-term groundwater monitoring has been conducted at the Site in accordance with the following monitoring plans and revisions since 2009:

- Long-Term Confirmational Groundwater Monitoring Plan (CEC, 2007)
- Ecology approval email for use of low-flow sampling techniques (Ecology, 2009)
- Revised Long-Term Confirmational Groundwater Monitoring Plan for the ASI/Glacier Site (Kennedy/Jenks Consultants, 2010)
- The *Revised Long-Term Monitoring Plan* proposed a reduction in the number of wells sampled during each event and the decommissioning of monitoring wells GL-5 and GL-7. In 2010, Ecology agreed that the remaining wells were deemed sufficient to monitor the localized area of diesel impacts in groundwater near GL-2 (Ecology, 2014). AECOM decommissioned GL-7 in October 2019 and GL-5 in in April 2020 (AECOM, 2020a, 2020b).

Based on the *Revised Long-Term Confirmational Groundwater Monitoring Plan*, the current compliance monitoring plan (Table 1) includes the collection of depth-to-groundwater measurements and groundwater samples from the following five monitoring wells every 18 months:

- GL-1
- GL-2
- GL-3
- GL-4
- GL-6

The analyte list for groundwater samples collected includes the full list of volatile organic compounds (VOCs) and diesel- and oil-range total petroleum hydrocarbons (diesel and oil) at all monitoring wells.

In accordance with *Revised Long-Term Confirmational Groundwater Monitoring Plan*, the analytical results are compared to the Ecology Model Toxics Control Act (MTCA) Method A groundwater cleanup levels (CULs).

4 Activities Conducted During December 2022

AECOM completed the December 2022 groundwater monitoring event in accordance with the following three documents.

- Environmental Protection Agency (EPA) guidance document titled *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures* (EPA, 1996)
- Revised Long-Term Confirmational Groundwater Monitoring Plan for the ASI/Glacier Site (Kennedy/Jenks Consultants, 2010)
- Ecology NFA letter (Ecology, 2014)

Groundwater monitoring included the following:

- Depth-to-groundwater measurements were collected from the five monitoring wells included in the current monitoring plan (see Section 3) using an electronic water level meter. The depth-to-groundwater was measured from the top of casing (TOC) at each well and recorded on the Monitoring Well Sampling Field Logs (Appendix A). Depth-to-groundwater measurements and calculated groundwater elevations are presented on Table 2.
- Groundwater samples were collected from the five monitoring wells included in the current monitoring plan (see Section 3). Each groundwater sample was collected following low-flow purging and stabilization of the following field parameters: temperature, pH, conductivity, dissolved oxygen (DO), and oxidation reduction potential (ORP). A peristaltic pump was used for purging the monitoring wells. The groundwater samples were collected at each monitoring well using a disposable double check valve bailer. The peristaltic pump tubing and disposable bailers were all lowered and retrieved gently and set at the center of the screen interval. Monitoring Well Sampling Field Logs for this monitoring event are included in Appendix A, and final field parameters are reported in Table 3.
- A field duplicate sample collected from monitoring well GL-2, a field blank, and a trip blank were also collected and submitted for analysis.
- Sample containers were stored in a cooler with ice from the time of sample collection until delivery to the laboratory.
- Groundwater samples were delivered to Apex Laboratories of Tigard, Oregon under strict chain-of-custody procedures. The samples were submitted for the analyses listed below in accordance with Table 1.
    - Full list of VOCs by EPA Method 8260C
    - Diesel and oil by the NWTPH-Dx Method
- Chain-of-custody forms are included in Appendix B with the laboratory analytical reports. Purge and decontamination water was placed into a labeled, aboveground polyethylene tank, which is temporarily staged under the 26th Avenue overpass pending characterization and disposal. Disposable sampling equipment (including tubing and nitrile gloves) was managed as municipal solid waste.

5 Results of the December 2022 Monitoring Event

Depth-to-groundwater measurements and groundwater samples were collected from the five monitoring wells on December 29, 2022. Depth-to-groundwater measurements are listed on Table 2. Stabilized groundwater field parameters are provided in Table 3. Groundwater analytical results are summarized in Table 4. The laboratory analytical reports are included in Appendix B.

5.1 Groundwater Elevation Monitoring

Depth-to-groundwater measurements recorded were used to calculate groundwater elevations at each monitoring well. The groundwater elevations are presented in Table 2 in feet relative to the National Geodetic Vertical Datum based on the City of Vancouver Benchmark L-181. On December 29, 2022, the groundwater elevations ranged from 7.87 feet at GL-6 to 8.66 feet at GL-2 and GL-3.

Groundwater elevation contours and the inferred direction of groundwater flow from this event are shown on Figure 3. The hydraulic gradient was calculated to be 0.004 ft/ft to the west. This is generally consistent with previous sampling events.

5.2 Groundwater Analytical Results

The analytical results from the primary groundwater samples are presented on Table 4.[a]

- During this event, one VOC (tetrachloroethene [PCE]), diesel, and oil were detected in one or more groundwater samples; however, none of the detections exceeded their respective CULs (5 mg/L, 0.5 mg/L, and 0.5 mg/L). Below is a summary of the detections. PCE was detected in GL-2 (0.260 milligrams per liter [mg/L]) and GL-3 (0.184 mg/L). Both detections were below the quantification limit and were therefore reported with "J" flags.
- Diesel was detected in GL-1 (0.138 mg/L) and GL-2 (0.270 mg/L) only.
- Oil was detected in GL-3 (0.124 mg/L) and GL-4 (0.184 mg/L). The detection in GL-3 was below the quantification limit and was therefore reported with a "J" flag.

6 Data Quality and Management

Based on a review of the laboratory reports, the analyses and results conformed to quality assurance standards, and the analytical data are of acceptable quality for their intended use. A data quality review is included in Appendix C.

AECOM uploaded the data from this event into Ecology's Environmental Information Management (EIM) database in early February 2023.

7 Conclusions

AECOM completed groundwater monitoring at the Site on December 29, 2021.

- The detections in groundwater samples from monitoring wells GL-3 through GL-5 were consistent with the past monitoring events, with no CUL exceedances over the past 10 consecutive monitoring events.
- Diesel has not been detected above the CUL for four consecutive monitoring events in GL-1.
- Diesel was not detected above the CUL in GL-2 for the first time since 2016.

8 Recommendations and Future Sampling Activities

AECOM recommends the following modifications to the groundwater monitoring program.

- **Reduction in the monitoring program:** Discontinue sampling GL-3, GL-4, and GL-6 as there have been no CUL exceedances in the past 10 monitoring events
- **Reduction in the analytical program:**
    - Discontinue VOC analysis as no VOCs have been detected above the CULs over the past 10 events

[a] Only the results for the historically detected VOCs (not the full list) are presented on Table 4.

  - Report to the method reporting limit (MRL) instead of the method detection limit as the MRLs are adequate to meet their respective CULs

- **Modification in the sampling procedure:** Discontinue the step of using disposable double check ball bailer for sample collection as VOC analysis is being removed from the analytical program

Except for the above modifications, the groundwater monitoring will continue every 18 months in accordance with the *Revised Long-Term Confirmational Groundwater Monitoring Plan for the ASI/Glacier Site* (Kennedy/Jenks Consultants, 2010). The five monitoring wells will continue to be maintained for collection of depth-to-groundwater measurements. The next monitoring event is scheduled for June 2024.

9 References

AECOM, 2020a. *Monitoring Well Decommissioning Summary Letter – GL-7*. Former Automotive Services, Inc. Site. Port of Vancouver USA. April 2.

AECOM, 2020b. *Monitoring Well Decommissioning Summary Letter – GL-5*. Former Automotive Services, Inc. Site. Port of Vancouver USA. June 15.

CEC, 2007. *Long-Term Confirmational Groundwater Monitoring Plan for the ASI/Glacier Site.* Port of Vancouver USA. March 9.

Ecology, 2014. Letter from Washington State Department of Ecology to Port of Vancouver. *No Further Action for the Former Automotive Services Inc Site.* March 7.

EPA, 1996. *Ground Water Issue. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures.* By Robert W. Puls and Michael J. Barcelona. EPA/540/S-95/504. April.

Kennedy/Jenks, 2010. Letter from Kennedy/Jenks Consultants to the Washington State Department of Ecology. *Subject: Automotive Services, Inc. – REVISED Long Term Groundwater Monitoring Plan, Former ASI/Glacier Site, Port of Vancouver USA.* May 10.

10 Limitations

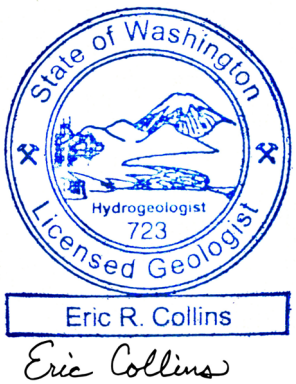
AECOM has prepared this report for use by the Port. Within the limitations of scope, schedule, and budget, our services have been executed in accordance with accepted environmental science practices in this area at the time this report was prepared. No other warranty or conditions, expressed or implied, should be understood.

We appreciate the opportunity to be of service to the Port on this project. Please call Nicky Moody at (503) 969-6310 with any questions regarding this or any other referenced submittals.

Sincerely,

AECOM

Nicky Moody
Project Manager



Eric Collins, LHG
Hydrogeologist

cc: Craig Rankine, RG, LHG, Cleanup Project Manager/Hydrogeologist, Washington Department of Ecology, Toxics Cleanup Program, Vancouver Field Office, 12121 NE 99th Street, Suite 2100, Vancouver, WA 98682, cran461@ECY.WA.GOV

Matt Graves, LG, Environmental Manager, Port of Vancouver USA, 3103 NW Lower River Road, Vancouver, WA 98660, mgraves@Portvanusa.com

Attachments

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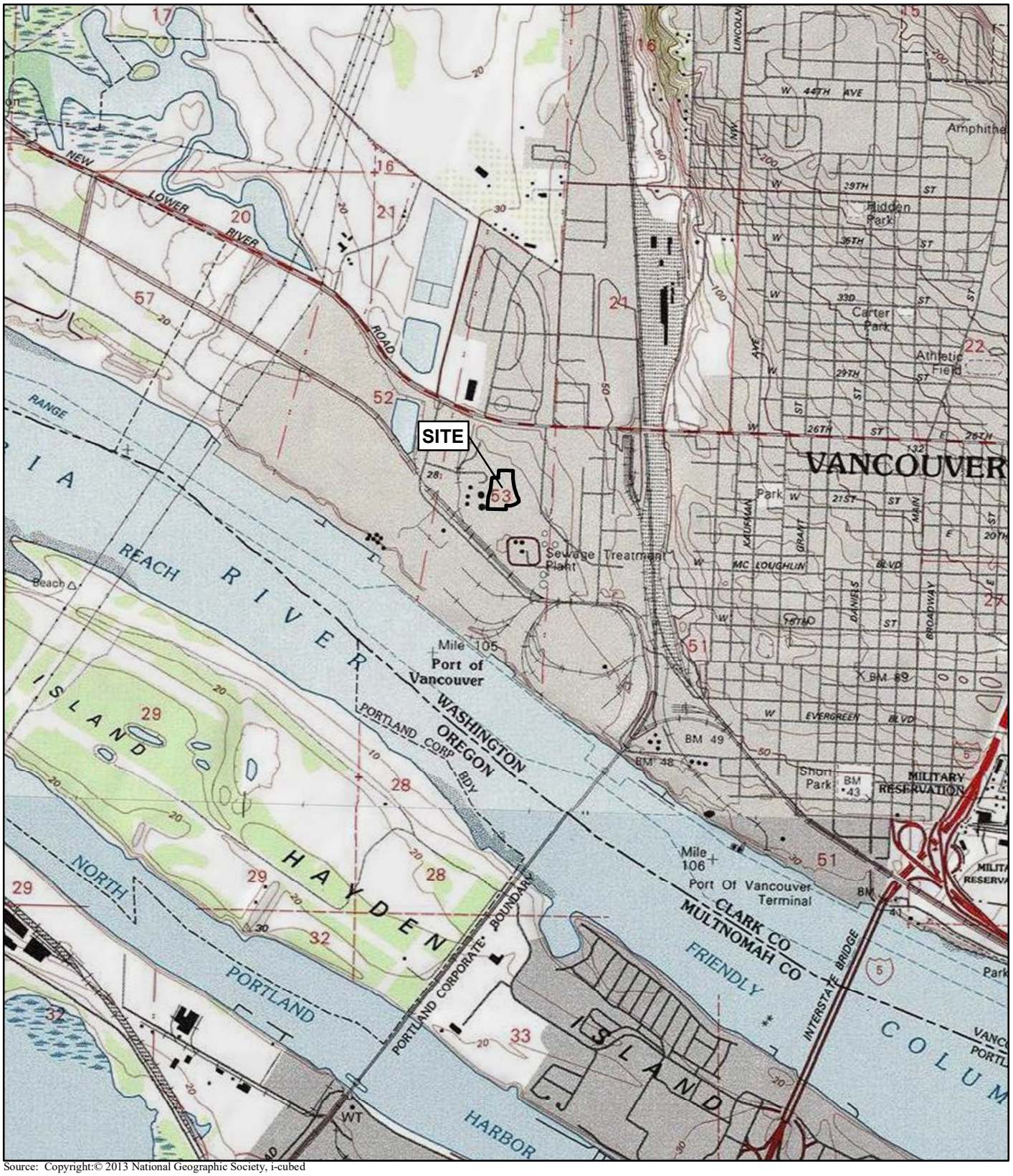
Figures



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1,000 0 1,000 2,000

SCALE IN FEET

AECOM

VICINITY MAP

FORMER AUTOMOTIVE SERVICES, INC. SITE
PORT OF VANCOUVER USA
2327 WEST MILL PLAIN BOULEVARD, VANCOUVER, WA

FIGURE 1

O:\60519969 PoV GW Monitoring Services\900-CAD, GIS\MXD\Figure 1 Viciniy Map.mxd

Sources: USGS Imagery, 2012. Clark County GIS, 2019.

50 0 50 100

SCALE IN FEET

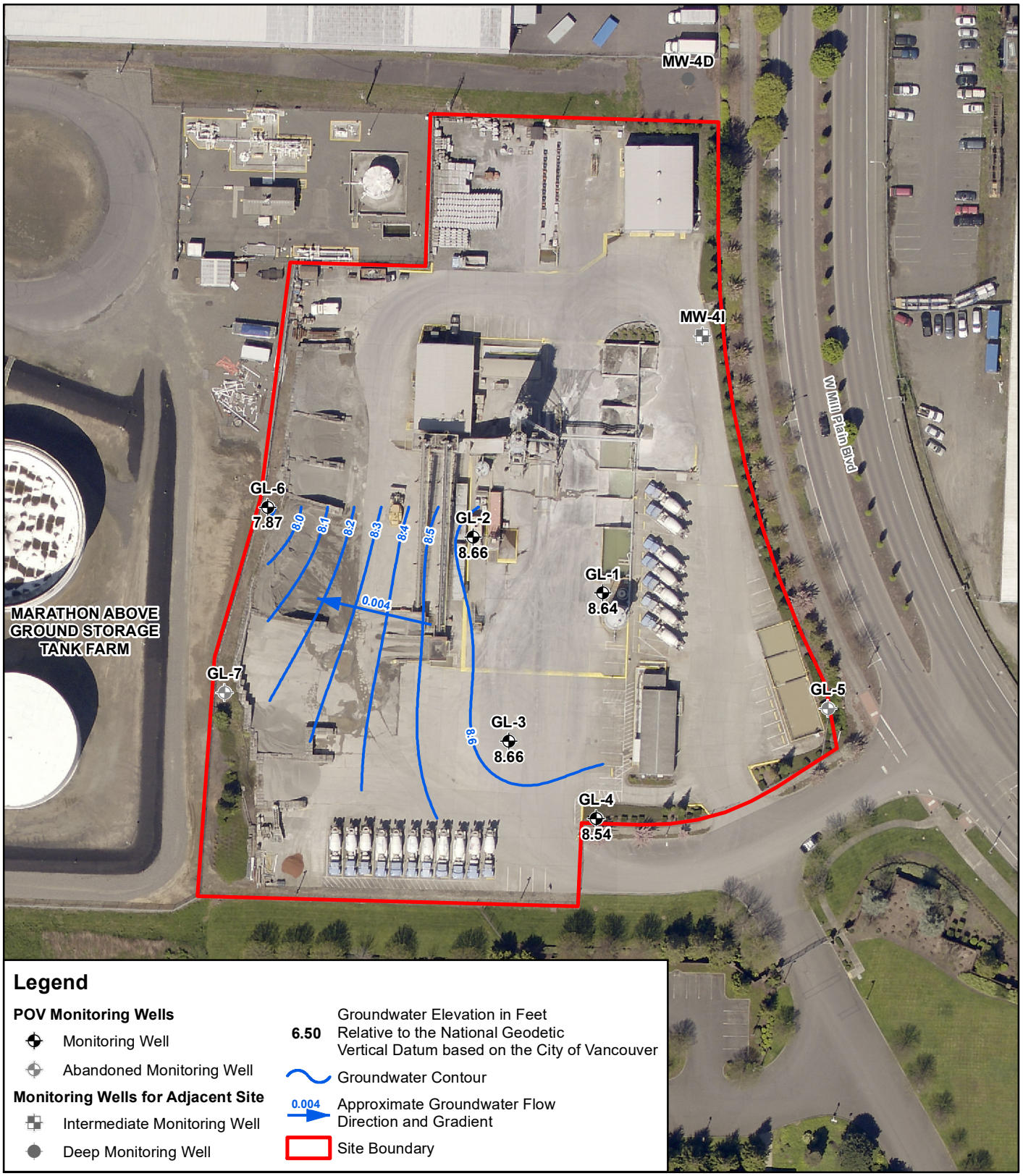
AECOM

SITE MAP

FORMER AUTOMOTIVE SERVICES, INC. SITE
PORT OF VANCOUVER USA
2327 WEST MILL PLAIN BOULEVARD, VANCOUVER, WA

FIGURE 2

O:\60519969 PoV GW Monitoring Services\900-CAD, GIS\MXD\Figure 2 Site Map.mxd



Legend

POV Monitoring Wells

- Monitoring Well
- Abandoned Monitoring Well

Monitoring Wells for Adjacent Site

- Intermediate Monitoring Well
- Deep Monitoring Well

6.50 Groundwater Elevation in Feet Relative to the National Geodetic Vertical Datum based on the City of Vancouver

Groundwater Contour

0.004 Approximate Groundwater Flow Direction and Gradient

Site Boundary

50 0 50 100

SCALE IN FEET

GROUNDWATER ELEVATION, CONTOURS, AND FLOW DIRECTION – DECEMBER 2022

FORMER AUTOMOTIVE SERVICES, INC. SITE
PORT OF VANCOUVER USA
2327 WEST MILL PLAIN BOULEVARD, VANCOUVER, WA

AECOM

FIGURE 3

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Tables

Table 1. Compliance Monitoring Plan
Former Automotive Services, Inc. Site

Current Well Identification	Original Well Identification	Well Log Total Depth	Well Log Screen Interval	Diameter	Monument Type	Current Compliance Monitoring Plan		
						+18 months	Sampling Method	Analytes
	Units:	feet bgs	feet bgs	inches	--	--	--	--
GL-1	MW-1	33.00	10-30	2.00	Flush	X	PP/Bailer	VOCs, Dx
GL-2	MW-2	27.20	10-30	2.00	Flush	X	PP/Bailer	VOCs, Dx
GL-3	MW-3	26.80	10-30	2.00	Flush	X	PP/Bailer	VOCs, Dx
GL-4	--	30.40	10-30	2.00	Flush	X	PP/Bailer	VOCs, Dx
GL-6	--	28.00	10-30	2.00	Flush	X	PP/Bailer	VOCs, Dx
GL-5	Decommissioned in April 2020							
GL-7	Decommissioned in October 2019							
MW-4D	Included only in the adjacent Cadet Manufacturing site investigation							
MW-4I	Included only in the adjacent Cadet Manufacturing site investigation							

Acronyms and Abbreviations:
-- = not applicable or not included
18 mo = monitoring conducted every 18 months
BTOC = below top of well casing
D = Deep
I = intermediate
Dx = Diesel and oil-range total petroleum hydrocarbons
PP/Bailer = purging conducted using peristaltic pump and then sampling conducted using a double check ball disposable bailer
S = shallow
VOCs = volatile organic compounds

Table 2. Groundwater Elevation Results
Former Automotive Services, Inc. Site

Well Identification	Date	Top of Casing Elevation	Depth-to-Groundwater	Groundwater Elevation	Change in Groundwater Elevation
	Units:	feet [(a)]	feet below TOC	feet [(a)]	feet
GL-1	4/1/2009	27.42	21.03	6.39	--
	12/16/2010	27.42	18.03	9.39	-3.00
	4/26/2012	27.42	13.79	13.63	-4.24
	10/17/2013	27.42	23.41	4.01	9.62
	4/29/2015	27.42	22.48	4.94	-0.93
	11/3/2016	27.42	20.70	6.72	-1.78
	6/10/2019	27.42	20.01	7.41	-0.69
	12/5/2019	27.42	23.20	4.22	3.19
	6/25/2021	27.42	20.68	6.74	-2.52
	12/29/2022	27.42	18.78	8.64	-1.90
GL-2	4/1/2009	27.82	21.41	6.41	--
	12/16/2010	27.82	18.41	9.41	-3.00
	4/26/2012	27.82	14.23	13.59	-4.18
	10/17/2013	27.82	23.75	4.07	9.52
	4/29/2015	27.82	22.85	4.97	-0.90
	11/2/2016	27.82	21.62	6.20	-1.23
	6/10/2019	27.82	20.31	7.51	-1.31
	12/5/2019	27.82	23.47	4.35	3.16
	6/25/2021	27.82	21.00	6.82	-2.47
	12/29/2022	27.82	19.16	8.66	-1.84
GL-3	4/1/2009	27.17	20.79	6.38	--
	12/16/2010	27.17	17.75	9.42	-3.04
	4/26/2012	27.17	13.51	13.66	-4.24
	10/17/2013	27.17	23.08	4.09	9.57
	4/29/2015	27.17	22.48	4.69	-0.60
	11/2/2016	27.17	20.72	6.45	-1.76
	6/10/2019	27.17	19.69	7.48	-1.03
	12/5/2019	27.17	23.16	4.01	3.47
	6/25/2021	27.17	20.46	6.71	-2.70
	12/29/2022	27.17	18.51	8.66	-1.95
GL-4	4/1/2009	28.31	21.95	6.36	--
	12/16/2010	28.31	18.87	9.44	-3.08
	4/26/2012	28.31	14.71	13.60	-4.16
	10/17/2013	28.31	24.28	4.03	9.57
	4/29/2015	28.31	23.31	5.00	-0.97
	11/1/2016	28.31	21.91	6.40	-1.40
	6/10/2019	28.31	20.91	7.40	-1.00
	12/5/2019	28.31	24.48	3.83	3.57
	6/25/2021	28.31	21.54	6.77	-2.94
	12/29/2022	28.31	19.77	8.54	-1.77

Table 2. Groundwater Elevation Results
Former Automotive Services, Inc. Site

Well Identification	Date	Top of Casing Elevation	Depth-to-Groundwater	Groundwater Elevation	Change in Groundwater Elevation
GL-6	4/1/2009	25.88	19.51	6.37	--
	12/16/2010	25.88	16.53	9.35	-2.98
	4/26/2012	25.88	12.45	13.43	-4.08
	10/17/2013	25.88	21.85	4.03	9.40
	4/30/2015	25.88	22.90	2.98	1.05
	11/2/2016	25.88	19.17	6.71	-3.73
	6/11/2019	25.88	19.39	6.49	0.22
	12/5/2019	25.88	22.12	3.76	2.73
	6/25/2021	25.88	19.38	6.50	-2.74
	12/29/2022	25.88	18.01	7.87	-1.37

Acronyms and Abbreviations:
-- = not applicable
TOC = top of casing

Notes:
(a) = Elevation in feet relative to the National Geodetic Vertical Datum based on the City of Vancouver Benchmark L-181.

Table 3. Groundwater Field Parameter Measurements
Former Automotive Services, Inc. Site

Well Identification	Sample Date	Temperature	pH	Conductivity	ORP	Dissolved Oxygen
	Units:	°C [(a)]	no units	mS/cm	mV	mg/l
GL-1	4/1/2009	55.69	6.53	0.369	NM	0.78
	12/16/2010	55.92	NM	0.537	NM	0.54
	4/26/2012	57.40	6.79	0.300	NM	2.97
	10/17/2013	57.30	6.61	0.890	NM	0.1
	4/29/2015	57.25	6.42	0.946	NM	0.1
	11/3/2016	54.91	6.64	0.514	NM	17.2
	6/10/2019	57.96	NM	0.794	NM	6.92
	12/5/2019	14.10	7.05	0.991	-113	0.0
	6/25/2021	18.02	6.61	0.981	-75	0.0
	12/29/2022	13.66	6.55	0.571	-42	0.0
GL-2	4/1/2009	54.71	6.03	0.858	NM	1.38
	12/16/2010	55.26	NA	0.890	NM	1.00
	4/26/2012	55.40	6.92	0.715	NM	0.71
	10/17/2013	55.80	6.68	1.000	NM	0.08
	4/29/2015	56.91	6.7	0.946	NM	0.54
	11/2/2016	54.17	6.72	0.540	NM	1.91
	6/10/2019	57.61	6.59	0.845	NM	NM
	12/5/2019	12.97	6.85	1.030	37	0.00
	6/25/2021	15.82	6.56	1.030	299	0.00
	12/29/2022	12.39	6.7	0.599	10	0.0
GL-3	4/1/2009	55.77	6.20	0.363	NM	1.83
	12/16/2010	56.79	NA	0.375	NM	0.74
	4/26/2012	56.57	6.55	0.236	NM	0.95
	10/17/2013	58.80	6.02	0.468	NM	0.51
	4/29/2015	59.68	6.1	0.346	NM	0.48
	11/2/2016	56.48	5.93	0.238	NM	1.86
	6/10/2019	64.18	6.12	0.370	NM	NM
	12/5/2019	14.40	6.42	0.486	158	0.0
	6/25/2021	18.71	6.09	0.435	29	0.27
	12/29/2022	14.59	6.15	0.330	149	0.0
GL-4	4/1/2009	56.78	6.38	0.389	NM	1.42
	12/16/2010	56.68	NA	0.593	NM	0.71
	4/26/2012	55.33	6.71	0.373	NM	1.37
	10/18/2013	57.60	6.23	0.293	NM	0.25
	4/29/2015	58.04	6.2	0.376	NM	0.49
	11/1/2016	55.24	5.82	0.184	NM	2.31
	6/10/2019	58.55	6.11	0.260	NM	NM
	12/5/2019	12.30	6.50	0.320	186	0.0
	6/25/2021	21.16	6.08	0.353	50	2.97
	12/29/2022	13.74	5.91	0.213	3.52	0.99

Table 3. Groundwater Field Parameter Measurements
Former Automotive Services, Inc. Site

Well Identification	Sample Date	Temperature	pH	Conductivity	ORP	Dissolved Oxygen
GL-6	4/1/2009	52.65	5.92	0.175	NM	3.50
	12/16/2010	54.00	NA	0.190	NM	4.93
	4/26/2012	52.23	6.19	0.089	NM	8.03
	10/18/2013	53.60	6.15	0.070	NM	7.50
	4/30/2015	56.62	5.79	0.070	NM	7.21
	11/2/2016	53.64	5.62	0.140	NM	7.07
	6/11/2019	55.20	6.17	0.125	NM	4.11
	12/5/2019	11.86	6.21	0.136	209	4.12
	6/25/2021	14.55	6.00	0.138	306	4.84
	12/29/2022	11.60	5.92	0.134	364	4.19

Acronyms and Abbreviations:
°C = Degrees Celsius
mg/l = milligrams per liter
mS/cm = millisiemens per centimeter
mV = millivolts
NM = Not measured or not available to AECOM for this report
ORP = Oxidation-reduction potential

Notes:
(a) = Temperature readings collected prior to Decemeber 2019 collected in °F = Degrees Fahrenheit

Table 4. Volatile Organic Compounds and Total Petroleum Hydrocarbons in Groundwater
Former Automotive Services, Inc. Site

Well Identification	Date	Historically Site Detected VOCs						NWTPH-Dx	
		Acetone	sec-Butylbenzene	Isopropylbenzene	Naphthalene	n-Propylbenzene	PCE	Diesel	Oil
	Units:	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L
Groundwater Cleanup Levels:		NE	NE	NE	160	NE	5	0.5	0.5
GL-1	4/1/2009	**100**	NA	NA	5.0 U	NA	1.0 U	**0.29**	0.40 U
GL-1	12/16/2010	5.0 U	NA	NA	1.0 U	NA	**1.2**	**0.077**	0.38 U
GL-1	4/26/2012	5.0 U	NA	NA	**3.4**	NA	1.0 U	**0.49**	0.38 U
GL-1	10/17/2013	25 U	NA	NA	2.0 U	NA	0.5 U	**1.1**	0.24 U
GL-1	4/29/2015	20 U	NA	NA	2.0 U	NA	0.5 U	**1.4**	0.38 U
GL-1	11/3/2016	---	NA	NA	2.0 U	NA	---	**1.9**	0.38 U
GL-1	6/10/2019	**24.6**	**2.85**	**6.74**	2.00 UJ	**10.6**	0.400 U	**0.404**	0.381 U
GL-1	12/5/2019	10.0 U	**0.610 J**	**1.88**	2.00 UJ	**1.18**	0.200 U	**0.475**	0.0755 U
GL-1	6/25/2021	10.0 U	**0.500 U**	**0.5 U**	4.00 UJ	**0.25 U**	0.200 U	**0.715**	0.0762 U
GL-1	12/29/2022	10.0 U	0.500 U	0.500 U	1.00 U	0.250 U	0.200 U	**0.138**	0.0800 U
GL-2	4/1/2009	20 U	NA	NA	5.0 U	NA	1.0 U	**0.78**	0.40 U
GL-2	12/16/2010	5.0 U	NA	NA	1.0 U	NA	1.0 U	**0.8**	0.40 U
GL-2	4/26/2012	5.0 U	NA	NA	1.0 U	NA	1.0 U	**0.92**	0.38 U
GL-2	10/17/2013	25 U	NA	NA	2.0 U	NA	0.5 U	**1.2**	0.24 U
GL-2	4/29/2015	20 U	NA	NA	2.0 U	NA	0.5 U	**0.943**	0.38 U
GL-2	11/2/2016	---	NA	NA	2.0 U	NA	---	0.189 U	0.38 U
GL-2	6/10/2019	20.0 U	1.00 U	1.00 U	2.00 UJ	0.500 U	0.400 U	**0.659**	0.381 U
GL-2	12/5/2019	10.0 U	0.500 U	0.500 U	2.00 UJ	0.250 U	0.200 U	**0.647**	0.0755 U
GL-2	6/25/2021	10.0 U	0.500 U	0.500 U	4.00 UJ	0.250 U	0.200 U	**0.681**	0.0755 U
GL-2	12/29/2022	10.0 U	0.500 U	0.500 U	1.00 U	0.250 U	**0.210 J**	**0.270**	0.0909 U
GL-3	4/1/2009	20 U	NA	NA	5.0 U	NA	1.0 U	**0.084**	0.42 U
GL-3	12/16/2010	5.0 U	NA	NA	1.0 U	NA	**1.1**	0.080 U	0.40 U
GL-3	4/26/2012	5.0 U	NA	NA	1.0 U	NA	1.0 U	0.077 U	0.38 U
GL-3	10/17/2013	25 U	NA	NA	2.0 U	NA	0.5 U	**0.15**	0.24 U
GL-3	4/29/2015	20 U	NA	NA	2.0 U	NA	0.5 U	0.19 U	0.38 U
GL-3	11/2/2016	---	NA	NA	2.0 U	NA	---	0.19 U	0.38 U
GL-3	6/10/2019	**20.6**	1.00 U	1.00 U	2.00 UJ	0.500 U	0.400 U	0.190 U	0.381 U
GL-3	12/5/2019	10.0 U	0.500 U	0.500 U	2.00 UJ	0.250 U	0.200 U	**0.120**	0.0792 U
GL-3	6/25/2021	10.0 U	0.500 U	0.500 U	4.00 UJ	0.250 U	0.200 U	**0.0579 J**	0.0755 U
GL-3	12/29/2022	20.0 U	0.500 U	0.500 U	1.00 U	0.250 U	**0.260 J**	0.0412 U	**0.124 J**

Table 4. Volatile Organic Compounds and Total Petroleum Hydrocarbons in Groundwater
Former Automotive Services, Inc. Site

Well Identification	Date	Historically Site Detected VOCs						NWTPH-Dx	
		Acetone	sec-Butylbenzene	Isopropylbenzene	Naphthalene	n-Propylbenzene	PCE	Diesel	Oil
	Units:	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L
Groundwater Cleanup Levels:		NE	NE	NE	160	NE	5	0.5	0.5
GL-4	4/1/2009	20 U	NA	NA	5.0 U	NA	1.0 U	0.19 U	0.41 U
GL-4	12/16/2010	5.0 U	NA	NA	1.0 U	NA	1.0 U	**0.077**	0.38 U
GL-4	4/26/2012	5.0 U	NA	NA	1.0 U	NA	1.0 U	**0.28**	0.38 U
GL-4	10/18/2013	25 U	NA	NA	2.0 U	NA	0.5 U	0.096 U	0.24 U
GL-4	4/29/2015	20 U	NA	NA	2.0 U	NA	0.5 U	0.19 U	0.38 U
GL-4	11/2/2016	---	NA	NA	2.0 U	NA	---	0.19 U	0.38 U
GL-4	6/10/2019	20.0 U	1.00 U	1.00 U	2.00 UJ	0.500 U	0.400 U	0.190 U	0.381 U
GL-4	12/5/2019	20.0 UJ	0.500 U	0.500 U	2.00 UJ	0.250 U	0.200 U	**0.0629 J**	0.0784 U
GL-4	6/25/2021	10.0 U	0.500 U	0.500 U	4.00 UJ	0.250 U	0.200 U	0.0377 U	0.0755 U
GL-4	12/29/2022	10.0 U	0.500 U	0.500 U	1.00 U	0.250 U	**0.230 J**	0.0455 U	**0.184**
GL-6	4/1/2009	20 U	NA	NA	5.0 U	NA	1.0 U	0.082 U	0.41 U
GL-6	12/16/2010	5.0 U	NA	NA	1.0 U	NA	1.0 U	**0.34**	0.38 U
GL-6	4/26/2012	5.0 U	NA	NA	1.0 U	NA	1.0 U	0.079 U	0.40 U
GL-6	10/18/2013	25 U	NA	NA	2.0 U	NA	0.5 U	0.096 U	0.24 U
GL-6	4/30/2015	20 U	NA	NA	2.0 U	NA	0.5 U	0.189 U	0.377 U
GL-6	11/2/2016	---	NA	NA	2.0 U	NA	---	0.189 U	0.381 U
GL-6	6/11/2019	20.0 U	1.00 U	1.00 U	2.00 UJ	0.500 U	0.400 U	0.190 U	0.381 U
GL-6	12/5/2019	20.0 UJ	0.500 U	0.500 U	2.00 UJ	0.250 U	0.200 U	0.0385 U	0.0769 U
GL-6	6/25/2021	20.0 U	0.500 U	0.500 U	4.00 UJ	0.250 U	0.200 U	0.0377 U	0.0755 U
GL-6	12/29/2022	10.0 U	0.500 U	0.500 U	1.00 U	0.250 U	0.200 U	0.0449 U	0.0899 U

Notes:
Values in **bold** were detected above the sample quantitation limit.
CULs are defined in the *Revised Long-Term Confirmational Groundwater Monitoring Plan* (see Section 3).
Shaded values exceed the CUL.

Acronyms and Abbreviations:
--- = Sample not analyzed for constituent
CUL = Groundwater Cleanup Level
J = Constituent was not positively identified; the associated value is estimated
mg/L = milligrams per liter
NE = Not established
NS = Not sampled because well was dry or for another unforseen reason
NWTPH-Dx = Diesel- and oil-range total petroleum hydrocarbons
PCE = Tetrachloroethene
U = Constituent not detected at or above noted sample quantitation limit
µg/L = micrograms per liter
UJ = Constituent not detected at or above noted sample quantitation limit limit. However, the reported sample quantitation limit is approximate.
VOCs = volatile organic compounds

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Appendix A
Field Forms

Groundwater Monitoring Field Form

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Project Information			
Project Name:	Automotive Services, Inc. (ASI)	**Field Team:**	A. McLean
Project Number:	60519969	**Date:**	12/29/22

Field Measurements and Observations

Well ID	Time	Depth to Water (feet BTOC)	Condition Assessment • Well Tag ID verification • Status of each well • Replace broken lids, bolts, gaskets, caps, & locks	Aquifer	Screen Interval (feet)	Sampling Plan: Collect Sample	Sampling Method	Analytes	QC	Containers	
GL-6	922	~~19.77~~	1801 Good	Shallow	10-30	X	PP/Bailer	VOCs, Dx		3 VOAs	2 Ambers
GL-4	838	19.77	Good	Shallow	10-30	X	PP/Bailer	VOCs, Dx		3 VOAs	2 Ambers
GL-3	847	18.51	Good	Shallow	10-30	X	PP/Bailer	VOCs, Dx		3 VOAs	2 Ambers
GL-2	904	19.16	Good	Shallow	10-30	X	PP/Bailer	VOCs, Dx	FD**	3 VOAs 3 VOAs	2 Ambers 2 Ambers
GL-1	855	18.78	Good	Shallow	10-30	X	PP/Bailer	VOCs, Dx		3 VOAs	2 Ambers

Definitions:
FD = field duplicate
Dx = diesel and heavy oil range organics
PP/Bailer = purging conducted using peristaltic pump and then sampling conducted using a double check ball disposable bailer
QC = quality control samples
VOA = volatile organic analysis
VOC = volatile organic carbon

Sampling Schedule (18+ months):
December 2019
June 2021
December 2022
June 2024

Sampling Notes:
FD ** = Field duplicate - collect field duplicate on GL-2. If not accessible, collect the field duplicate on GL-1 or GL-3. Run duplicate for all analyses.
Lab = Apex Labs
Drum purge water. Store drums under the 26th Ave Underpass until they are full enough for disposal.
Trip and Field Blank - VOCs only

Monitoring Well Sampling Field Log - Low Flow

Well Number: GL-1
Date: 12/29/22

Project Information

Project Name:	ASI
AECOM Project Number:	60519964

Sampling Information

Field Team:	McLean
Purge Method:	PP LO FLO
Sampling Method:	Bailer
Water Quality Meter:	Model: Horiba U-52
	Serial Number: U109326X
Purge Water Disposition:	Onsite Tank

Comments

WL meter battery died

Well Construction Information

Stick-up or Flush	Well Diameter (in)	Total Depth (ft btoc)	Screen Interval (ft bgs or btoc)
FLUSH	2	33	10-30

Monitoring Information

Initial DTW (ft btoc)	Saturated Screen Interval (ft bgs or btoc)	Pump Intake Depth (ft btoc): (Mid Sat. Screen Interval)
18.78		24.5

Sample Containers

Number	Type	Preservative	Analysis Required	Filtered?
3	40 mL VOA	HCl	Gx / VOC	
2	1L Amber	HCl	Dx	

Well Purge Data

Time	Volume Purged (L)	Purge Rate (L/min) (<0.5 L/min)	DTW (ft btoc)	Temp. (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity	D.O. (mg/L)	Comments (i.e. odor, sediment, color)
	Pump On	1058	Initial	±3%	±0.1	±10mv	±3%	± 10% (> 5) 3 values < 5	± 10% (> 0.5) 3 values < 0.5	<= Stabilization Criteria EPA 2017
1103	0.5	0.1	18.78	15.50	6.60	-9	0.610	61.3	0.06	
1108	1	0.1	—	15.53	6.51	-3	0.603	48.2	0.00	WLM malfunc[illegible]
1113	1.5		—	13.54	6.55	-25	0.600	51.3	0.00	
1118	2	0.1	—	13.73	6.51	-35	0.592	67.0	0.00	
1123	2.5	0.1	—	13.71	6.57	-41	0.576	50.2	0.00	
1128	3	0.1	—	13.68	6.58	-44	0.567	46.8	0.00	
1130	3.5	0.1	—	13.66	6.55	-42	0.571	49.5	0.00	

Start Sampling: 1135	Sample ID: GL-1	Sample Time: 1135
End Sampling: 1140	QA/QC Sample ID:	QA/QC Sample Time:

Note: bgs= below ground surface btoc=below top of casing DTW=depth to water
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log - Low Flow

Well Number: GL-2

Date: 12/29/22

Project Information

Project Name: PoV AS1

AECOM Project Number: 60519969

Sampling Information

Field Team: A. McLean

Purge Method: P Pump

Sampling Method: Bailer

Water Quality Meter: Model: Hanna U-52

Serial Number: U1093267

Purge Water Disposition: on-Site Tank

Comments

DUPLICATE COLLECTED

WL meter beep during purging

Well Construction Information

Stick-up or Flush	Well Diameter (in)	Total Depth (ft btoc)	Screen Interval (ft bgs or btoc)
FLUSH	2	27.2	10-30

Monitoring Information

Initial DTW (ft btoc)	Saturated Screen Interval (ft bgs or btoc)	Pump Intake Depth (ft btoc): (Mid Sat. Screen Interval)
19.16		25

Sample Containers

Number	Type	Preservative	Analysis Required	Filtered?
3	40 mL VOA	HCl	Gx / VOC	
2	1L Amber	HCl	Dx	

Well Purge Data

Time	Volume Purged (L)	Purge Rate (L/min) (<0.5 L/min)	DTW (ft btoc)	Temp. (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity	D.O. (mg/L)	Comments (i.e. odor, sediment, color)
	Pump On 1202		Initial 19.16	±3%	±0.1	±10mv	±3%	± 10% (> 5) 3 values < 5	± 10% (> 0.5) 3 values < 0.5	<= Stabilization Criteria EPA 2017
1205	0.2	0.1		13.29	6.61	22	0.603	27.6	0.00	
1210	0.7			13.24	6.60	17	0.604	14.7	0.00	
1215	1.2			13.12	6.67	13	0.607	4.0	0.00	
1220	1.7			12.74	6.64	10	0.606	4.1	0.00	
1225	2.2			12.42	6.65	9	0.599	4.4	0.00	
1230	2.7			12.43	6.66	11	0.601	4.0	0.00	
1235	3.2			12.39	6.70	10	0.599	4.1	0.00	

Start Sampling 1240

End Sampling 1259

Sample ID: GL-2

QA/QC Sample ID: GL-2-DUP

Sample Time: 1240

QA/QC Sample Time: 1240

Note: bgs= below ground surface btoc=below top of casing DTW=depth to water

Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log - Low Flow

Well Number: GL-3

Date: 12/29/22

Project Information	
Project Name:	PoV ASI
AECOM Project Number:	60519969

Sampling Information	
Field Team:	A McLean
Purge Method:	P. Pump
Sampling Method:	Bailer
Water Quality Meter: Model:	Horiba U-52
Serial Number:	U0932GX
Purge Water Disposition:	On Site Tank

Comments: WL meter dead during purging

Well Construction Information			
Stick-up or Flush	Well Diameter (in)	Total Depth (ft btoc)	Screen Interval (ft bgs or btoc)
FLUSH	2	26.80	10-27

Monitoring Information		
Initial DTW (ft btoc)	Saturated Screen Interval (ft bgs or btoc)	Pump Intake Depth (ft btoc): (Mid Sat. Screen Interval)
16.51		23

Sample Containers				
Number	Type	Preservative	Analysis Required	Filtered?
3	40 mL VOA	HCl	Gx / VOC	
2	1L Amber	HCl	Dx	

Well Purge Data

Time	Volume Purged (L)	Purge Rate (L/min) (<0.5 L/min)	DTW (ft btoc)	Temp. (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity	D.O. (mg/L)	Comments (i.e. odor, sediment, color)
	Pump On 1333		Initial	±3%	±0.1	±10mv	±3%	± 10% (> 5) 3 values < 5	± 10% (> 0.5) 3 values < 0.5	<= Stabilization Criteria EPA 2017
1335	0.5	0.1		13.96	6.25	214	0.344	19.0	1.83	
1340	1	0.1		14.29	6.15	194	0.345	74.5	6.57	
1345	1.5			14.42	6.14	170	0.348	85.6	0.00	
1350	2.0			14.52	6.15	157	0.350	34.8	0.00	
1355	2.5			14.53	6.13	152	0.351	8.5	0.00	
1400	3.0			14.56	6.15	150	0.350	1.5	0.00	
1405	3.5			14.59	6.15	149	0.350	1.9	0.00	
1410										

Start Sampling	1420	Sample ID: GL-3	Sample Time: 1420
End Sampling	1427	QA/QC Sample ID:	QA/QC Sample Time:

Note: bgs= below ground surface btoc=below top of casing DTW=depth to water
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log - Low Flow

Well Number: GL-4

Date: 12/29/22

Project Information	
Project Name:	POV AS1
AECOM Project Number:	60519969

Sampling Information	
Field Team:	A. McLean
Purge Method:	P. PUMP
Sampling Method:	Bailer
Water Quality Meter: Model:	HORIBA U52
Serial Number:	
Purge Water Disposition:	U109326X

Comments

AM 12/30/22

copy - original dest. hard to read b/c of fax

Well Construction Information			
Stick-up or Flush	Well Diameter (in)	Total Depth (ft btoc)	Screen Interval (ft bgs or btoc)
FLUSH	2	30.4	10-30

Monitoring Information		
Initial DTW (ft btoc)	Saturated Screen Interval (ft bgs or btoc)	Pump Intake Depth (ft btoc): (Mid Sat. Screen Interval)
19.77		

Sample Containers

Number	Type	Preservative	Analysis Required	Filtered?
3	40 mL VOA	HCl	Gx / VOC	
2	1L Amber	HCl	Dx	

Well Purge Data

Time	Volume Purged (L)	Purge Rate (L/min) (<0.5 L/min)	DTW (ft btoc)	Temp. (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity	D.O. (mg/L)	Comments (i.e. odor, sediment, color)
	Pump On 942		Initial 19.77	±3%	±0.1	±10mv	±3%	± 10% (> 5) 3 values < 5	± 10% (> 0.5) 3 values < 0.5	<= Stabilization Criteria EPA 2017
945	0.8	0.55	19.77	13.70	5.88	2.69	0.223	158	13.12	
950	1.3	|	19.80	13.71	5.89	3.03	0.219	141	1.14	
955	1.8	|	19.80	13.73	5.91	~~3.17~~ 3.30	0.217	140	0.94	
1000	2.3	|	19.83	13.75	5.91	3.30	0.215	21.1	1.00	
1005	2.8	|	19.83	13.67	5.91	3.41	0.213	10.3	0.98	
1010	3.0	|	19.83	13.75	5.91	3.48	0.213	9.1	0.99	
1015	3.3	|	19.82	13.74	5.91	3.52	0.213	10.0	0.99	

Start Sampling	1020	Sample ID: GL-6	Sample Time: 1020
End Sampling	1028	QA/QC Sample ID:	QA/QC Sample Time:

Note: bgs= below ground surface btoc=below top of casing DTW=depth to water
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

Monitoring Well Sampling Field Log - Low Flow

Well Number: GL-6

Date: 12/29/22

Project Information	
Project Name:	POV ASI
AECOM Project Number:	60519969

Sampling Information	
Field Team:	A. McLean
Purge Method:	P. Pump
Sampling Method:	Bailer
Water Quality Meter: Model:	Horiba U-52
Serial Number:	U209326X
Purge Water Disposition:	ERS Tank

Comments

WL meter dead during purge

[Copy of GL-6 form destroyed by rain]

Well Construction Information			
Stick-up or Flush	Well Diameter (in)	Total Depth (ft btoc)	Screen Interval (ft bgs or btoc)
		28.0 AM 12/30/22	
FLUSH	2	~~30.4~~	10-30

Monitoring Information		
Initial DTW (ft btoc)	Saturated Screen Interval (ft bgs or btoc)	Pump Intake Depth (ft btoc): (Mid Sat. Screen Interval)
18.01		23

Sample Containers

Number	Type	Preservative	Analysis Required	Filtered?
3	40 mL VOA	HCl	Gx / VOC	
2	1L Amber	HCl	Dx	

Well Purge Data

Time	Volume Purged (L)	Purge Rate (L/min) (<0.5 L/min)	DTW (ft btoc)	Temp. (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity	D.O. (mg/L)	Comments (i.e. odor, sediment, color)
	Pump On 1455		Initial	±3%	±0.1	±10mv	±3%	± 10% (> 5) 3 values < 5	± 10% (> 0.5) 3 values < 0.5	<= Stabilization Criteria EPA 2017
1500	0.5	0.1		11.32	6.63	341	0.147	4.5	6.05	
1505	1			11.78	6.17	348	0.141	0.0	4.81	
1510	1.5			11.84	6.02	351	0.138	0.0	4.77	
1515	2			11.73	5.92	357	0.134	0.0	4.49	
1520	2.5			11.64	5.93	362	0.133	0.0	4.10	
1525	3			11.62	5.93	366	0.134	0.0	4.23	
1530	3.5			11.60	5.92	364	0.134	0.0	4.19	

Start Sampling	1535	Sample ID: GL-6	Sample Time: 1535
End Sampling	1539	QA/QC Sample ID:	QA/QC Sample Time:

Note: bgs= below ground surface btoc=below top of casing DTW=depth to water
Clarity: VC=very cloudy Cl=cloudy SC=slightly cloudy AC=almost clear C=clear CC=crystal clear

AECOM

Appendix B
Laboratory Report and Chain-of-Custody Form

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

ANALYTICAL REPORT

Monday, January 16, 2023

Nicky Moody
AECOM
888 SW 5th Ave, Suite 600
Portland, OR 97204

RE: A2L1089 - POV ASI - 60519699

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 A2L1089, which was received by the laboratory on 12/30/2022 at 12:15:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: DAuvil@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)

Cooler #1	2.8 degC	Cooler #2	5.1 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.

Darrell Auvil, Client Services Manager

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

ANALYTICAL REPORT

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
GL-1	A2L1089-01	Water	12/29/22 11:35	12/30/22 12:15
GL-2	A2L1089-02	Water	12/29/22 12:40	12/30/22 12:15
GL-2-Dup	A2L1089-03	Water	12/29/22 12:40	12/30/22 12:15
GL-3	A2L1089-04	Water	12/29/22 14:20	12/30/22 12:15
GL-4	A2L1089-05	Water	12/29/22 10:20	12/30/22 12:15
GL-6	A2L1089-06	Water	12/29/22 15:35	12/30/22 12:15
Field Blank	A2L1089-07	Water	12/29/22 16:00	12/30/22 12:15
Trip Blank	A2L1089-08	Water	12/29/22 00:00	12/30/22 12:15

Apex Laboratories

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Darrell Auvil, Client Services Manager

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

ANALYTICAL REPORT

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

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
GL-1 (A2L1089-01)				**Matrix: Water**		**Batch: 23A0356**		
Diesel	**0.138**	0.0400	0.0800	mg/L	1	01/11/23 22:28	NWTPH-Dx LL	**F-11**
Oil	ND	0.0800	0.160	mg/L	1	01/11/23 22:28	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		*Recovery: 95 %*		*Limits: 50-150 %*	*1*	*01/11/23 22:28*	*NWTPH-Dx LL*	
GL-2 (A2L1089-02)				**Matrix: Water**		**Batch: 23A0356**		
Diesel	**0.270**	0.0455	0.0909	mg/L	1	01/11/23 22:51	NWTPH-Dx LL	**F-11**
Oil	ND	0.0909	0.182	mg/L	1	01/11/23 22:51	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		*Recovery: 89 %*		*Limits: 50-150 %*	*1*	*01/11/23 22:51*	*NWTPH-Dx LL*	
GL-2-Dup (A2L1089-03)				**Matrix: Water**		**Batch: 23A0356**		
Diesel	**0.282**	0.0400	0.0800	mg/L	1	01/11/23 23:14	NWTPH-Dx LL	**F-11**
Oil	ND	0.0800	0.160	mg/L	1	01/11/23 23:14	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		*Recovery: 82 %*		*Limits: 50-150 %*	*1*	*01/11/23 23:14*	*NWTPH-Dx LL*	
GL-3 (A2L1089-04)				**Matrix: Water**		**Batch: 23A0356**		
Diesel	ND	0.0412	0.0825	mg/L	1	01/11/23 23:37	NWTPH-Dx LL	
Oil	**0.124**	0.0825	0.165	mg/L	1	01/11/23 23:37	NWTPH-Dx LL	**J**
Surrogate: o-Terphenyl (Surr)		*Recovery: 81 %*		*Limits: 50-150 %*	*1*	*01/11/23 23:37*	*NWTPH-Dx LL*	
GL-4 (A2L1089-05)				**Matrix: Water**		**Batch: 23A0356**		
Diesel	ND	0.0455	0.0909	mg/L	1	01/12/23 00:00	NWTPH-Dx LL	
Oil	**0.184**	0.0909	0.182	mg/L	1	01/12/23 00:00	NWTPH-Dx LL	**F-13**
Surrogate: o-Terphenyl (Surr)		*Recovery: 88 %*		*Limits: 50-150 %*	*1*	*01/12/23 00:00*	*NWTPH-Dx LL*	
GL-6 (A2L1089-06)				**Matrix: Water**		**Batch: 23A0356**		
Diesel	ND	0.0449	0.0899	mg/L	1	01/12/23 00:24	NWTPH-Dx LL	
Oil	ND	0.0899	0.180	mg/L	1	01/12/23 00:24	NWTPH-Dx LL	
Surrogate: o-Terphenyl (Surr)		*Recovery: 91 %*		*Limits: 50-150 %*	*1*	*01/12/23 00:24*	*NWTPH-Dx LL*	

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Darrell Auvil, Client Services Manager

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

ANALYTICAL REPORT

AECOM	Project: POV ASI	
888 SW 5th Ave, Suite 600	Project Number: 60519699	Report ID:
Portland, OR 97204	Project Manager: Nicky Moody	A2L1089 - 01 16 23 1608

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
GL-1 (A2L1089-01)				**Matrix: Water**		**Batch: 23A0019**		
Acetone	ND	10.0	20.0	ug/L	1	01/03/23 17:37	EPA 8260D	
Acrylonitrile	ND	1.00	2.00	ug/L	1	01/03/23 17:37	EPA 8260D	
Benzene	ND	0.100	0.200	ug/L	1	01/03/23 17:37	EPA 8260D	
Bromobenzene	ND	0.250	0.500	ug/L	1	01/03/23 17:37	EPA 8260D	
Bromochloromethane	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
Bromoform	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
Bromomethane	ND	5.00	5.00	ug/L	1	01/03/23 17:37	EPA 8260D	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	01/03/23 17:37	EPA 8260D	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
Carbon disulfide	ND	5.00	10.0	ug/L	1	01/03/23 17:37	EPA 8260D	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
Chlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 17:37	EPA 8260D	
Chloroethane	ND	5.00	5.00	ug/L	1	01/03/23 17:37	EPA 8260D	
Chloroform	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
Chloromethane	ND	2.50	5.00	ug/L	1	01/03/23 17:37	EPA 8260D	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	01/03/23 17:37	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	01/03/23 17:37	EPA 8260D	
Dibromomethane	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 17:37	EPA 8260D	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 17:37	EPA 8260D	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 17:37	EPA 8260D	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	01/03/23 17:37	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	01/03/23 17:37	EPA 8260D	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 17:37	EPA 8260D	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 17:37	EPA 8260D	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 17:37	EPA 8260D	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	01/03/23 17:37	EPA 8260D	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	

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Darrell Auvil, Client Services Manager

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

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
GL-1 (A2L1089-01)				**Matrix: Water**		**Batch: 23A0019**		
Ethylbenzene	ND	0.250	0.500	ug/L	1	01/03/23 17:37	EPA 8260D	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	01/03/23 17:37	EPA 8260D	
2-Hexanone	ND	5.00	10.0	ug/L	1	01/03/23 17:37	EPA 8260D	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
Methylene chloride	ND	5.00	10.0	ug/L	1	01/03/23 17:37	EPA 8260D	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	01/03/23 17:37	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
Naphthalene	ND	1.00	2.00	ug/L	1	01/03/23 17:37	EPA 8260D	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	01/03/23 17:37	EPA 8260D	
Styrene	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	01/03/23 17:37	EPA 8260D	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	01/03/23 17:37	EPA 8260D	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	01/03/23 17:37	EPA 8260D	
Toluene	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	01/03/23 17:37	EPA 8260D	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	01/03/23 17:37	EPA 8260D	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	01/03/23 17:37	EPA 8260D	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	01/03/23 17:37	EPA 8260D	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	01/03/23 17:37	EPA 8260D	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	01/03/23 17:37	EPA 8260D	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
Vinyl chloride	ND	0.200	0.400	ug/L	1	01/03/23 17:37	EPA 8260D	
m,p-Xylene	ND	0.500	1.00	ug/L	1	01/03/23 17:37	EPA 8260D	
o-Xylene	ND	0.250	0.500	ug/L	1	01/03/23 17:37	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*103 %*	*Limits:*	*80-120 %*	*01/03/23 17:37*	*EPA 8260D*	
Toluene-d8 (Surr)			*102 %*		*80-120 %*	*01/03/23 17:37*	*EPA 8260D*	
4-Bromofluorobenzene (Surr)			*102 %*		*80-120 %*	*01/03/23 17:37*	*EPA 8260D*	
GL-2 (A2L1089-02)				**Matrix: Water**		**Batch: 23A0019**		
Acetone	ND	10.0	20.0	ug/L	1	01/03/23 18:32	EPA 8260D	
Acrylonitrile	ND	1.00	2.00	ug/L	1	01/03/23 18:32	EPA 8260D	
Benzene	ND	0.100	0.200	ug/L	1	01/03/23 18:32	EPA 8260D	
Bromobenzene	ND	0.250	0.500	ug/L	1	01/03/23 18:32	EPA 8260D	
Bromochloromethane	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	

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Darrell Auvil, Client Services Manager

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

ANALYTICAL REPORT

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
GL-2 (A2L1089-02)				**Matrix: Water**		**Batch: 23A0019**		
Bromoform	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
Bromomethane	ND	5.00	5.00	ug/L	1	01/03/23 18:32	EPA 8260D	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	01/03/23 18:32	EPA 8260D	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
Carbon disulfide	ND	5.00	10.0	ug/L	1	01/03/23 18:32	EPA 8260D	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
Chlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 18:32	EPA 8260D	
Chloroethane	ND	5.00	5.00	ug/L	1	01/03/23 18:32	EPA 8260D	
Chloroform	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
Chloromethane	ND	2.50	5.00	ug/L	1	01/03/23 18:32	EPA 8260D	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	01/03/23 18:32	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	01/03/23 18:32	EPA 8260D	
Dibromomethane	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 18:32	EPA 8260D	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 18:32	EPA 8260D	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 18:32	EPA 8260D	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	01/03/23 18:32	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	01/03/23 18:32	EPA 8260D	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 18:32	EPA 8260D	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 18:32	EPA 8260D	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 18:32	EPA 8260D	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	01/03/23 18:32	EPA 8260D	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
Ethylbenzene	ND	0.250	0.500	ug/L	1	01/03/23 18:32	EPA 8260D	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	01/03/23 18:32	EPA 8260D	
2-Hexanone	ND	5.00	10.0	ug/L	1	01/03/23 18:32	EPA 8260D	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
Methylene chloride	ND	5.00	10.0	ug/L	1	01/03/23 18:32	EPA 8260D	

Apex Laboratories

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Darrell Auvil, Client Services Manager

APEX LABORATORIES

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

ANALYTICAL REPORT

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
GL-2 (A2L1089-02)				**Matrix: Water**		**Batch: 23A0019**		
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	01/03/23 18:32	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
Naphthalene	ND	1.00	2.00	ug/L	1	01/03/23 18:32	EPA 8260D	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	01/03/23 18:32	EPA 8260D	
Styrene	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	01/03/23 18:32	EPA 8260D	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	01/03/23 18:32	EPA 8260D	
Tetrachloroethene (PCE)	**0.210**	0.200	0.400	ug/L	1	01/03/23 18:32	EPA 8260D	**J**
Toluene	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	01/03/23 18:32	EPA 8260D	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	01/03/23 18:32	EPA 8260D	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	01/03/23 18:32	EPA 8260D	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	01/03/23 18:32	EPA 8260D	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	01/03/23 18:32	EPA 8260D	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	01/03/23 18:32	EPA 8260D	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
Vinyl chloride	ND	0.200	0.400	ug/L	1	01/03/23 18:32	EPA 8260D	
m,p-Xylene	ND	0.500	1.00	ug/L	1	01/03/23 18:32	EPA 8260D	
o-Xylene	ND	0.250	0.500	ug/L	1	01/03/23 18:32	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*103 %*	*Limits:*	*80-120 %*	*1*	*01/03/23 18:32*	*EPA 8260D*	
Toluene-d8 (Surr)			*101 %*		*80-120 %*	*1*	*01/03/23 18:32*	*EPA 8260D*	
4-Bromofluorobenzene (Surr)			*103 %*		*80-120 %*	*1*	*01/03/23 18:32*	*EPA 8260D*	
GL-2-Dup (A2L1089-03)				**Matrix: Water**		**Batch: 23A0019**		
Acetone	ND	10.0	20.0	ug/L	1	01/03/23 19:00	EPA 8260D	
Acrylonitrile	ND	1.00	2.00	ug/L	1	01/03/23 19:00	EPA 8260D	
Benzene	ND	0.100	0.200	ug/L	1	01/03/23 19:00	EPA 8260D	
Bromobenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:00	EPA 8260D	
Bromochloromethane	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
Bromoform	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
Bromomethane	ND	5.00	5.00	ug/L	1	01/03/23 19:00	EPA 8260D	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	01/03/23 19:00	EPA 8260D	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	

Apex Laboratories

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Darrell Auvil, Client Services Manager

APEX LABORATORIES

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

ANALYTICAL REPORT

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
GL-2-Dup (A2L1089-03)				**Matrix: Water**		**Batch: 23A0019**		
Carbon disulfide	ND	5.00	10.0	ug/L	1	01/03/23 19:00	EPA 8260D	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
Chlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:00	EPA 8260D	
Chloroethane	ND	5.00	5.00	ug/L	1	01/03/23 19:00	EPA 8260D	
Chloroform	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
Chloromethane	ND	2.50	5.00	ug/L	1	01/03/23 19:00	EPA 8260D	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	01/03/23 19:00	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	01/03/23 19:00	EPA 8260D	
Dibromomethane	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:00	EPA 8260D	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:00	EPA 8260D	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:00	EPA 8260D	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	01/03/23 19:00	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	01/03/23 19:00	EPA 8260D	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 19:00	EPA 8260D	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 19:00	EPA 8260D	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 19:00	EPA 8260D	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	01/03/23 19:00	EPA 8260D	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
Ethylbenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:00	EPA 8260D	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	01/03/23 19:00	EPA 8260D	
2-Hexanone	ND	5.00	10.0	ug/L	1	01/03/23 19:00	EPA 8260D	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
Methylene chloride	ND	5.00	10.0	ug/L	1	01/03/23 19:00	EPA 8260D	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	01/03/23 19:00	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
Naphthalene	ND	1.00	2.00	ug/L	1	01/03/23 19:00	EPA 8260D	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:00	EPA 8260D	
Styrene	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	01/03/23 19:00	EPA 8260D	

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Darrell Auvil, Client Services Manager

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

ANALYTICAL REPORT

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
GL-2-Dup (A2L1089-03)				**Matrix: Water**		**Batch: 23A0019**		
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	01/03/23 19:00	EPA 8260D	
Tetrachloroethene (PCE)	**0.230**	0.200	0.400	ug/L	1	01/03/23 19:00	EPA 8260D	**J**
Toluene	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	01/03/23 19:00	EPA 8260D	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	01/03/23 19:00	EPA 8260D	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	01/03/23 19:00	EPA 8260D	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	01/03/23 19:00	EPA 8260D	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	01/03/23 19:00	EPA 8260D	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	01/03/23 19:00	EPA 8260D	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
Vinyl chloride	ND	0.200	0.400	ug/L	1	01/03/23 19:00	EPA 8260D	
m,p-Xylene	ND	0.500	1.00	ug/L	1	01/03/23 19:00	EPA 8260D	
o-Xylene	ND	0.250	0.500	ug/L	1	01/03/23 19:00	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*103 %*	*Limits: 80-120 %*	*1*	*01/03/23 19:00*	*EPA 8260D*	
Toluene-d8 (Surr)			*102 %*	*80-120 %*	*1*	*01/03/23 19:00*	*EPA 8260D*	
4-Bromofluorobenzene (Surr)			*102 %*	*80-120 %*	*1*	*01/03/23 19:00*	*EPA 8260D*	
GL-3 (A2L1089-04)				**Matrix: Water**		**Batch: 23A0019**		
Acetone	ND	20.0	20.0	ug/L	1	01/03/23 19:27	EPA 8260D	
Acrylonitrile	ND	1.00	2.00	ug/L	1	01/03/23 19:27	EPA 8260D	
Benzene	ND	0.100	0.200	ug/L	1	01/03/23 19:27	EPA 8260D	
Bromobenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:27	EPA 8260D	
Bromochloromethane	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
Bromoform	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
Bromomethane	ND	5.00	5.00	ug/L	1	01/03/23 19:27	EPA 8260D	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	01/03/23 19:27	EPA 8260D	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
Carbon disulfide	ND	5.00	10.0	ug/L	1	01/03/23 19:27	EPA 8260D	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
Chlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:27	EPA 8260D	
Chloroethane	ND	5.00	5.00	ug/L	1	01/03/23 19:27	EPA 8260D	
Chloroform	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
Chloromethane	ND	2.50	5.00	ug/L	1	01/03/23 19:27	EPA 8260D	

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Darrell Auvil, Client Services Manager

APEX LABORATORIES

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

ANALYTICAL REPORT

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
GL-3 (A2L1089-04)				**Matrix: Water**		**Batch: 23A0019**		
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	01/03/23 19:27	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	01/03/23 19:27	EPA 8260D	
Dibromomethane	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:27	EPA 8260D	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:27	EPA 8260D	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:27	EPA 8260D	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	01/03/23 19:27	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	01/03/23 19:27	EPA 8260D	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 19:27	EPA 8260D	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 19:27	EPA 8260D	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 19:27	EPA 8260D	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	01/03/23 19:27	EPA 8260D	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
Ethylbenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:27	EPA 8260D	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	01/03/23 19:27	EPA 8260D	
2-Hexanone	ND	5.00	10.0	ug/L	1	01/03/23 19:27	EPA 8260D	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
Methylene chloride	ND	5.00	10.0	ug/L	1	01/03/23 19:27	EPA 8260D	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	01/03/23 19:27	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
Naphthalene	ND	1.00	2.00	ug/L	1	01/03/23 19:27	EPA 8260D	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:27	EPA 8260D	
Styrene	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	01/03/23 19:27	EPA 8260D	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	01/03/23 19:27	EPA 8260D	
Tetrachloroethene (PCE)	**0.260**	0.200	0.400	ug/L	1	01/03/23 19:27	EPA 8260D	**J**
Toluene	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	01/03/23 19:27	EPA 8260D	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	01/03/23 19:27	EPA 8260D	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	01/03/23 19:27	EPA 8260D	

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Darrell Auvil, Client Services Manager

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

ANALYTICAL REPORT

AECOM	Project: POV ASI	
888 SW 5th Ave, Suite 600	Project Number: 60519699	Report ID:
Portland, OR 97204	Project Manager: Nicky Moody	A2L1089 - 01 16 23 1608

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
GL-3 (A2L1089-04)				**Matrix: Water**		**Batch: 23A0019**		
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	01/03/23 19:27	EPA 8260D	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	01/03/23 19:27	EPA 8260D	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	01/03/23 19:27	EPA 8260D	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
Vinyl chloride	ND	0.200	0.400	ug/L	1	01/03/23 19:27	EPA 8260D	
m,p-Xylene	ND	0.500	1.00	ug/L	1	01/03/23 19:27	EPA 8260D	
o-Xylene	ND	0.250	0.500	ug/L	1	01/03/23 19:27	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*102 %*	*Limits: 80-120 %*	*1*	*01/03/23 19:27*	*EPA 8260D*	
Toluene-d8 (Surr)			*102 %*	*80-120 %*	*1*	*01/03/23 19:27*	*EPA 8260D*	
4-Bromofluorobenzene (Surr)			*102 %*	*80-120 %*	*1*	*01/03/23 19:27*	*EPA 8260D*	
GL-4 (A2L1089-05)				**Matrix: Water**		**Batch: 23A0019**		
Acetone	ND	10.0	20.0	ug/L	1	01/03/23 19:55	EPA 8260D	
Acrylonitrile	ND	1.00	2.00	ug/L	1	01/03/23 19:55	EPA 8260D	
Benzene	ND	0.100	0.200	ug/L	1	01/03/23 19:55	EPA 8260D	
Bromobenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:55	EPA 8260D	
Bromochloromethane	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
Bromoform	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
Bromomethane	ND	5.00	5.00	ug/L	1	01/03/23 19:55	EPA 8260D	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	01/03/23 19:55	EPA 8260D	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
Carbon disulfide	ND	5.00	10.0	ug/L	1	01/03/23 19:55	EPA 8260D	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
Chlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:55	EPA 8260D	
Chloroethane	ND	5.00	5.00	ug/L	1	01/03/23 19:55	EPA 8260D	
Chloroform	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
Chloromethane	ND	2.50	5.00	ug/L	1	01/03/23 19:55	EPA 8260D	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	01/03/23 19:55	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	01/03/23 19:55	EPA 8260D	
Dibromomethane	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	

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Darrell Auvil, Client Services Manager

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

ANALYTICAL REPORT

AECOM	Project: POV ASI	
888 SW 5th Ave, Suite 600	Project Number: 60519699	Report ID:
Portland, OR 97204	Project Manager: Nicky Moody	A2L1089 - 01 16 23 1608

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
GL-4 (A2L1089-05)				**Matrix: Water**		**Batch: 23A0019**		
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:55	EPA 8260D	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:55	EPA 8260D	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:55	EPA 8260D	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	01/03/23 19:55	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	01/03/23 19:55	EPA 8260D	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 19:55	EPA 8260D	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 19:55	EPA 8260D	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 19:55	EPA 8260D	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	01/03/23 19:55	EPA 8260D	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
Ethylbenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:55	EPA 8260D	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	01/03/23 19:55	EPA 8260D	
2-Hexanone	ND	5.00	10.0	ug/L	1	01/03/23 19:55	EPA 8260D	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
Methylene chloride	ND	5.00	10.0	ug/L	1	01/03/23 19:55	EPA 8260D	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	01/03/23 19:55	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
Naphthalene	ND	1.00	2.00	ug/L	1	01/03/23 19:55	EPA 8260D	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	01/03/23 19:55	EPA 8260D	
Styrene	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	01/03/23 19:55	EPA 8260D	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	01/03/23 19:55	EPA 8260D	
Tetrachloroethene (PCE)	**0.230**	0.200	0.400	ug/L	1	01/03/23 19:55	EPA 8260D	**J**
Toluene	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	01/03/23 19:55	EPA 8260D	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	01/03/23 19:55	EPA 8260D	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	01/03/23 19:55	EPA 8260D	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	01/03/23 19:55	EPA 8260D	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	01/03/23 19:55	EPA 8260D	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	01/03/23 19:55	EPA 8260D	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	

Apex Laboratories

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Darrell Auvil, Client Services Manager

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

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
GL-4 (A2L1089-05)				**Matrix: Water**		**Batch: 23A0019**		
Vinyl chloride	ND	0.200	0.400	ug/L	1	01/03/23 19:55	EPA 8260D	
m,p-Xylene	ND	0.500	1.00	ug/L	1	01/03/23 19:55	EPA 8260D	
o-Xylene	ND	0.250	0.500	ug/L	1	01/03/23 19:55	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*103 %*	*Limits: 80-120 %*	*1*	*01/03/23 19:55*	*EPA 8260D*	
Toluene-d8 (Surr)			*102 %*	*80-120 %*	*1*	*01/03/23 19:55*	*EPA 8260D*	
4-Bromofluorobenzene (Surr)			*103 %*	*80-120 %*	*1*	*01/03/23 19:55*	*EPA 8260D*	
GL-6 (A2L1089-06)				**Matrix: Water**		**Batch: 23A0019**		
Acetone	ND	10.0	20.0	ug/L	1	01/03/23 20:22	EPA 8260D	
Acrylonitrile	ND	1.00	2.00	ug/L	1	01/03/23 20:22	EPA 8260D	
Benzene	ND	0.100	0.200	ug/L	1	01/03/23 20:22	EPA 8260D	
Bromobenzene	ND	0.250	0.500	ug/L	1	01/03/23 20:22	EPA 8260D	
Bromochloromethane	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
Bromoform	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
Bromomethane	ND	5.00	5.00	ug/L	1	01/03/23 20:22	EPA 8260D	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	01/03/23 20:22	EPA 8260D	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
Carbon disulfide	ND	5.00	10.0	ug/L	1	01/03/23 20:22	EPA 8260D	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
Chlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 20:22	EPA 8260D	
Chloroethane	ND	5.00	5.00	ug/L	1	01/03/23 20:22	EPA 8260D	
Chloroform	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
Chloromethane	ND	2.50	5.00	ug/L	1	01/03/23 20:22	EPA 8260D	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	01/03/23 20:22	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	01/03/23 20:22	EPA 8260D	
Dibromomethane	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 20:22	EPA 8260D	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 20:22	EPA 8260D	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 20:22	EPA 8260D	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	01/03/23 20:22	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	01/03/23 20:22	EPA 8260D	

Apex Laboratories

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Darrell Auvil, Client Services Manager

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

ANALYTICAL REPORT

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
GL-6 (A2L1089-06)				**Matrix: Water**		**Batch: 23A0019**		
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 20:22	EPA 8260D	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 20:22	EPA 8260D	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 20:22	EPA 8260D	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	01/03/23 20:22	EPA 8260D	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
Ethylbenzene	ND	0.250	0.500	ug/L	1	01/03/23 20:22	EPA 8260D	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	01/03/23 20:22	EPA 8260D	
2-Hexanone	ND	5.00	10.0	ug/L	1	01/03/23 20:22	EPA 8260D	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
Methylene chloride	ND	5.00	10.0	ug/L	1	01/03/23 20:22	EPA 8260D	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	01/03/23 20:22	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
Naphthalene	ND	1.00	2.00	ug/L	1	01/03/23 20:22	EPA 8260D	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	01/03/23 20:22	EPA 8260D	
Styrene	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	01/03/23 20:22	EPA 8260D	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	01/03/23 20:22	EPA 8260D	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	01/03/23 20:22	EPA 8260D	
Toluene	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	01/03/23 20:22	EPA 8260D	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	01/03/23 20:22	EPA 8260D	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	01/03/23 20:22	EPA 8260D	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	01/03/23 20:22	EPA 8260D	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	01/03/23 20:22	EPA 8260D	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	01/03/23 20:22	EPA 8260D	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
Vinyl chloride	ND	0.200	0.400	ug/L	1	01/03/23 20:22	EPA 8260D	
m,p-Xylene	ND	0.500	1.00	ug/L	1	01/03/23 20:22	EPA 8260D	
o-Xylene	ND	0.250	0.500	ug/L	1	01/03/23 20:22	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*104 %*	*Limits:*	*80-120 %*	*01/03/23 20:22*	*EPA 8260D*	
Toluene-d8 (Surr)			*101 %*		*80-120 %*	*01/03/23 20:22*	*EPA 8260D*	

Apex Laboratories

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Darrell Auvil, Client Services Manager

APEX LABORATORIES

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

ANALYTICAL REPORT

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
GL-6 (A2L1089-06)				**Matrix: Water**		**Batch: 23A0019**		
Surrogate: 4-Bromofluorobenzene (Surr)		*Recovery: 102 %*	*Limits: 80-120 %*		*1*	*01/03/23 20:22*	*EPA 8260D*	
Field Blank (A2L1089-07)				**Matrix: Water**		**Batch: 23A0019**		
Acetone	ND	10.0	20.0	ug/L	1	01/03/23 13:57	EPA 8260D	
Acrylonitrile	ND	1.00	2.00	ug/L	1	01/03/23 13:57	EPA 8260D	
Benzene	ND	0.100	0.200	ug/L	1	01/03/23 13:57	EPA 8260D	
Bromobenzene	ND	0.250	0.500	ug/L	1	01/03/23 13:57	EPA 8260D	
Bromochloromethane	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
Bromoform	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
Bromomethane	ND	5.00	5.00	ug/L	1	01/03/23 13:57	EPA 8260D	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	01/03/23 13:57	EPA 8260D	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
Carbon disulfide	ND	5.00	10.0	ug/L	1	01/03/23 13:57	EPA 8260D	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
Chlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 13:57	EPA 8260D	
Chloroethane	ND	5.00	5.00	ug/L	1	01/03/23 13:57	EPA 8260D	
Chloroform	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
Chloromethane	ND	2.50	5.00	ug/L	1	01/03/23 13:57	EPA 8260D	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	01/03/23 13:57	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	01/03/23 13:57	EPA 8260D	
Dibromomethane	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 13:57	EPA 8260D	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 13:57	EPA 8260D	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 13:57	EPA 8260D	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	01/03/23 13:57	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	01/03/23 13:57	EPA 8260D	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 13:57	EPA 8260D	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 13:57	EPA 8260D	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 13:57	EPA 8260D	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	01/03/23 13:57	EPA 8260D	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	

Apex Laboratories

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Darrell Auvil, Client Services Manager

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

ANALYTICAL REPORT

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Field Blank (A2L1089-07)				**Matrix: Water**		**Batch: 23A0019**		
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
Ethylbenzene	ND	0.250	0.500	ug/L	1	01/03/23 13:57	EPA 8260D	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	01/03/23 13:57	EPA 8260D	
2-Hexanone	ND	5.00	10.0	ug/L	1	01/03/23 13:57	EPA 8260D	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
Methylene chloride	ND	5.00	10.0	ug/L	1	01/03/23 13:57	EPA 8260D	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	01/03/23 13:57	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
Naphthalene	ND	1.00	2.00	ug/L	1	01/03/23 13:57	EPA 8260D	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	01/03/23 13:57	EPA 8260D	
Styrene	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	01/03/23 13:57	EPA 8260D	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	01/03/23 13:57	EPA 8260D	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	01/03/23 13:57	EPA 8260D	
Toluene	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	01/03/23 13:57	EPA 8260D	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	01/03/23 13:57	EPA 8260D	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	01/03/23 13:57	EPA 8260D	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	01/03/23 13:57	EPA 8260D	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	01/03/23 13:57	EPA 8260D	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	01/03/23 13:57	EPA 8260D	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
Vinyl chloride	ND	0.200	0.400	ug/L	1	01/03/23 13:57	EPA 8260D	
m,p-Xylene	ND	0.500	1.00	ug/L	1	01/03/23 13:57	EPA 8260D	
o-Xylene	ND	0.250	0.500	ug/L	1	01/03/23 13:57	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*102 %*	*Limits: 80-120 %*	*1*	*01/03/23 13:57*	*EPA 8260D*	
Toluene-d8 (Surr)			*101 %*	*80-120 %*	*1*	*01/03/23 13:57*	*EPA 8260D*	
4-Bromofluorobenzene (Surr)			*104 %*	*80-120 %*	*1*	*01/03/23 13:57*	*EPA 8260D*	
Trip Blank (A2L1089-08)				**Matrix: Water**		**Batch: 23A0019**		
Acetone	ND	10.0	20.0	ug/L	1	01/03/23 14:24	EPA 8260D	
Acrylonitrile	ND	1.00	2.00	ug/L	1	01/03/23 14:24	EPA 8260D	
Benzene	ND	0.100	0.200	ug/L	1	01/03/23 14:24	EPA 8260D	

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Darrell Auvil, Client Services Manager

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

ANALYTICAL REPORT

AECOM	Project: POV ASI	
888 SW 5th Ave, Suite 600	Project Number: 60519699	Report ID:
Portland, OR 97204	Project Manager: Nicky Moody	A2L1089 - 01 16 23 1608

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Trip Blank (A2L1089-08)				**Matrix: Water**		**Batch: 23A0019**		
Bromobenzene	ND	0.250	0.500	ug/L	1	01/03/23 14:24	EPA 8260D	
Bromochloromethane	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
Bromoform	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
Bromomethane	ND	5.00	5.00	ug/L	1	01/03/23 14:24	EPA 8260D	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	01/03/23 14:24	EPA 8260D	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
Carbon disulfide	ND	5.00	10.0	ug/L	1	01/03/23 14:24	EPA 8260D	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
Chlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 14:24	EPA 8260D	
Chloroethane	ND	5.00	5.00	ug/L	1	01/03/23 14:24	EPA 8260D	
Chloroform	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
Chloromethane	ND	2.50	5.00	ug/L	1	01/03/23 14:24	EPA 8260D	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	01/03/23 14:24	EPA 8260D	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	01/03/23 14:24	EPA 8260D	
Dibromomethane	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 14:24	EPA 8260D	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 14:24	EPA 8260D	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	01/03/23 14:24	EPA 8260D	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	01/03/23 14:24	EPA 8260D	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	01/03/23 14:24	EPA 8260D	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 14:24	EPA 8260D	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 14:24	EPA 8260D	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	01/03/23 14:24	EPA 8260D	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	01/03/23 14:24	EPA 8260D	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
Ethylbenzene	ND	0.250	0.500	ug/L	1	01/03/23 14:24	EPA 8260D	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	01/03/23 14:24	EPA 8260D	
2-Hexanone	ND	5.00	10.0	ug/L	1	01/03/23 14:24	EPA 8260D	

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Darrell Auvil, Client Services Manager

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

ANALYTICAL REPORT

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Trip Blank (A2L1089-08)				**Matrix: Water**		**Batch: 23A0019**		
Isopropylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
Methylene chloride	ND	5.00	10.0	ug/L	1	01/03/23 14:24	EPA 8260D	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	01/03/23 14:24	EPA 8260D	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
Naphthalene	ND	1.00	2.00	ug/L	1	01/03/23 14:24	EPA 8260D	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	01/03/23 14:24	EPA 8260D	
Styrene	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	01/03/23 14:24	EPA 8260D	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	01/03/23 14:24	EPA 8260D	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	01/03/23 14:24	EPA 8260D	
Toluene	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	01/03/23 14:24	EPA 8260D	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	01/03/23 14:24	EPA 8260D	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	01/03/23 14:24	EPA 8260D	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	01/03/23 14:24	EPA 8260D	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	01/03/23 14:24	EPA 8260D	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	01/03/23 14:24	EPA 8260D	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
Vinyl chloride	ND	0.200	0.400	ug/L	1	01/03/23 14:24	EPA 8260D	
m,p-Xylene	ND	0.500	1.00	ug/L	1	01/03/23 14:24	EPA 8260D	
o-Xylene	ND	0.250	0.500	ug/L	1	01/03/23 14:24	EPA 8260D	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*102 %*	*Limits: 80-120 %*	*1*	*01/03/23 14:24*	*EPA 8260D*	
Toluene-d8 (Surr)			*102 %*	*80-120 %*	*1*	*01/03/23 14:24*	*EPA 8260D*	
4-Bromofluorobenzene (Surr)			*104 %*	*80-120 %*	*1*	*01/03/23 14:24*	*EPA 8260D*	

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Darrell Auvil, Client Services Manager

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

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

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 23A0356 - EPA 3510C (Fuels/Acid Ext.)												**Water**
Blank (23A0356-BLK1)		Prepared: 01/11/23 12:29		Analyzed: 01/11/23 21:19								
NWTPH-Dx LL												
Diesel	ND	0.0400	0.0800	mg/L	1	---	---	---	---	---	---	
Oil	ND	0.0800	0.160	mg/L	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 81 %*		*Limits: 50-150 %*			*Dilution: 1x*					
LCS (23A0356-BS1)		Prepared: 01/11/23 12:29		Analyzed: 01/11/23 21:42								
NWTPH-Dx LL												
Diesel	0.321	0.0400	0.0800	mg/L	1	0.500	---	64	36 - 132%	---	---	
Surr: o-Terphenyl (Surr)		*Recovery: 94 %*		*Limits: 50-150 %*			*Dilution: 1x*					
LCS Dup (23A0356-BSD1)		Prepared: 01/11/23 12:29		Analyzed: 01/11/23 22:05								**Q-19**
NWTPH-Dx LL												
Diesel	0.304	0.0400	0.0800	mg/L	1	0.500	---	61	36 - 132%	5	30%	
Surr: o-Terphenyl (Surr)		*Recovery: 88 %*		*Limits: 50-150 %*			*Dilution: 1x*					

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Darrell Auvil, Client Services Manager

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

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 23A0019 - EPA 5030C							**Water**					
Blank (23A0019-BLK1)		Prepared: 01/03/23 10:56		Analyzed: 01/03/23 13:29								
EPA 8260D												
Acetone	ND	10.0	20.0	ug/L	1	---	---	---	---	---	---	
Acrylonitrile	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Benzene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Bromobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Bromochloromethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Bromoform	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Bromomethane	ND	5.00	5.00	ug/L	1	---	---	---	---	---	---	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Carbon disulfide	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Chlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Chloroethane	ND	5.00	5.00	ug/L	1	---	---	---	---	---	---	
Chloroform	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Chloromethane	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Dibromomethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	

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Darrell Auvil, Client Services Manager

Apex Laboratories, LLC
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Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 23A0019 - EPA 5030C							**Water**					
Blank (23A0019-BLK1)		Prepared: 01/03/23 10:56		Analyzed: 01/03/23 13:29								
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
2-Hexanone	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Methylene chloride	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Styrene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Vinyl chloride	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
m,p-Xylene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
o-Xylene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 101 %*		*Limits: 80-120 %*				*Dilution: 1x*				

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Darrell Auvil, Client Services Manager

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

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 23A0019 - EPA 5030C												**Water**
Blank (23A0019-BLK1)			Prepared: 01/03/23 10:56 Analyzed: 01/03/23 13:29									
Surr: Toluene-d8 (Surr)			*Recovery: 102 %*	*Limits: 80-120 %*					*Dilution: 1x*			
4-Bromofluorobenzene (Surr)			*104 %*	*80-120 %*					*"*			
LCS (23A0019-BS1)			Prepared: 01/03/23 10:56 Analyzed: 01/03/23 12:26									
EPA 8260D												
Acetone	39.4	10.0	20.0	ug/L	1	40.0	---	98	80 - 120%	---	---	ICV-01
Acrylonitrile	20.3	1.00	2.00	ug/L	1	20.0	---	101	80 - 120%	---	---	
Benzene	18.7	0.100	0.200	ug/L	1	20.0	---	94	80 - 120%	---	---	
Bromobenzene	18.3	0.250	0.500	ug/L	1	20.0	---	91	80 - 120%	---	---	
Bromochloromethane	20.8	0.500	1.00	ug/L	1	20.0	---	104	80 - 120%	---	---	
Bromodichloromethane	19.9	0.500	1.00	ug/L	1	20.0	---	100	80 - 120%	---	---	
Bromoform	17.5	0.500	1.00	ug/L	1	20.0	---	88	80 - 120%	---	---	
Bromomethane	16.0	5.00	5.00	ug/L	1	20.0	---	80	80 - 120%	---	---	
2-Butanone (MEK)	41.4	5.00	10.0	ug/L	1	40.0	---	103	80 - 120%	---	---	ICV-01
n-Butylbenzene	21.1	0.500	1.00	ug/L	1	20.0	---	106	80 - 120%	---	---	
sec-Butylbenzene	20.4	0.500	1.00	ug/L	1	20.0	---	102	80 - 120%	---	---	
tert-Butylbenzene	18.7	0.500	1.00	ug/L	1	20.0	---	94	80 - 120%	---	---	
Carbon disulfide	18.8	5.00	10.0	ug/L	1	20.0	---	94	80 - 120%	---	---	
Carbon tetrachloride	19.8	0.500	1.00	ug/L	1	20.0	---	99	80 - 120%	---	---	
Chlorobenzene	19.3	0.250	0.500	ug/L	1	20.0	---	96	80 - 120%	---	---	
Chloroethane	19.2	5.00	5.00	ug/L	1	20.0	---	96	80 - 120%	---	---	ICV-01
Chloroform	19.1	0.500	1.00	ug/L	1	20.0	---	96	80 - 120%	---	---	
Chloromethane	20.7	2.50	5.00	ug/L	1	20.0	---	103	80 - 120%	---	---	
2-Chlorotoluene	18.4	0.500	1.00	ug/L	1	20.0	---	92	80 - 120%	---	---	
4-Chlorotoluene	19.0	0.500	1.00	ug/L	1	20.0	---	95	80 - 120%	---	---	
Dibromochloromethane	22.2	0.500	1.00	ug/L	1	20.0	---	111	80 - 120%	---	---	
1,2-Dibromo-3-chloropropane	17.3	2.50	5.00	ug/L	1	20.0	---	86	80 - 120%	---	---	
1,2-Dibromoethane (EDB)	19.6	0.250	0.500	ug/L	1	20.0	---	98	80 - 120%	---	---	
Dibromomethane	19.6	0.500	1.00	ug/L	1	20.0	---	98	80 - 120%	---	---	
1,2-Dichlorobenzene	19.0	0.250	0.500	ug/L	1	20.0	---	95	80 - 120%	---	---	
1,3-Dichlorobenzene	19.0	0.250	0.500	ug/L	1	20.0	---	95	80 - 120%	---	---	
1,4-Dichlorobenzene	18.5	0.250	0.500	ug/L	1	20.0	---	93	80 - 120%	---	---	
Dichlorodifluoromethane	18.1	0.500	1.00	ug/L	1	20.0	---	90	80 - 120%	---	---	
1,1-Dichloroethane	19.7	0.200	0.400	ug/L	1	20.0	---	99	80 - 120%	---	---	

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Darrell Auvil, Client Services Manager

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ORELAP ID: **OR100062**

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 23A0019 - EPA 5030C							**Water**					
LCS (23A0019-BS1)		Prepared: 01/03/23 10:56		Analyzed: 01/03/23 12:26								
1,2-Dichloroethane (EDC)	19.6	0.200	0.400	ug/L	1	20.0	---	98	80 - 120%	---	---	
1,1-Dichloroethene	19.7	0.200	0.400	ug/L	1	20.0	---	98	80 - 120%	---	---	
cis-1,2-Dichloroethene	19.2	0.200	0.400	ug/L	1	20.0	---	96	80 - 120%	---	---	
trans-1,2-Dichloroethene	19.3	0.200	0.400	ug/L	1	20.0	---	97	80 - 120%	---	---	
1,2-Dichloropropane	19.4	0.250	0.500	ug/L	1	20.0	---	97	80 - 120%	---	---	
1,3-Dichloropropane	19.9	0.500	1.00	ug/L	1	20.0	---	100	80 - 120%	---	---	
2,2-Dichloropropane	19.7	0.500	1.00	ug/L	1	20.0	---	99	80 - 120%	---	---	
1,1-Dichloropropene	18.8	0.500	1.00	ug/L	1	20.0	---	94	80 - 120%	---	---	
cis-1,3-Dichloropropene	20.2	0.500	1.00	ug/L	1	20.0	---	101	80 - 120%	---	---	
trans-1,3-Dichloropropene	21.0	0.500	1.00	ug/L	1	20.0	---	105	80 - 120%	---	---	
Ethylbenzene	19.3	0.250	0.500	ug/L	1	20.0	---	96	80 - 120%	---	---	
Hexachlorobutadiene	20.2	2.50	5.00	ug/L	1	20.0	---	101	80 - 120%	---	---	
2-Hexanone	42.7	5.00	10.0	ug/L	1	40.0	---	107	80 - 120%	---	---	
Isopropylbenzene	19.1	0.500	1.00	ug/L	1	20.0	---	96	80 - 120%	---	---	
4-Isopropyltoluene	20.7	0.500	1.00	ug/L	1	20.0	---	104	80 - 120%	---	---	
Methylene chloride	19.7	5.00	10.0	ug/L	1	20.0	---	98	80 - 120%	---	---	
4-Methyl-2-pentanone (MiBK)	43.2	5.00	10.0	ug/L	1	40.0	---	108	80 - 120%	---	---	
Methyl tert-butyl ether (MTBE)	18.1	0.500	1.00	ug/L	1	20.0	---	91	80 - 120%	---	---	
Naphthalene	16.6	1.00	2.00	ug/L	1	20.0	---	83	80 - 120%	---	---	
n-Propylbenzene	19.3	0.250	0.500	ug/L	1	20.0	---	97	80 - 120%	---	---	
Styrene	19.9	0.500	1.00	ug/L	1	20.0	---	99	80 - 120%	---	---	
1,1,1,2-Tetrachloroethane	19.7	0.200	0.400	ug/L	1	20.0	---	99	80 - 120%	---	---	
1,1,2,2-Tetrachloroethane	20.9	0.250	0.500	ug/L	1	20.0	---	104	80 - 120%	---	---	
Tetrachloroethene (PCE)	18.4	0.200	0.400	ug/L	1	20.0	---	92	80 - 120%	---	---	
Toluene	18.0	0.500	1.00	ug/L	1	20.0	---	90	80 - 120%	---	---	
1,2,3-Trichlorobenzene	16.2	1.00	2.00	ug/L	1	20.0	---	81	80 - 120%	---	---	
1,2,4-Trichlorobenzene	16.7	1.00	2.00	ug/L	1	20.0	---	83	80 - 120%	---	---	
1,1,1-Trichloroethane	19.0	0.200	0.400	ug/L	1	20.0	---	95	80 - 120%	---	---	
1,1,2-Trichloroethane	19.4	0.250	0.500	ug/L	1	20.0	---	97	80 - 120%	---	---	
Trichloroethene (TCE)	17.8	0.200	0.400	ug/L	1	20.0	---	89	80 - 120%	---	---	
Trichlorofluoromethane	20.6	1.00	2.00	ug/L	1	20.0	---	103	80 - 120%	---	---	
1,2,3-Trichloropropane	19.6	0.500	1.00	ug/L	1	20.0	---	98	80 - 120%	---	---	
1,2,4-Trimethylbenzene	20.4	0.500	1.00	ug/L	1	20.0	---	102	80 - 120%	---	---	
1,3,5-Trimethylbenzene	20.5	0.500	1.00	ug/L	1	20.0	---	102	80 - 120%	---	---	

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Darrell Auvil, Client Services Manager

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ORELAP ID: **OR100062**

AECOM
888 SW 5th Ave, Suite 600
Portland, OR 97204

Project: **POV ASI**
Project Number: **60519699**
Project Manager: **Nicky Moody**

Report ID:
A2L1089 - 01 16 23 1608

QUALITY CONTROL (QC) SAMPLE RESULTS

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 23A0019 - EPA 5030C									Water			
LCS (23A0019-BS1)		Prepared: 01/03/23 10:56		Analyzed: 01/03/23 12:26								
Vinyl chloride	19.8	0.200	0.400	ug/L	1	20.0	---	99	80 - 120%	---	---	
m,p-Xylene	38.7	0.500	1.00	ug/L	1	40.0	---	97	80 - 120%	---	---	
o-Xylene	18.6	0.250	0.500	ug/L	1	20.0	---	93	80 - 120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 99 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Toluene-d8 (Surr)			*100 %*		*80-120 %*				*"*			
4-Bromofluorobenzene (Surr)			*93 %*		*80-120 %*				*"*			
Duplicate (23A0019-DUP1)		Prepared: 01/03/23 10:56		Analyzed: 01/03/23 18:05								
QC Source Sample: GL-1 (A2L1089-01)												
EPA 8260D												
Acetone	ND	10.0	20.0	ug/L	1	---	ND	---	---	---	30%	
Acrylonitrile	ND	1.00	2.00	ug/L	1	---	ND	---	---	---	30%	
Benzene	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	30%	
Bromobenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Bromochloromethane	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Bromoform	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Bromomethane	ND	5.00	5.00	ug/L	1	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	---	ND	---	---	---	30%	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Carbon disulfide	ND	5.00	10.0	ug/L	1	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Chlorobenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Chloroethane	ND	5.00	5.00	ug/L	1	---	ND	---	---	---	30%	
Chloroform	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Chloromethane	ND	2.50	5.00	ug/L	1	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Dibromomethane	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	

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888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 23A0019 - EPA 5030C							**Water**					
Duplicate (23A0019-DUP1)		Prepared: 01/03/23 10:56 Analyzed: 01/03/23 18:05										
QC Source Sample: GL-1 (A2L1089-01)												
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	---	ND	---	---	---	30%	
2-Hexanone	ND	5.00	10.0	ug/L	1	---	ND	---	---	---	30%	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Methylene chloride	ND	5.00	10.0	ug/L	1	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Naphthalene	ND	1.00	2.00	ug/L	1	---	ND	---	---	---	30%	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Styrene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
Toluene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	

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ORELAP ID: **OR100062**

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 23A0019 - EPA 5030C							**Water**					
Duplicate (23A0019-DUP1)		Prepared: 01/03/23 10:56 Analyzed: 01/03/23 18:05										
QC Source Sample: GL-1 (A2L1089-01)												
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
Vinyl chloride	ND	0.200	0.400	ug/L	1	---	ND	---	---	---	30%	
m,p-Xylene	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	30%	
o-Xylene	ND	0.250	0.500	ug/L	1	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 102 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*102 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*102 %*		*80-120 %*			*"*					

Darrell Auvil, Client Services Manager

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

ANALYTICAL REPORT

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

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
Batch: 23A0356							
A2L1089-01	Water	NWTPH-Dx LL	12/29/22 11:35	01/11/23 12:29	1000mL/2mL	1000mL/2mL	1.00
A2L1089-02	Water	NWTPH-Dx LL	12/29/22 12:40	01/11/23 12:29	880mL/2mL	1000mL/2mL	1.14
A2L1089-03	Water	NWTPH-Dx LL	12/29/22 12:40	01/11/23 12:29	1000mL/2mL	1000mL/2mL	1.00
A2L1089-04	Water	NWTPH-Dx LL	12/29/22 14:20	01/11/23 12:29	970mL/2mL	1000mL/2mL	1.03
A2L1089-05	Water	NWTPH-Dx LL	12/29/22 10:20	01/11/23 12:29	880mL/2mL	1000mL/2mL	1.14
A2L1089-06	Water	NWTPH-Dx LL	12/29/22 15:35	01/11/23 12:29	890mL/2mL	1000mL/2mL	1.12

Volatile Organic Compounds by EPA 8260D

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23A0019							
A2L1089-01	Water	EPA 8260D	12/29/22 11:35	01/03/23 10:56	5mL/5mL	5mL/5mL	1.00
A2L1089-02	Water	EPA 8260D	12/29/22 12:40	01/03/23 10:56	5mL/5mL	5mL/5mL	1.00
A2L1089-03	Water	EPA 8260D	12/29/22 12:40	01/03/23 10:56	5mL/5mL	5mL/5mL	1.00
A2L1089-04	Water	EPA 8260D	12/29/22 14:20	01/03/23 10:56	5mL/5mL	5mL/5mL	1.00
A2L1089-05	Water	EPA 8260D	12/29/22 10:20	01/03/23 10:56	5mL/5mL	5mL/5mL	1.00
A2L1089-06	Water	EPA 8260D	12/29/22 15:35	01/03/23 10:56	5mL/5mL	5mL/5mL	1.00
A2L1089-07	Water	EPA 8260D	12/29/22 16:00	01/03/23 10:56	5mL/5mL	5mL/5mL	1.00
A2L1089-08	Water	EPA 8260D	12/29/22 00:00	01/03/23 10:56	5mL/5mL	5mL/5mL	1.00

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ORELAP ID: **OR100062**

AECOM	Project: **POV ASI**	
888 SW 5th Ave, Suite 600	Project Number: **60519699**	**Report ID:**
Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

QUALIFIER DEFINITIONS

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

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F-11	The hydrocarbon pattern indicates possible weathered diesel, mineral oil, or a contribution from a related component.
F-13	The chromatographic pattern does not resemble the fuel standard used for quantitation
ICV-01	Estimated Result. Initial Calibration Verification (ICV) failed high. There is no effect on non-detect results.
J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available 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 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.

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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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ANALYTICAL REPORT

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Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

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:

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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 provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

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Darrell Auvil, Client Services Manager

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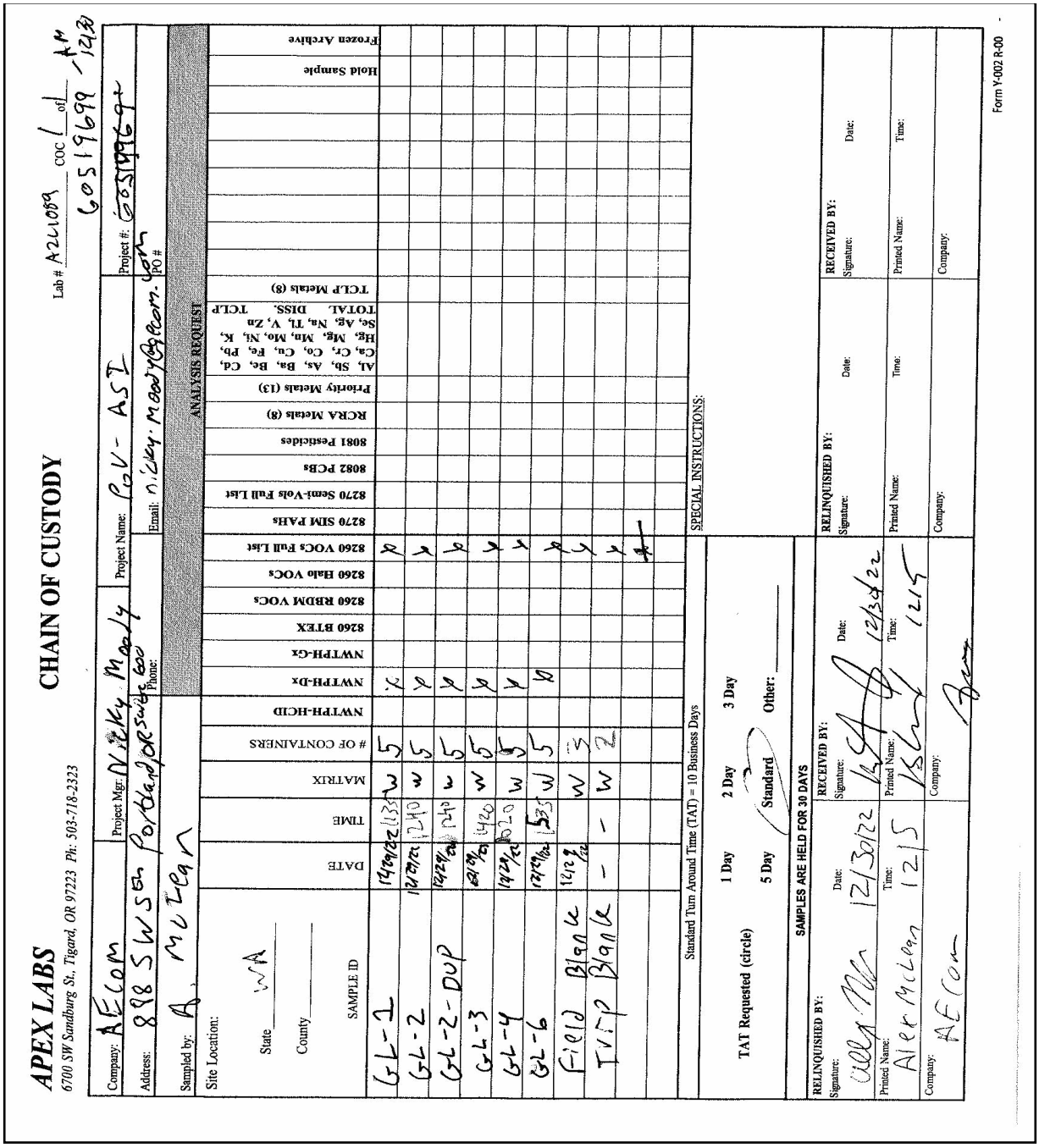

APEX LABS
6700 SW Sandburg St., Tigard, OR 97223 Ph: 503-718-2323

CHAIN OF CUSTODY

Lab # A2L1089 COC 1 of 1 60519699 1243

Company: AECOM | Project Mgr: Nicky Moody | Project Name: POV - ASI | Project #: 60519699
Address: 888 SW 5th Ave Portland, OR 97204 | Phone: | Email: nicky.moody@aecom.com | PO #
Sampled by: A. Mutegi
Site Location: State WA County

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	RCRA 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 TOTAL DISS. TCLP	TCLP Metals (8)	Hold Sample	Frozen Archive
GL-1	12/19/22	1335	W	5		X					X										
GL-2	12/20/22	1240	W	5		X					X										
GL-2-DUP	12/20/22	1240	W	5		X					X										
GL-3	12/20/22	1420	W	5		X					X										
GL-4	12/20/22	1600	W	5		X					X										
GL-6	12/20/22	1530	W	5		X					X										
Field Blank	12/21/22		W	3							X										
Trip Blank	-	-	W	2							X										

Standard Turn Around Time (TAT) = 10 Business Days

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

SPECIAL INSTRUCTIONS:

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY:	Date:	RECEIVED BY:	Date:	RELINQUISHED BY:	Date:	RECEIVED BY:	Date:
Signature:		Signature:	12/23/22	Signature:		Signature:	
Printed Name:	Time:	Printed Name:	Time:	Printed Name:	Time:	Printed Name:	Time:
Company:		Company:		Company:		Company:	

Form Y-002 R-00

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ANALYTICAL REPORT

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Portland, OR 97204	Project Manager: **Nicky Moody**	**A2L1089 - 01 16 23 1608**

APEX LABS COOLER RECEIPT FORM

Client: Aecom Element WO#: A2L1089

Project/Project #: POV-ASI / 60519699

Delivery Info:

Date/time received: 12/30/22 @ 1215 By: KM

Delivered by: Apex____Client X ESS____FedEx____UPS____Swift____Senvoy____SDS____Other_____

Cooler Inspection Date/time inspected: 12/30/22 @ 1215 By: KM

Chain of Custody included? Yes X No _____ Custody seals? Yes_____ No X

Signed/dated by client? Yes X No _____

Signed/dated by Apex? Yes X No _____

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	2.8	5.1					
Received on ice? (Y/N)	Y	Y					
Temp. blanks? (Y/N)	Y	Y					
Ice type: (Gel/Real/Other)	Real	Real					
Condition (In/Out):	In	In					

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: 12.30.22 @ 1335 By: DJS

All samples intact? Yes Y No ___ Comments:_____

Bottle labels/COCs agree? Yes Y No ___ Comments: Ink smeared off from most containers. Identified by other containers packaged together. Time on Field Blank reads 1600, but no time *

COC/container discrepancies form initiated? Yes ___ No N

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

Do VOA vials have visible headspace? Yes N No ___ NA ____

Comments GW-2 = 2/3 HS. GW-2-Dup = 2/3 HS. GW-6 = 1/3 HS. Trip Blank = 2/2 HS

Water samples: pH checked: Yes Y No___NA___ pH appropriate? Yes Y No___NA____

Comments: _____

Additional information: TB # 3202 * listed on CoC

Labeled by: DJS Witness: DKC Cooler Inspected by:

Form Y-003 R-00

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Appendix C
Data Quality Review Report

AECOM
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Data Quality Review Report

Laboratory & Report No.	Apex Laboratories, Incorporated #A2L1089
Report Date	January 30, 2023
Sampling Event	December 29, 2022
Site Location	Port of Vancouver, ASI
AECOM Project No.	60624310 Task 4
Project Name	December 2022 Groundwater Monitoring

This document summarizes the data quality review of the five primary groundwater samples, one field duplicate groundwater sample, one field blank sample, and one trip blank sample collected on December 29, 2022, collected at the former Automotive Services, Incorporated (ASI) site located at the Port of Vancouver in Vancouver, Washington. Samples submitted to Apex Laboratories (Apex) of Tigard, Oregon and were analyzed for the following:

- Volatile organic compounds (VOCs) by US Environmental Protection Agency (EPA) Method 8260D
- Diesel-range and oil-range hydrocarbons by NWTPH-Dx

Analytical data results and associated quality assurance (QA) and quality control (QC) data for all samples are presented in Apex report A2L1089. Data was reviewed based on the *National Functional Guidelines for Organic Superfund Methods Data Review, November 2020*. Chain-of-custody (COC) records, holding times, field/method/trip blanks, surrogate recoveries, matrix spike/matrix spike duplicate recoveries, laboratory and/or field duplicate results, blank spike recoveries (laboratory control samples), and reporting limits were reviewed to assess compliance with applicable methods. If data qualification was required, data were qualified based on the definitions and use of qualifying flags outlined in the EPA document specified above.

Qualifiers assigned as a result of this review are included in Table 1. The following criteria were evaluated during the review:

- COC Records – Acceptable
- Temperature – Acceptable
- Preservation – Acceptable except as noted below:

  VOCs by EPA Method 8260D – The laboratory noted that one or more of the vials received for VOC analysis on GL-2, GL-2 Dup, GL-6, and the trip blank were received with headspace. VOC analysis for these samples was performed on vials without headspace or the headspace was less than 6 millimeters; therefore, data were not qualified based on vial headspace.

- Holding Times – Acceptable
- Field/Trip Blanks – Acceptable
- Method Blanks – Acceptable

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- Surrogates – Acceptable
- Laboratory Control Samples (LCS) – Acceptable
- Matrix Spike (MS) – MSs were not performed in association with these analyses. Accuracy was accessed using the LCS and/or LCSD results.
- Laboratory Duplicates – Acceptable

  VOCs by EPA Method 8260D – A laboratory duplicate was performed using sample GL-1. Results were comparable.

  Diesel and Oil-range Hydrocarbons by NWTPH-Dx – A laboratory duplicate was not performed in association with this analysis. Precision was assessed using LCS/LCSD and field duplicate results.

- Field Duplicate – Acceptable

  A field duplicate was submitted for GL-2 and identified GL-2-DUP. Results were comparable.

- Reporting Limits – Acceptable

  General – The results for oil-range hydrocarbons in GL-3 and tetrachloroethene in GL-2, GL-2 DUP, GL-3, and GL-4 were flagged 'J' by the laboratory to indicate that the sample concentrations were less than the laboratory reporting limits but above the method detection limits. As there is a greater level of uncertainty with these results, laboratory J-flagged results are considered estimated.

- Other Items of Note

  Diesel and Oil-range Hydrocarbons by NWTPH-Dx – The laboratory noted that the diesel-range hydrocarbon patterns in GL-1, GL-2, and GL-2-DUP indicated possible weathered diesel, mineral oil, or a contribution from a related component. The diesel-range hydrocarbon pattern in CL-4 did not resemble the fuel standard used for quantitation. No data qualifiers were assigned based on these qualitative observations by the laboratory.

  VOCs by EPA Method 8260D – The laboratory noted that the percent deviation (%D) for acetone, 2-butanone, and chloroethane in the initial calibration verification (ICV) was above than the method control limit of ± 20%. Acetone, 2-butanone, and chloroethane were not detect in the associated samples; therefore, data were not qualified based on these ICV results.

Overall Assessment of Data

The completeness of the analytical report for this groundwater monitoring event is 100%. The usefulness of the data is based on the EPA guidance documents referenced in the introduction of this report. Upon consideration of the information presented above, the data are usable for meeting project objectives. The data qualifiers assigned by the laboratory are shown on the laboratory reports.

Data Qualifier Definitions

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

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

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UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria.

DNR Do Not Report. Another result is available that is more reliable.

References

EPA, 2020. *EPA National Functional Guidelines for Organic Superfund Methods Data Review*. EPA-540-R-20-005. November.

Table 1. Sample Qualification Summary

Field Sample ID	Laboratory Sample ID	Analyte	Qualifier	Rationale
No Data Qualifiers Were Assigned to the Results Reported in A2L1089 Based on This Data Review.				

About AECOM

AECOM (NYSE: ACM) is a global provider of professional technical and management support services to a broad range of markets, including transportation, facilities, environmental, energy, water and government. With approximately 100,000 employees around the world, AECOM is a leader in all of the key markets that it serves. AECOM provides a blend of global reach, local knowledge, innovation, and collaborative technical excellence in delivering solutions that enhance and sustain the world's built, natural, and social environments. A Fortune 500 company, AECOM serves clients in more than 100 countries and has annual revenue in excess of $6 billion.

More information on AECOM and its services can be found at www.aecom.com.

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