First Quarter 2025 Monitoring Report
Former Johnson Oil
280 E Columbia River Highway
Clatskanie, Oregon

Prepared for:
Oregon Department of Environmental Quality
Task Order No. 066-23-20

June 18, 2025
32-24008422/Task 3

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1.0 Introduction

This *First Quarter 2025 Monitoring Report* describes the field activities and presents the results of a groundwater monitoring event completed in January 2025 at the Former Johnson Oil property and the adjacent property currently occupied by Turning Point Community Service Center (the Site; Figures 1 and 2) located at 280 East Columbia River Highway in Clatskanie, Oregon. The Site is located adjacent to the Clatskanie River in Columbia County. The monitoring event was conducted for the Oregon Department of Environmental Quality (DEQ) under Task 2 of Task Order No. 066-23-20, and this report was prepared under Task 3. The Site is listed in DEQ's Leaking Underground Storage Tank (LUST) database as LUST ID 05-87-0033.

1.1 Scope of Work

The scope of work was completed in accordance with the *Supplemental Site Investigation Work Plan* (Work Plan; Apex Companies, LLC [Apex], 2022). The scope of work for this monitoring event includes collection and analysis of groundwater samples from 10 existing monitoring wells, soil vapor from three monitoring locations, and ambient air from four monitoring locations.

1.2 Deviations from Scope of Work

Monitoring well MW-8 was not accessible during this monitoring event and was not sampled. The asphalt concrete parking lot where the well is located had been refinished and the well was paved over. The location of MW-8 was recorded using a high-accuracy handheld global positioning system (GPS) unit during the January 2025 monitoring event. This will allow the well and monument to be uncovered for decommissioning in the future. Due to the historically low total petroleum hydrocarbon (TPH) concentrations detected in MW-8, continued monitoring of this well is not considered a priority for the Site at this time.

2.0 Background

This section presents a description of the Site, its geology and hydrogeology, and previous work that has been done at the Site.

2.1 Site Location and Description

The Site is located on an approximately 0.26-acre parcel (Figures 1 and 2) near the center of the City of Clatskanie on the south bank of the Clatskanie River and is bounded to the south by the Columbia River Highway (Hwy 30). The Site includes the former service station property and the adjacent property occupied by Turning Point Community Service Center (Turning Point). The former Johnson Oil property is improved with a vacant former service station with a canopy. Turning Point adjoins the former Johnson Oil property to

the north and west, and the property to the east is currently vacant (formerly a produce market that burned down). The Site and surrounding properties are zoned commercial, but the zoning rules allow for residential use in conjunction with commercial use. In late 2024, institutional controls restricting use of both properties for residential purposes and use of local groundwater for consumption or other beneficial use were recorded on the property deeds through an Easement and Equitable Servitudes (E&ES). Additionally, the E&ES requires mitigation of soil vapor through vapor engineering controls for new construction or expansion of existing structures and implementation of a Contaminated Media Management Plan (CMMP) for future excavation or construction at the properties. The CMMP was finalized in February 2023.

2.2 Geology and Hydrogeology

The Site is located approximately 18 feet above mean sea level, and its topography is generally level but slopes steeply down to the Clatskanie River along the north side of the Site. The Site is located within the Oregon Coast Range and is underlain by unconsolidated Quaternary alluvial deposits of silt and interbedded sand lenses to a depth of approximately 50 feet below ground surface (bgs). Sandstone and siltstone of the Astoria Formation underlie the alluvial deposits (Orr, 1999). Based on boring logs associated with Site investigations, near surface geology generally consists of gravelly fill material to a depth of 1 to 5 feet bgs overlying sand.

Shallow groundwater is present beneath the Site at depths ranging from approximately 1 foot bgs on the northwestern portion of the Site to 10 feet bgs adjacent to the river and on the southwestern side of the Site. Groundwater generally flows toward the Clatskanie River with a less pronounced southwesterly component and may be tidally influenced. Some of the groundwater monitoring wells at the Site exhibit slow recovery based on data collected in 2019 through 2024.

2.3 Summary of Prior Work

Petroleum product in the form of light non-aqueous phase liquid (LNAPL) was encountered during underground storage tank (UST) decommissioning activities at the Site in July 1987. The release of an unknown quantity of petroleum was reported to DEQ, and the Site was assigned LUST number 05-87-0033. Prior removal/remedial actions have included decommissioning of the former Johnson Oil dispensers, piping, and USTs (by removal, except for one tank decommissioned in place) and an Interim Removal Action Measure (IRAM) conducted in 2022 to excavate contaminated soil near the riverbank (see Figure 2). Access to areas of contaminated soil during the 2022 IRAM was limited due to underground utilities and existing building foundations. Therefore, contaminated soil and groundwater remain onsite. However, petroleum contaminants are monitored quarterly to ensure conditions are protective for current occupants and uses.

3.0 Field Activities

3.1 Pre-Investigation Activities

Site Health and Safety Plan. A Site-specific health and safety plan (HASP) was prepared for the field activities and included in Appendix B of the Work Plan. The HASP was prepared in general accordance with the Occupational Safety and Health Administration (OSHA) and the Oregon Administrative Rules (OAR). A copy of the HASP was maintained onsite during the field activities.

Property Access. DEQ obtained access agreements with Columbia County (the Former Johnson Oil property owner) and Turning Point for access to the Site for monitoring activities. Prior to each monitoring event, DEQ notifies Columbia County and Turning Point of the upcoming sampling.

3.2 Groundwater Monitoring

Groundwater Levels. On January 22, 2025, groundwater levels were measured using an electronic water level indicator for monitoring wells MW-4 through MW-7, MW-9, and MW-12 through MW-15 (as noted above, MW-8 was not accessible). Wells were opened and the water level was allowed to equilibrate before the measurements were taken. The depth to groundwater was measured in each well to the nearest 0.01 foot and is presented in Table 1 along with with groundwater elevations (calculated to an arbitrary assumed Site datum). Water level documentation is included in Appendix A, and historical elevations are presented in Appendix B.

Groundwater Sampling. Samples were collected using a peristaltic pump and low-flow protocols. New dedicated tubing was used on each monitoring well. Field parameters collected during sampling included temperature, pH, conductivity, dissolved oxygen (DO) concentration, and oxidation-reduction potential (ORP). Field parameters are summarized in Table 1. Groundwater monitoring documentation is included in Appendix A.

Groundwater samples were submitted to Pace Analytical National located in Mount Juliet, Tennessee for analysis under the existing Price Agreement between Pace and the State of Oregon. Sample analysis was conducted on a standard turnaround time. Groundwater samples were analyzed for gasoline-range total petroleum hydrocarbons (TPH-G) by Northwest Method NWTPH-Gx and for volatile organic compounds (VOCs) by Environmental Protection Agency (EPA) Method 8260D.

3.3 Handling of Investigation-Derived Waste

Investigation-derived waste (IDW) consisted of purge water and decontamination water. IDW water was placed in a 55-gallon drum and temporarily stored inside the former service station building, where it is pending characterization, disposal profiling, and removal from the Site. The container was labeled with the project

name, general contents, and date. Disposable items, such as sample tubing, gloves, paper towels, etc., were placed in plastic bags after use and deposited in trash receptacles for disposal as solid waste.

3.4 Soil Vapor Sampling

Soil vapor samples were collected on January 21, 2025, from sub-slab vapor points SG-7, SG-8 (located within the Turning Point building), and SG-10 (located within the former service station building). The locations of the soil vapor points are shown on Figure 2. Each soil vapor sample was collected in a 1-Liter Summa canister equipped with 200 cubic centimeters per minute (cc/min) flow controllers in accordance with the standard operating procedure in Appendix A of the Work Plan.

Soil vapor samples were submitted to Pace Analytical National for analysis on a standard turnaround time. Soil vapor samples were analyzed for VOCs, including low fraction TPH, by EPA Method TO-15.

3.5 Ambient Air Sampling

Radiello® RAD 130 passive ambient air samplers were used to collect four ambient air samples. Samples AMB-1 and AMB-2 were collected within the Turning Point building, AMB-4 was collected within the former service station building, and an outdoor ambient air sample AMB-3 was collected near the Turning Point building. The locations of the ambient air samples are shown on Figure 2. The ambient air samplers were positioned approximately 6 feet above the ground surface (approximate to the breathing zone). The ambient air samplers were deployed for a period of seven days (January 21 through 28, 2025).

At the conclusion of the deployment period, the adsorbent cartridges were placed back into their original tubes, and the sample end time was recorded on the labels. The samples were submitted to Eurofins Environment Testing in Folsom, California and analyzed on a standard turnaround time for selected VOCs by modified EPA Method TO-17.

4.0 Results

4.1 Groundwater Levels

The groundwater elevations and elevation contours are presented in Figure 3. In general, the January 2025 groundwater elevation data suggest a significantly variable groundwater flow across the Site with relatively higher groundwater levels in the central portion of the Site and radially outward flow (to the north, east, and south). Hydraulic gradients range from 0.06 feet per foot (ft/ft) toward the south to 0.26 ft/ft toward the north (toward the Clatskanie River). Groundwater nearer the Clatskanie River may be tidally influenced, though the river stage information is not available for comparison. The groundwater flow direction and gradients observed during the January 2025 monitoring event are consistent with previous events.

4.2 Field Parameters

Field parameters observed in the January 2025 event are consistent with prior monitoring events, Site monitoring wells (except for MW-9) typically have low DO and negative ORP measurements, suggesting an anaerobic and reducing environment. These values are consistent with groundwater in the vicinity of a hydrocarbon plume being influenced by microbial degradation (as the available oxygen is being consumed by the microorganisms during the degradation process). The low concentrations of DO in eight of the nine wells would be limiting the rate of continued microbial degradation that can be occurring (anaerobic degradation pathways may be functional but are significantly less efficient than aerobic degradation pathways).

In MW-9, the DO and ORP values are notably higher than observed in the other Site wells, consistent with previous monitoring events. The measurements are indicative of an aerobic and oxidizing environment. This suggests that groundwater in the vicinity of MW-9 is less influenced by the microbial degradation process. Furthermore, the combination of the higher DO and ORP, the low concentrations of detected analytes (discussed below), and the relatively lower groundwater elevation observed in MW-9 suggests that the well may be influenced by groundwater-surface water interaction with the adjacent Clatskanie River. However, there isn't enough data available to complete a hydrogeologic assessment and distinguish any specific relationship between the aquifer and the river, nor is there enough data to compare results to the regional aquifer outside of the influence of the petroleum plume. In addition, the field parameters measured in monitoring wells MW-14 and MW-15, which are approximately equidistant from the river as monitoring well MW-9, do not exhibit the same variation as the field parameters observed in MW-9, although the groundwater elevation is higher in these monitoring wells (further highlighting the unique nature of MW-9).

4.3 Chemical Analysis

The analytical results and risk screening of the groundwater, soil vapor, and ambient air samples collected in January 2025 are summarized below. The analyte concentrations were screened against the risk-based concentrations (RBCs) that correspond to the potentially complete exposure pathways published in *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* (DEQ, updated June 2023), including:

- Groundwater to indoor air occupational receptor (RBC_{wi});
- Groundwater in excavations for the construction and excavation worker receptor (RBC_{we});
- Soil vapor intrusion (RBC_{sv}); and
- Ambient air (RBC_{air}).

As stated in Section 2.1, other potential complete exposure pathways for beneficial use of groundwater have been eliminated due to institutional controls.

Copies of the analytical laboratory reports are included in Appendix C along with a quality assurance/quality control (QA/QC) review of the data. The results of the data quality review indicate that the data are of acceptable quality and are suitable for their intended purpose.

4.3.1 Groundwater

Groundwater analytical results are presented in Table 2 and summarized in Figures 4 and 5 for the January 2025 groundwater monitoring event for benzene, toluene, ethylbenzene, and xylene and TPH-G results, respectively. Historical groundwater analytical results are presented in Appendix B.

Total Petroleum Hydrocarbons. TPH-G was detected in all nine of the groundwater samples collected during the January 2025 monitoring event. Detected TPH-G concentrations ranged from 42.2 micrograms per liter (µg/L; MW-13) to 99,500 µg/L (MW-12). TPH-G detections exceeded the acute RBC for groundwater to indoor air intrusion of 520 µg/L in seven of the nine samples. The TPH-G concentration in the sample collected from MW-12 (99,500 µg/L) also significantly exceeded the RBC for groundwater in excavations for construction and excavation workers of 14,000 µg/L (by a factor of more than seven times).

The TPH-G concentration in the sample collected from monitoring well MW-12 (99,500 µg/L) is approximately three times higher than what was observed during the fourth quarter 2024 monitoring event, but remains lower than the maximum concentration observed in the April 2024 monitoring event (120,000 µg/L). The TPH-G concentrations in wells MW-5 and MW-6 were also approximately two times higher as compared to the prior monitoring event. Concentrations in the remaining Site wells are similar to or lower than those of the previous monitoring event. The fluctuating concentrations of TPH-G may be due to seasonal variability of groundwater conditions.

TPH-G concentration data collected from all wells, with the exception of MW-6, show no statistically significant trend due to variability in the data. Linear regression of the data suggests an overall tendency for concentrations to be decreasing in wells MW-4, MW-7, MW-12, MW-13, and MW-15. Concentrations tend to be flat in MW-9, flat to upward in MW-14, and upward in MW-5. TPH-G concentrations in MW-6 have shown a statistically significant upward trend since the initiation of groundwater monitoring in 2019.

Volatile Organic Compounds. One or more petroleum VOCs (benzene, ethylbenzene, xylenes, naphthalene, and 1,2,4-trimethylbenzene) were detected at concentrations that exceed their respective RBCs in seven of the nine groundwater samples collected in January 2025. The exceedances are as follows:

- The benzene RBC for the chronic groundwater to indoor air pathway (12 µg/L) was exceeded in seven groundwater samples and the acute pathway (650 µg/L) was exceeded in two samples (MW-6 and MW-12);

- The benzene RBC for groundwater in excavations (1,800 µg/L) was not exceeded in any samples during the January 2025 monitoring event, which is the first time this RBC has not been exceeded in at least one well;
- The ethylbenzene RBC for the chronic groundwater to indoor air pathway (31 µg/L) was exceeded in four groundwater samples;
- The total xylenes RBC for the chronic groundwater to indoor air pathway (3,300 µg/L) was exceeded in one groundwater sample (MW-12);
- The naphthalene RBC for the chronic groundwater to indoor air pathway (50 µg/L) was exceeded in four groundwater samples; and
- The 1,2,4-trimethylbenzene RBC for the chronic groundwater to indoor air pathway (1,700 µg/L) was exceeded in one groundwater sample (MW-12).

The detected benzene and ethylbenzene concentrations in samples collected from monitoring wells MW-9, MW-14, and MW-15 are relatively consistent with previous monitoring events. Relative to the prior monitoring event (October 2024), concentrations generally decreased in samples collected from monitoring wells MW-4, MW-7, and MW-13, and increased in samples collected from monitoring wells MW-5 and MW-6. In the sample collected from MW-12, the benzene concentrations decreased by approximately half as compared to the October 2024 sampling event, while concentrations of toluene, ethylbenzene, xylenes, naphthalene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene increased significantly. The concentrations of toluene and ethylbenzene are the relatively highest concentrations that have been detected in MW-12 during the previous year of quarterly monitoring events.

4.3.2 Soil Vapor

To evaluate if the groundwater to indoor air pathway is impacting indoor air within the former Johnson Oil and Turning Point buildings, soil vapor and ambient air samples were also collected during this monitoring event. Soil vapor results are presented in Table 3 and summarized on Figure 6. None of the VOCs or TPH-G detections in the soil vapor samples collected in the January 2025 monitoring event contain concentrations in excess of RBCs for chronic or acute exposure in a commercial setting.

TPH-G was detected only in SG-7, at concentrations consistent with previous monitoring events. Benzene, ethylbenzene, and toluene were not detected in any of the soil vapor samples, and xylenes were only detected in SG-7 in low concentrations. Naphthalene concentrations observed in SG-7 (17.4 µg/m^3) exceeded the applicable chronic commercial soil vapor RBC of 12 µg/m^3. Additionally, low concentrations of tetrachloroethylene (PCE) were detected in SG-7; however, the concentrations are well below applicable RBCs, and PCE is not a contaminant of concern related to the petroleum release at the Site.

4.3.3 Ambient Air

Ambient air sample results are presented in Table 4 and summarized in Figure 5. VOCs were detected in all four collected samples, including both petroleum and non-petroleum VOCs, but none of the detected VOCs exceeded applicable RBCs. TPH analysis is not included in the passive RAD130 TO-17 analyte list, but TPH has not been detected previously in ambient air at the Site using other analytical methods, and a detected TPH concentration would not be expected to exceed its respective RBC without one or more VOCs also exceeding their RBCs. Therefore, the absence of TPH on the TO-17 reporting list does not present a concern.

Concentrations of VOCs slightly increased in samples AMB-2 and AMB-3 and slightly decreased in samples AMB-1 and AMB-4 as compared to the July 2024 sampling event.

4.3.4 Site Data Screening Summary

The observed exceedances of Site-related contaminants for each exposure pathway are summarized below. While the observed vapor intrusion RBC exceedances in groundwater indicate the potential for an unacceptable exposure to commercial site users, these exceedances are not reflected in the actual soil vapor or ambient air concentrations. Therefore, there is currently no risk for occupational exposure at the Site.

Contaminant	Observed Number of RBC Exceedances			
	Groundwater Pathways		Soil Vapor	Ambient Air
	Commercial Vapor Intrusion	Groundwater in Excavations	Commercial Vapor Intrusion	Commercial Vapor Intrusion
TPH-G	7	1	--	--
Benzene	7	--	--	--
Ethylbenzene	5	--	--	--
Xylenes	1	--	--	--
Naphthalene	4	--	--	--
1,2,4-Trimethylbenzene	1	--	--	--

Notes: -- = No exceedances of RBCs

5.0 Conclusions

Based on the first quarter 2025 groundwater monitoring event and previous events, impacts from gasoline-range hydrocarbons and petroleum-related VOCs continue to be present at the Site and extend beneath the former Johnson Oil and Turning Point buildings.

Elevated concentrations of TPH-G and VOCs (benzene, ethylbenzene, xylenes, and naphthalene) that were detected in groundwater at concentrations above the commercial vapor intrusion RBCs suggest that the impacts to indoor air that have been seen during previous monitoring events could reasonably be associated with the Site groundwater contamination in the vicinity of MW-12 (east of the Turning Point building). However,

the ambient air monitoring completed during this monitoring event did not encounter any exceedances of the associated inhalation RBCs.

Petroleum and VOC concentrations have shown some variability between quarterly events; however, no pattern has been established. The overall groundwater concentrations appear to be relatively stable over the previous year of monitoring, likely due to the low DO and reducing conditions that are likely limiting the attenuation rate of petroleum concentrations in groundwater. A statistical evaluation of the data sets from the Site monitoring wells shows that there are no statistically significant trends in the data, though a simple linear regression of the prior two years of data does show a tendency for decreasing concentrations in four of the wells. (However, the data is variable enough for this tendency to be highly influenced by a few data points).

The mobility of petroleum in the subsurface may be influenced by impacts to the local hydrogeology from the UST removals and subsequent soil excavation projects, which may be associated with higher-conductivity backfill materials relative to the surrounding soils. A comparison of groundwater elevations observed in 2018 with current conditions suggests that a groundwater mound is present in the vicinity of the historical IRAM which has in turn resulted in increased groundwater flow to the south, away from the river. Additional data is necessary to fully assess potential mobility across the Site and the subsequent influence on groundwater and vapor concentrations.

Petroleum hydrocarbon concentrations in groundwater indicate the potential for future unacceptable risks associated with vapor intrusion from groundwater. Based on these elevated groundwater concentrations, continued monitoring is needed to ensure human health risks remain acceptable.

Proposed monitoring activities through at least spring of 2025 will include groundwater, soil gas, and ambient air monitoring. The continued evaluation of potential remedial actions at the Site will help determine future activities.

6.0 References

Apex Companies, LLC, 2022. *Supplemental Site Investigation Work Plan, Former Johnson Oil.* December 8, 2022.

Oregon Department of Environmental Quality, 2003. *Risk-Based Decision Making for the Remediation of Contaminated Sites*. September 22, 2003. Updated June 2023.

Orr, Elizabeth L. and William N. Orr, 1999. *Geology of Oregon*. January 1, 1999.

Table 1
Groundwater Elevations and Field Parameters
Former Johnson Oil
Clatskanie, Oregon

Monitoring Well	Date	TOC Elevation (ft[1])	Depth to Groundwater (ft BTOC)	Depth to Product (ft BTOC)	Product Thickness (ft)	Groundwater Elevation (ft[1])	pH	Temperature (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-4	4/8/2024	94.43	1.30	--	--	93.13	6.75	12.64	566	1.40	-120.3
	7/22/2024		2.74	--	--	91.69	6.87	17.00	635	0.00	-215.5
	10/21/2024		3.93	--	--	90.50	6.56	16.30	569	0.26	-110.2
	1/22/2025		1.44	--	--	92.99	6.23	12.79	486	2.37	-116.8
MW-5	4/8/2024	94.30	3.44	--	--	90.86	6.53	12.19	461	1.11	-125.3
	7/22/2024		4.50	--	--	89.80	8.95	15.40	542	0.00	-230.1
	10/21/2024		6.33	--	--	87.97	6.43	15.40	342	0.23	-199.0
	1/22/2025		3.16	--	--	91.14	5.62	11.79	461	2.42	-108.5
MW-6	4/8/2024	95.57	4.55	--	--	91.02	6.52	13.24	484	1.08	-108.4
	7/22/2024		5.69	--	--	89.88	6.59	16.10	580	0.00	-208.8
	10/21/2024		7.38	--	--	88.19	6.41	16.90	493	0.19	-118.1
	1/22/2025		4.73	--	--	90.84	5.84	14.95	490	2.36	-98.3
MW-7	4/8/2024	95.04	9.23	--	--	85.81	6.23	14.03	446	1.37	-52.5
	7/22/2024		6.26	--	--	88.78	6.50	16.90	623	0.00	-174.2
	10/21/2024		8.25	--	--	86.79	6.29	17.40	529	0.17	-99.1
	1/22/2025		6.17	--	--	88.87	5.50	15.68	386	2.10	-30.9
MW-8	4/8/2024	96.22	5.33	--	--	90.89	6.36	12.62	896	0.00	-106.3
	7/22/2024		5.92	--	--	90.30	6.49	17.80	940	0.00	-198.3
	10/21/2024	Well Inaccessible; Covered by Asphalt Concrete									
	1/22/2025	Well Inaccessible; Covered by Asphalt Concrete									
MW-9	4/8/2024	94.54	6.33	--	--	88.21	4.94	10.95	62	3.96	238.4
	7/22/2024		9.47	--	--	85.07	4.91	14.11	78	4.19	55.2
	10/21/2024		6.59	--	--	87.95	5.03	15.10	81	4.10	226.9
	1/22/2025		9.77	--	--	84.77	3.54	11.00	68	5.21	141.1
MW-12	4/8/2024	99.06	5.10	--	--	93.96	6.33	12.64	331	1.13	-86.8
	7/22/2024		6.10	--	--	92.96	6.29	18.00	343	0.00	-158.5
	10/21/2024		7.39	--	--	91.67	6.25	17.50	458	0.14	-85.6
	1/22/2025		5.32	--	--	93.74	5.80	12.30	320	3.00	-61.7
MW-13	4/8/2024	98.28	3.09	--	--	95.19	7.40	10.96	375	0.00	-125.2
	7/22/2024		4.43	--	--	93.85	7.33	16.30	609	0.00	-208.4
	10/21/2024		5.74	--	--	92.54	6.93	16.90	705	0.22	-124
	1/22/2025		3.15	--	--	95.13	6.35	11.16	351	2.50	-56.4
MW-14	4/8/2024	99.28	8.77	--	--	90.51	6.45	11.92	338	0.00	-106.8
	7/22/2024		9.43	--	--	89.85	6.71	14.50	505	0.37	-192.4
	10/21/2024		9.79	--	--	89.49	6.56	14.00	504	0.12	-140.4
	1/22/2025		10.31	--	--	88.97	5.85	12.53	529	3.70	-92.1
MW-15	4/8/2024	100.32	9.07	--	--	91.25	6.45	11.31	407	0.00	-134.6
	7/22/2024		9.66	--	--	90.66	6.56	13.43	567	0.00	-285.3
	10/21/2024		9.05	--	--	91.27	6.32	12.90	474	0.24	-135.3
	1/22/2025		8.47	--	--	91.85	5.39	11.33	495	2.56	-75.8

Notes:

1. Elevations are relative to an assumed reference datum of 100 feet (point located at the northwest corner of a concrete pad for a metal sign along Highway 30).
2. ft = feet
3. BTOC = Below Top of Casing.
4. NS = Not surveyed.
5. °C = Degrees Celsius.
6. µS/cm = MicroSiemens per centimeter
7. mg/L = Milligrams per liter.
8. ORP (mV) = Oxidation-reduction potential (millivolts).

Table 2
Groundwater Analytical Results
Former Johnson Oil
Clatskanie, Oregon

Monitoring Well Number	Sample Date	Concentrations in µg/L									
		TPH-G	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl Tert-Butyl Ether	Naphthalene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	BTEX
MW-4	04/09/2024	3,450	117	<20.0	108	<60.0	<20.0	96.2	2.19	<20.0	265
	7/23/2024	3,370	102	2.94	95.0	3.71	<1.00	173	<1.00	<1.00	204
	10/21/2024	6,130	140	4.28	221	8.50	<0.101	324	2.87 J	0.156 J	374
	1/22/2025	4,460	104	2.83 J	74.5	3.74 J	<10.0	123	<10.0	<10.0	185
MW-5	04/09/2024	7,910	155	11.1	970	51.0	<10.0	318	35.3	1.94	1,187
	7/23/2024	8,250	112	9.17	536	29.1	0.141 J	246	5.16	2.10	686
	10/21/2024	3,220	34.4	2.67	145	9.70	<0.101	60.0	3.96 J	0.527 J	192
	1/22/2025	7,080	127	11.0	826	48.1	<10.0	309	<10.0	2.14 J	1,012
MW-6	04/09/2024	6,860	576	10.4	152	31.5	<10.0	28.5	2.52	3.66	770
	7/23/2024	7,040	838	13.4	288	84.3	0.217 J	24.6	19.3	9.49	1,224
	10/21/2024	3,790	619	14.5	184	43.8	<0.101	9.13	2.80	4.87	861
	1/22/2025	7,530	713	12.0 J	174	48.9 J	<20.0	74.2 J	<20.0	4.30 J	948
MW-7	04/09/2024	2,350	112	2.42	87.8	294	14.9	4.15	11.8	14.5	496
	7/23/2024	1,610	53.4	2.06	29.3	51.6	26.7	5.37	10.0	3.27	136
	10/21/2024	1,520	108	2.15	92.5	132	19.8	9.54	18.4	9.58	335
	1/22/2025	980	35.3	1.04	9.07	32.5	12.1	1.83 J-	6.10	1.97	77.9
MW-8	04/08/2024	84.8	<1.00	<1.00	0.206	8.77	0.336	<5.00	0.83	0.77	10.0
	7/22/2024	234	<1.00	<1.00	<1.00	1.12 J	0.232 J	<5.00	<1.00	<1.00	2.62
	10/21/2024	--	--	--	--	--	--	--	--	--	--
	1/22/2025	--	--	--	--	--	--	--	--	--	--
MW-9	04/08/2024	<100	<1.00	<1.00	<1.00	<3.00	<1.00	<5.00	<1.00	<1.00	<1.00
	7/23/2024	31.7 JB	0.186 J	0.303 J	0.182 J	0.893 J	<1.00	<5.00	<1.00	<1.00	1.56
	10/21/2024	<31.6	0.247 J	<0.278	0.221 J	0.271	<0.101	<1.00	0.106 J	<0.104	0.88
	1/22/2025	43.2 JB	<1.00	<1.00	0.160 J	0.847	<1.00	<5.00 UJ	<1.00	0.117 J	2.01
MW-12	04/09/2024	120,000	1,810	15,900	3,410	17,500	<100	340	533	603	38,620
	7/23/2024	82,600	5,130	4,590	4,000	13,800	<25.0	660	2,750	704	27,520
	10/21/2024	24,500	3,150	181	1,450	3,530	16.6	193	387	354	8,311
	1/22/2025	99,500	1,530	11,600	4,450	22,800	<50.0	494 J-	2,490	686	40,380
MW-13	04/08/2024	238	35.3	0.501	6.11	<3.00	<1.00	<5.00	<1.00	0.381	43.4
	7/22/2024	256	12.0	<1.00	2.68	<3.00	<1.00	<5.00	<1.00	<1.00	16.7
	10/21/2024	299 J-	21.6 J-	<0.278 UJ	20.6 J-	4.90 J-	<0.101 UJ	2.79 J-	1.45 J-	0.288 J-	47.2
	1/22/2025	42.2 JB	1.68	<1.00	<1.00	<3.00	<1.00	<5.00 UJ	<1.00	<1.00	4.18

Please see notes at end of table.

Table 2
Groundwater Analytical Results
Former Johnson Oil
Clatskanie, Oregon

Monitoring Well Number	Sample Date	Concentrations in µg/L									
		TPH-G	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl Tert-Butyl Ether	Naphthalene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	BTEX
MW-14	04/08/2024	**3,790**	**334**	**4.30**	**19.4**	**13.8**	<5.00	<25.0	**8.35**	**3.48**	**372**
	7/22/2024	**3,660**	**387**	**8.59 J**	**29.8**	**43.6**	<10.0	**22.0 J**	**12.6**	**4.85 J**	**469**
	10/21/2024	**6,260**	**850**	**5.69**	**56.3**	**17.1**	<0.101	**5.71**	**23.5**	**5.32**	**929**
	1/22/2025	**6,000**	**641**	<25.0	**60.8**	**103**	<25.0	<125 UJ	**15.4 J**	**7.25 J**	**817**
MW-15	04/08/2024	**1,010**	**35.1**	**0.895**	**28.5**	**3.26**	<1.00	**5.31**	**11.0**	<1.00	**67.8**
	7/22/2024	**344**	**8.93**	**0.706 J**	<1.00	**0.228 J**	<1.00	**1.98 J**	<1.00	<1.00	**10.4**
	10/21/2024	**1,550 J**	**24.2**	**3.19**	**0.692 J**	**3.92**	**7.72**	**2.06 J**	**3.98 J**	**0.269 J**	**32.0**
	1/22/2025	**720**	**30.0**	**0.438 J**	**2.37**	**0.575 J**	<1.00	<5.00 UJ	<1.00	<1.00	**33.4**
Groundwater to Indoor Air -	Acute	--	650	160,000	420,000	200,000	1,600,000	83,000	--	--	--
Commercial (RBCwi)	Acute	520	12	150,000	31	3,300	3,200	50	2,400	1,700	--
Groundwater in Excavation (RBC_{we})		14,000	1,800	220,000	4,500	23,000	63,000	500	6,300	7,500	--

Notes:

1. Volatile organic compounds by EPA Method 8260D.
2. GRO = Gasoline range organics by NWTPH-Gx Method.
3. µg/L = Micrograms per liter.
4. Only compounds of potential interest are present in table.
5. **Bold** values indicate concentration detected above the method detection limit.
6. < = Concentration was not detected above the shown minimum reporting limit.
7. B = Analyte concentration is less than 10 times greater than a detection in the method blank and the result may be biased.
8. J = Result is an estimated value.
9. J- = Result is an estimated value and may be biased low.
10. UJ = The analyte was not detected but the reporting limit may be inaccurate or imprecise.
11. DEQ Human Health RBC = Risk-Based Concentrations from the DEQ's *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* (updated June 2023).
12. Shaded values represent exceedances of applicable RBCs.

Table 3
Soil Vapor Analytical Results
Former Johnson Oil
Clatskanie, Oregon

Sample Location	CAS Number	SG-7				SG-8				SG-10				RBCs - Commercial Soil Vapor (RBC_{sv})	
Date		11/7/2023	2/26/2024	7/22/2024	1/21/2025	11/7/2023	2/26/2024	7/22/2024	1/21/2025	11/7/2023	2/26/2024	7/22/2024	1/21/2025	Chronic	Acute
Volatile Organic Compounds (VOCs) by EPA Method TO-15 in µg/m^3															
Acetone	67-64-1	**8.72**	**32.1**	**28.5**	**6.04**	**11.9**	**3.26**	**7.91**	**9.96**	**20.5**	**9.08**	**20.0**	**6.68**	--	6,300,000
Allyl Chloride	107-05-1	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	68	--
Benzene	71-43-2	<0.639	<0.639	**0.818**	<0.639	<0.639	<0.639	<0.639	<0.639	**0.684**	*<63.9*	<0.639	<0.639	52	2,900
Benzyl Chloride	100-44-7	<1.04	<1.04	<1.04	<1.04	<1.04	<1.04	<1.04	<1.04	<1.04	<1.04	<1.04	<1.04	8.3	24,000
Bromodichloromethane	75-27-4	<1.34	<1.34	<1.34	<1.34	<1.34	<1.34	<1.34	<1.34	<1.34	<134	<1.34	<1.34	11	--
Bromoform	75-25-2	<6.21	<6.21	<6.21	<6.52	<6.21	<6.21	<6.21	<6.52	<6.21	<6.21	<6.21	<6.52	370	--
Bromomethane	74-83-9	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	730	400,000
1,3-Butadiene	106-99-0	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	14	67,000
Carbon Disulfide	75-15-0	<0.622	**3.70**	<1.24	**2.09**	<0.622	<0.622	**8.40**	**2.49**	**0.890**	<0.622	<1.24	<1.24	100,000	630,000
Carbon Tetrachloride	56-23-5	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	**1.26**	<1.26	68	190,000
Chlorobenzene	108-90-7	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<92.4	<0.924	<0.924	7,300	--
Chloroethane	75-00-3	<0.528	**1.01**	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	580,000	4,000,000
Chloroform	67-66-3	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	18	50,000
Chloromethane	74-87-3	**0.591**	**3.74**	<0.413	<0.413	**1.06**	<0.413	<0.413	**0.558**	**0.554**	<0.413	**0.845**	<0.413	13,000	100,000
2-Chlorotoluene	95-49-8	<1.03	<1.03	<1.03	<1.03	<1.03	<1.03	<1.03	<1.03	<1.03	<1.03	<1.03	<1.03	--	--
Cyclohexane	110-82-7	<0.689	<0.689	<0.689	<0.689	<0.689	<0.689	<0.689	<0.689	**8.16**	**1,540**	<0.689	<0.689	880,000	--
Chlorodibromomethane	124-48-1	<1.70	<1.70	<1.70	<1.70	<1.70	<1.70	<1.70	<1.70	<1.70	<170	<1.70	<1.70	--	--
1,2-Dibromoethane	106-93-4	*<1.54*	*<1.54*	<1.54	<1.54	*<1.54*	*<1.54*	<1.54	<1.54	*<1.54*	*<154*	<1.54	<1.54	0.68	--
1,2-Dichlorobenzene	95-50-1	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	29,000	--
1,3-Dichlorobenzene	541-73-1	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	--	--
1,4-Dichlorobenzene	106-46-7	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	<1.20	37	1,200,000
1,2-Dichloroethane	107-06-2	<0.810	<0.810	<0.810	<0.810	<0.810	<0.810	<0.810	<0.810	<0.810	*<81.0*	<0.810	<0.810	16	--
1,1-Dichloroethane	75-34-3	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	260	--
1,1-Dichloroethene	75-35-4	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	29,000	20,000
cis-1,2-Dichloroethene	156-59-2	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	5,800	--
trans-1,2-Dichloroethene	156-60-5	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	5,800	80,000

Please see notes at end of table.

Table 3
Soil Vapor Analytical Results
Former Johnson Oil
Clatskanie, Oregon

Sample Location	CAS Number	SG-7				SG-8				SG-10				RBCs - Commercial Soil Vapor (RBC_{sv})	
Date		11/7/2023	2/26/2024	7/22/2024	1/21/2025	11/7/2023	2/26/2024	7/22/2024	1/21/2025	11/7/2023	2/26/2024	7/22/2024	1/21/2025	Chronic	Acute
Volatile Organic Compounds (VOCs) by EPA Method TO-15 in µg/m^3															
1,2-Dichloropropane	78-87-5	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<92.4	<0.924	<0.924	110	23,000
cis-1,3-Dichloropropene	10061-01-5	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<90.8	<0.908	<0.908	100	3,700
trans-1,3-Dichloropropene	10061-02-6	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<90.8	<0.908	<0.908	100	3,700
1,4-Dioxane	123-91-1	<0.721	<2.27	<2.27	<2.27	<0.721	<2.27	<2.27	<2.27	<0.721	<227	<2.27	<2.27	82	730,000
Ethanol	64-17-5	**14.9**	**78.6**	**51.1**	**12.0**	**31.1**	**4.98 B**	**6.00**	**24.5**	**58.6**	**7.94**	**5.51**	**14.4**	--	--
Ethylbenzene	100-41-4	**2.44**	**1.03**	**1.19**	<0.867	<0.867	<0.867	<0.867	<0.867	<0.867	<0.867	<0.867	<0.867	160	2,200,000
4-Ethyltoluene	622-96-8	**6.43**	**4.61**	**3.61**	**1.95**	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	--	--
Trichlorofluoromethane	75-69-4	**1.48**	**1.61**	**1.66**	**1.25**	**1.17**	**1.46**	**1.79**	**1.25**	<1.12	**1.20**	<1.12	**1.15**	--	--
Dichlorodifluoromethane	75-71-8	**1.70**	**1.16**	**1.48**	<0.989	**2.06**	**1.36**	**1.66**	**2.21**	**1.99**	**1.41**	**1.97**	**2.10**	15,000	--
1,1,2-Trichlorotrifluoroethane	76-13-1	<1.53	<1.53	<1.53	<1.53	<1.53	<1.53	<1.53	<1.53	<1.53	<1.53	<1.53	<1.53	730,000	--
1,2-Dichlorotetrafluoroethane	76-14-2	<1.40	<1.40	<1.40	<1.40	<1.40	<1.40	<1.40	<1.40	<1.40	<1.40	<1.40	<1.40	--	--
Heptane	142-82-5	<0.818	**0.830**	**1.21**	<0.818	<0.818	<0.818	<0.818	<0.818	**2.57**	**2,090**	<0.818	<0.818	58,000	--
Hexachloro-1,3-butadiene	87-68-3	<6.73	<6.73	<6.73	<6.73	<6.73	<6.73	<6.73	<6.73	<6.73	<6.73	<6.73	<6.73	19	--
n-Hexane	110-54-3	<2.22	<2.22	**2.34**	<2.22	<2.22	<2.22	<2.22	<2.22	<2.22	**2,240**	<2.22	<2.22	100,000	--
Isopropylbenzene	98-82-8	**4.09**	<0.983	**2.09**	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	**5.11**	<0.983	58,000	--
Methylene Chloride	75-09-2	**1.50**	<0.694	**2.92**	<0.694	**3.09**	<0.694	<0.694	**1.17**	**5.17**	<0.694	<0.694	**0.882**	41,000	210,000
Methyl Butyl Ketone	591-78-6	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11	<511	<5.11	<5.11	4,400	--
2-Butanone (MEK)	78-93-3	<3.69	**3.98**	**11.1**	<3.69	<3.69	<3.69	<3.69	<3.69	**12.7**	<3.69	**5.22**	<3.69	730,000	500,000
4-Methyl-2-pentanone (MIBK)	108-10-1	<5.12	<5.12	**5.73**	<5.12	<5.12	<5.12	<5.12	<5.12	<5.12	<512	<5.12	<5.12	440,000	--
Methyl Methacrylate	80-62-6	<0.819	<0.819	<0.819	<0.819	<0.819	<0.819	<0.819	<0.819	<0.819	<81.9	<0.819	<0.819	100,000	--
Methyl Tert Butyl Ether (MTBE)	1634-04-4	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	1,600	800,000
Naphthalene	91-20-3	**9.32**	**71.2**	**9.95**	**17.4**	<3.30	<3.30	<3.30	<3.30	<3.30	<3.30	<3.30	<3.30	12	20,000
2-Propanol	67-63-0	**4.99**	**17.3**	**34.9**	**3.66**	**9.78**	**3.22**	<3.07	**4.33**	**49.9**	**5.19**	<3.07	**3.15**	29,000	320,000
Propene	115-07-1	<2.15	<2.15	<2.15	<2.15	<2.15	<2.15	<2.15	**2.65**	<2.15	<2.15	<2.15	<2.15	440,000	--
n-Propylbenzene	103-65-1	**8.2**	<0.982	**4.02**	**1.87**	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	150,000	--
Styrene	100-42-5	<0.851	<0.851	<1.70	<1.70	<0.851	<0.851	<1.70	<1.70	<0.851	<0.851	<1.70	<1.70	150,000	2,100,000

Please see notes at end of table.

Table 3
Soil Vapor Analytical Results
Former Johnson Oil
Clatskanie, Oregon

Sample Location	CAS Number	SG-7				SG-8				SG-10				RBCs - Commercial Soil Vapor (RBC_{sv})	
Date		11/7/2023	2/26/2024	7/22/2024	1/21/2025	11/7/2023	2/26/2024	7/22/2024	1/21/2025	11/7/2023	2/26/2024	7/22/2024	1/21/2025	Chronic	Acute
Volatile Organic Compounds (VOCs) by EPA Method TO-15 in µg/m^3															
1,1,2,2-Tetrachloroethane	79-34-5	<1.37	<1.37	<1.37	<1.37	<1.37	<1.37	<1.37	<1.37	<1.37	<1.37	<1.37	<1.37	7.1	--
Tetrachloroethylene	127-18-4	**2.96**	**1.84**	**5.27**	**1.65**	<1.36	<1.36	<1.36	<1.36	<1.36	<136	**1.57**	<1.36	1,600	4,000
Tetrahydrofuran	109-99-9	<0.590	<0.590	**1.54**	**0.666**	<0.590	<0.590	<0.590	**0.687**	**1.30**	<0.590	<0.590	**0.596**	290,000	--
Toluene	108-88-3	**3.35**	<1.88	**5.46**	<1.88	**3.09**	<1.88	**1.88**	<1.88	**6.55**	<188	**2.46**	<1.88	730,000	770,000
1,2,4-Trichlorobenzene	120-82-1	<4.66	<4.66	<4.66	<4.66	<4.66	<4.66	<4.66	<4.66	<4.66	<4.66	<4.66	<4.66	290	--
1,1,1-Trichloroethane	71-55-6	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	730,000	1,100,000
1,1,2-Trichloroethane	79-00-5	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<109	<1.09	<1.09	26	--
Trichloroethylene	79-01-6	<1.07	<1.07	<1.07	<1.07	<1.07	**1.78**	<1.07	<1.07	<1.07	*<107*	<1.07	<1.07	100	210
1,2,4-Trimethylbenzene	95-63-6	**52.5**	**51.5**	**30.0**	**13.9**	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	8,800	--
1,3,5-Trimethylbenzene	108-67-8	**25.9**	**19.3**	**13.6**	**5.89**	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	<0.982	8,800	--
2,2,4-Trimethylpentane	540-84-1	<1.07	<0.934	**0.976**	<0.934	<0.934	<0.934	<0.934	**1.21**	<0.934	**2,210**	<0.934	<0.934	--	--
Vinyl Chloride	75-01-4	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	93	130,000
Vinyl Bromide	593-60-2	<0.875	<0.875	<0.875	<0.875	<0.875	<0.875	<0.875	<0.875	<0.875	<0.875	<0.875	<0.875	27	--
Vinyl Acetate	108-05-4	<0.704	<2.22	<2.22	<2.22	<0.704	<2.22	<2.22	<2.22	<0.704	<2.22	<2.22	<2.22	29,000	20,000
m&p-Xylene	179601-23-1	**12.1**	**6.07**	**5.51**	**2.18**	<1.73	<1.73	<1.73	<1.73	**1.82**	<1.73	<1.73	<1.73	--	--
o-Xylene	95-47-6	**10.6**	**4.73**	**3.92**	**1.70**	<0.867	<0.867	<0.867	<0.867	<0.867	<0.867	<0.867	<0.867	15,000	--
TPH (GC/MS) Low Fraction	8006-61-9	**1,400**	**967**	**843**	**884**	<826	<826	<826	<826	**1,160**	<82,600	**1,320**	<826	--	--

Notes:

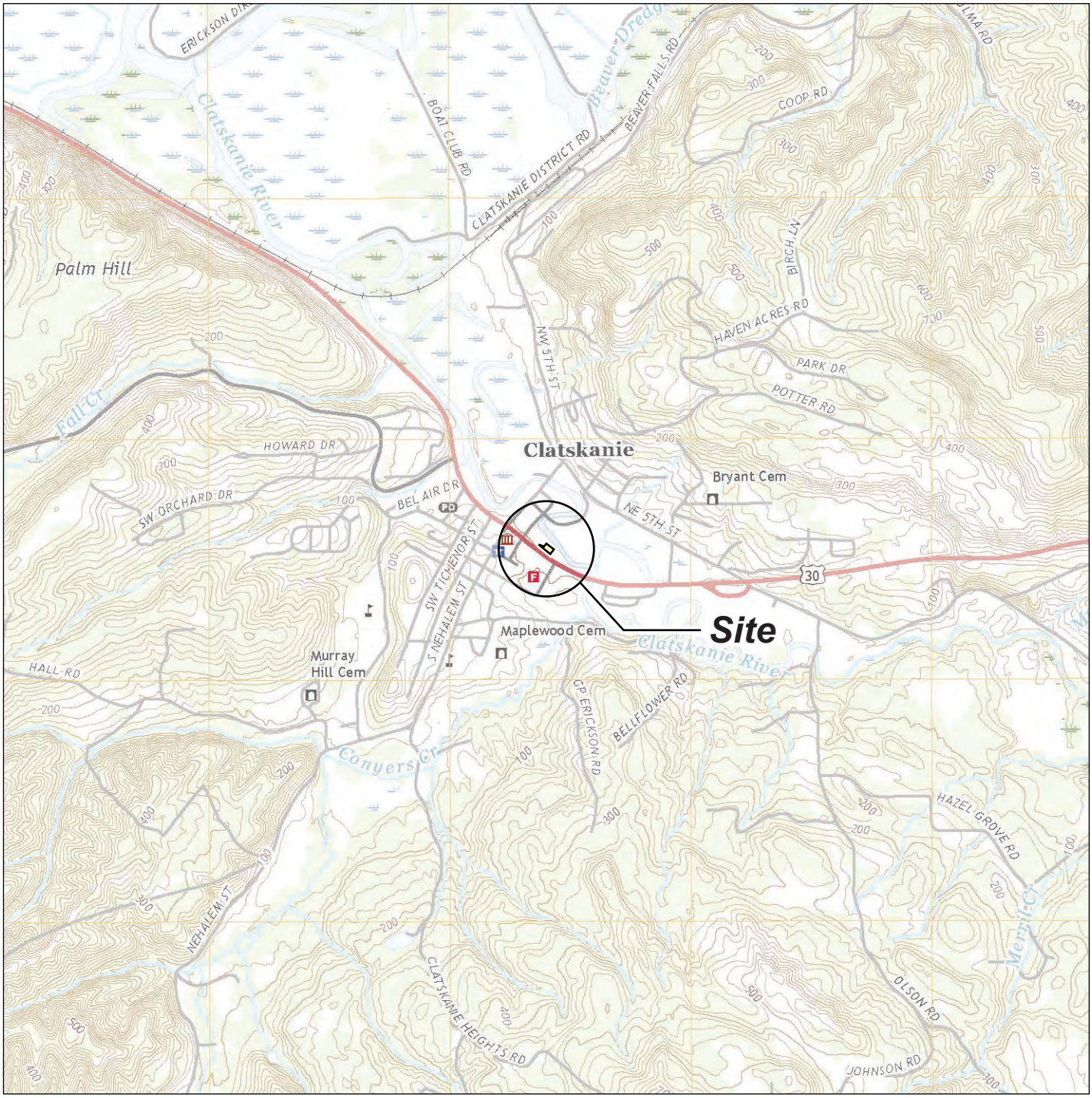
1. µg/m^3 = Micrograms per cubic meter.
2. **Bold** values indicate concentration detected above the minimum reporting limit.
3. Shaded values indicate concentrations detected above one or more applicable RBC.
4. *Italicized* values indicate a reporting limit above the applicable RBC
5. < = Concentration was not detected above the shown minimum reporting limit.
6. -- = Not available.
7. B = Analyte concentration is less than 10 times greater than a detection in the method blank and the result may be biased.
8. J+ = Estimated concentration that may be biased high.
9. RBCs = Risk-Based Concentrations from the DEQ's *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* (updated June 2023).

Table 4
Ambient Air Analytical Results
Former Johnson Oil
Clatskanie, Oregon

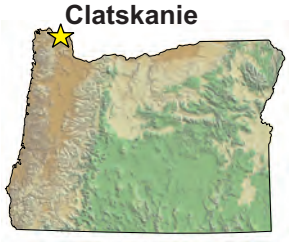
Sample Location	AMB-1 (Turning Point)				AMB-2 (Turning Point)				AMB-3 (Outdoors)				AMB-4 (Former Stations Building)				Ambient Air - Commercial (RBCair)	
Date	11/13/2023	2/26/2024	7/30/2024	1/21/2025	11/13/2023	2/26/2024	7/30/2024	1/21/2025	11/13/2023	2/26/2024	7/30/2024	1/21/2025	11/13/2023	2/26/2024	7/30/2024	1/21/2025	Chronic	Acute
Volatile Organic Compounds (VOCs) by EPA Method TO-17 Passive RAD145 in µg/m^3																		
Benzene	**2.1**	**1.0**	**1.6**	**0.97**	**1.8**	**1.2**	**0.90**	**1.3**	**1.1**	**0.67**	<0.50	**0.61**	**0.79**	--	<0.50	0.57	87	1.6
Cyclohexane	**0.91**	**0.72**	**1.0**	**0.54**	**0.73**	**0.67**	**0.68**	**0.77**	**0.19**	**0.86**	<0.18	<0.18	**0.076**	--	<0.18	<0.18	--	26,000
Ethylbenzene	**2.8**	**1.0**	**1.4**	**0.60**	**2.7**	**1.1**	**0.72**	**0.92**	**0.2**	**0.12**	<0.14	<0.15	**0.16**	--	<0.14	<0.15	66,000	4.9
Styrene	**0.62**	**0.36**	<0.16	<0.16	**0.66**	**0.52**	<0.16	<0.16	**0.25**	**0.085**	<0.16	<0.16	**0.19**	--	<0.16	<0.16	63,000	4,400
Tetrachloroethene	**0.079**	**0.053**	<0.17	<0.17	**0.095**	**0.056**	<0.17	<0.17	**0.065**	**0.044**	<0.17	<0.17	**1.0**	--	**0.65**	**0.41**	120	47
Toluene	**18 E**	**6.7 E**	**12**	**3.5**	**18 E**	**>6.3 S**	**6.2**	**6.0**	**0.90**	**0.64**	**0.28**	**0.61**	**0.81**	--	**0.21**	**0.59**	23,000	22,000
1,1,1 Trichloroethane	<0.058	<0.05	<0.14	<0.16	<0.058	<0.05	<0.14	<0.16	<0.058	<0.05	<0.14	<0.16	<0.058	--	<0.14	<0.16	6.3	3
Trichloroethylene	<0.021	<0.018	<0.14	<0.14	<0.021	<0.018	<0.14	<0.14	<0.021	<0.018	<0.14	<0.15	**0.042**	--	<0.14	<0.14	6.3	3
m&p-Xylene	**11 E**	**3.8 E**	**6.0**	**2.2**	**0.55**	**3.9**	**2.9**	**3.5**	**0.55**	**0.34**	**0.16**	**0.3**	**0.45**	--	**0.16**	**0.36**	--	880
o-Xylene	**3.6**	**1.4**	**2.0**	**0.80**	**0.22**	**1.5**	**0.93**	**1.2**	**0.22**	**0.14**	<0.15	<0.15	**0.19**	--	<0.15	<0.15	--	440

Notes:

1. µg/m^3 = Micrograms per cubic meter.
2. Bold values indicate concentration detected above the minimum reporting limit.
3. Shaded values indicate concentrations detected above one or more applicable RBC.
4. -- = Not available.
5. E = Estimated concentration that may be biased high.
6. S = Saturated Peak; data reported as estimated
7. DEQ RBCs = Risk-Based Concentrations from the DEQ's *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* (updated June 2023).
8. TP = Turning Point building, OD = outdoor, FS = former station building



Note: Base map prepared from USGS 7.5-minute quadrangle of Clatskanie, OR, dated 2020 as provided by USGS.gov.



0 2,000 4,000

Approximate Scale in Feet

Site Location Map

First Quarter Groundwater Monitoring - Former Johnson Oil Site
280 East Columbia River Highway
Clatskanie, Oregon

APEX Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-24008422	Drawn: JP	Approved: TC/CW	Figure 1
	June 2025			

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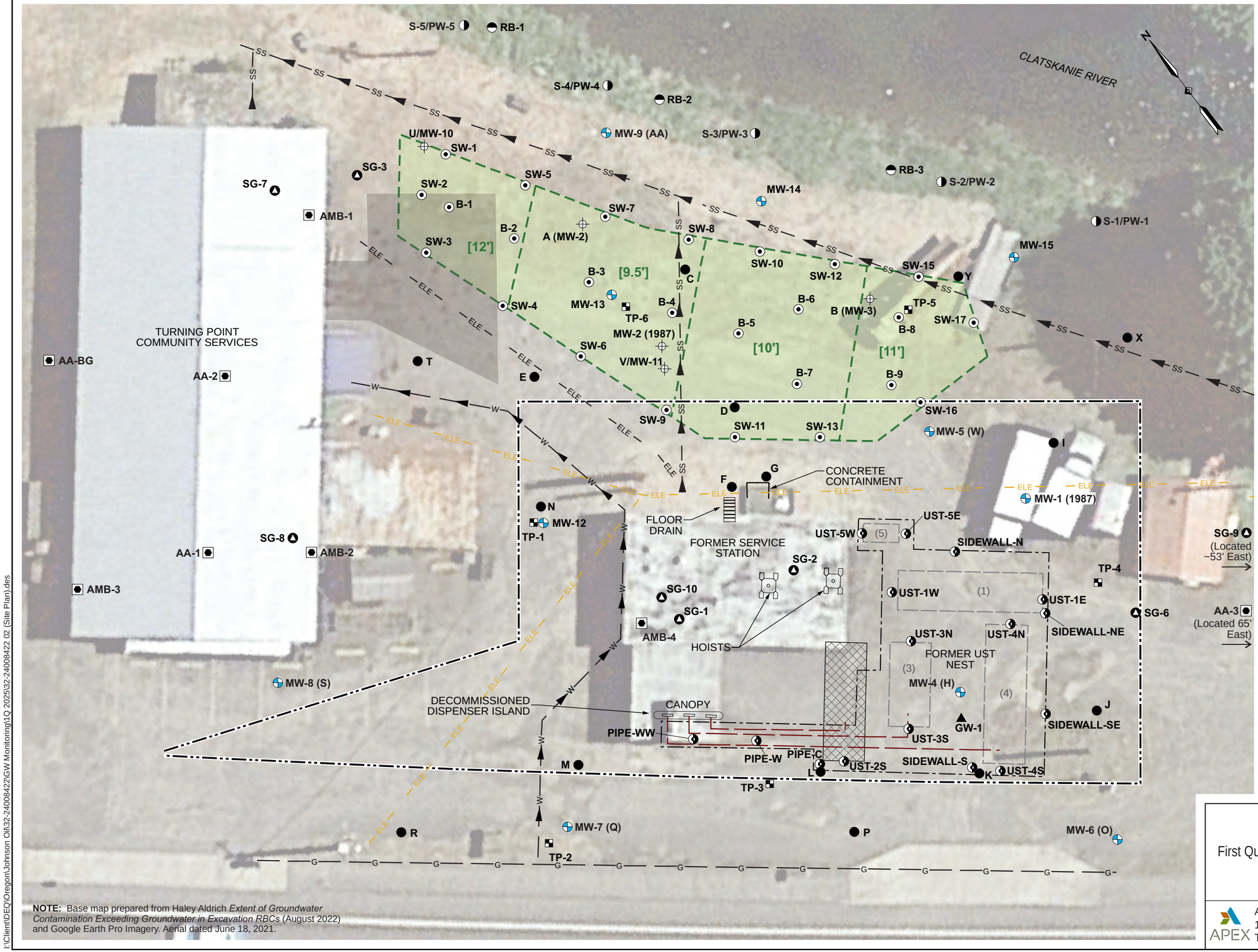

NOTE: Base map prepared from Haley Aldrich *Extent of Groundwater Contamination Exceeding Groundwater in Excavation RBCs* (August 2022) and Google Earth Pro Imagery. Aerial dated June 18, 2021.

Legend:

- Monitoring Well (Push-Probe Designation; If Applicable)
- Ambient Air Location
- Sediment/Porewater Sample
- Excavation Confirmation Sample
- Soil Gas Sample
- Push-Probe Exploration
- Decommissioned Monitoring Well
- Grab Groundwater Sample
- Porewater Sample
- Soil Sample
- Test Pit
- Gas Line
- Overhead Electrical Line
- Underground Electrical Line
- Sanitary Sewer Line
- Water Line
- Decommissioned Product Piping
- Asphalt Concrete Pad Installed June 22, 2022
- [10'] Extent Of Excavation and [Depth in Feet]
- Excavation Limits (2008)
- Underground Storage Tank (UST) Decommissioned in Place
- (4) Removed UST and Designation
- Property Boundary

0 20 40
Approximate Scale in Feet

Site Plan

First Quarter Groundwater Monitoring - Former Johnson Oil Site
280 East Columbia River Highway
Clatskanie, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, Oregon 97224

Project Number:	Drawn:	Approved:	Figure
32-24008422	--	TC/CW	2

June 2025

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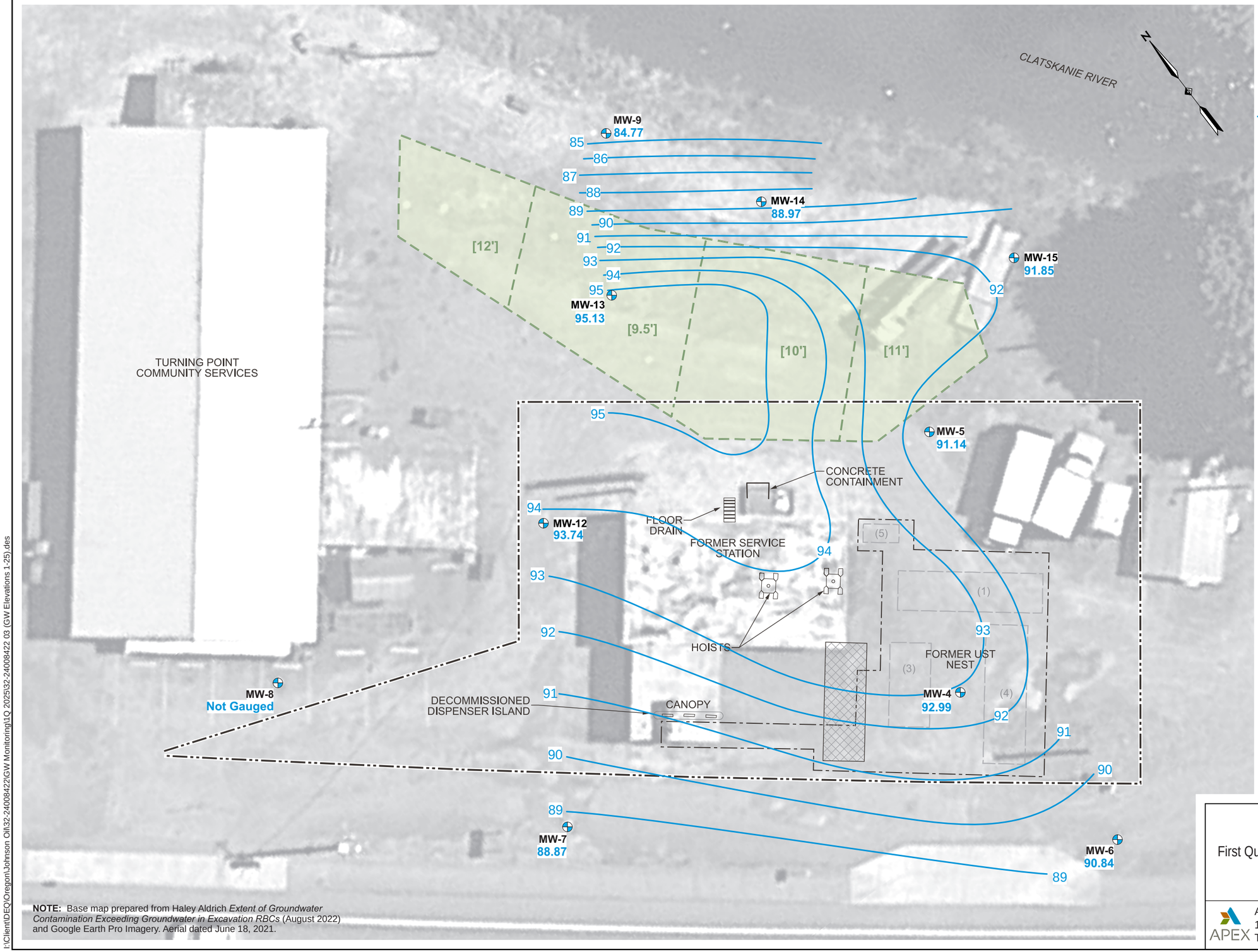

NOTE: Base map prepared from Haley Aldrich *Extent of Groundwater Contamination Exceeding Groundwater in Excavation RBCs* (August 2022) and Google Earth Pro Imagery. Aerial dated June 18, 2021.

Legend:

- Monitoring Well
- 84.77 — Groundwater Elevation in Feet Relative to Mean Sea Level
- 85 — Groundwater Elevation Contour in Feet Relative to Mean Sea Level (Dashed Where Inferred)
- [10'] — Extent of Excavation and [Depth in Feet]
- Excavation Limits (2008)
- Underground Storage Tank (UST) Decommissioned in Place
- (4) — Removed UST and Designation
- Property Boundary

0 20 40
Approximate Scale in Feet

Groundwater Elevations (January 2025)

First Quarter Groundwater Monitoring - Former Johnson Oil Site
280 East Columbia River Highway
Clatskanie, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, Oregon 97224

Project Number:	Drawn:	Approved:	Figure
32-24008422	--	TC/CW	3

June 2025

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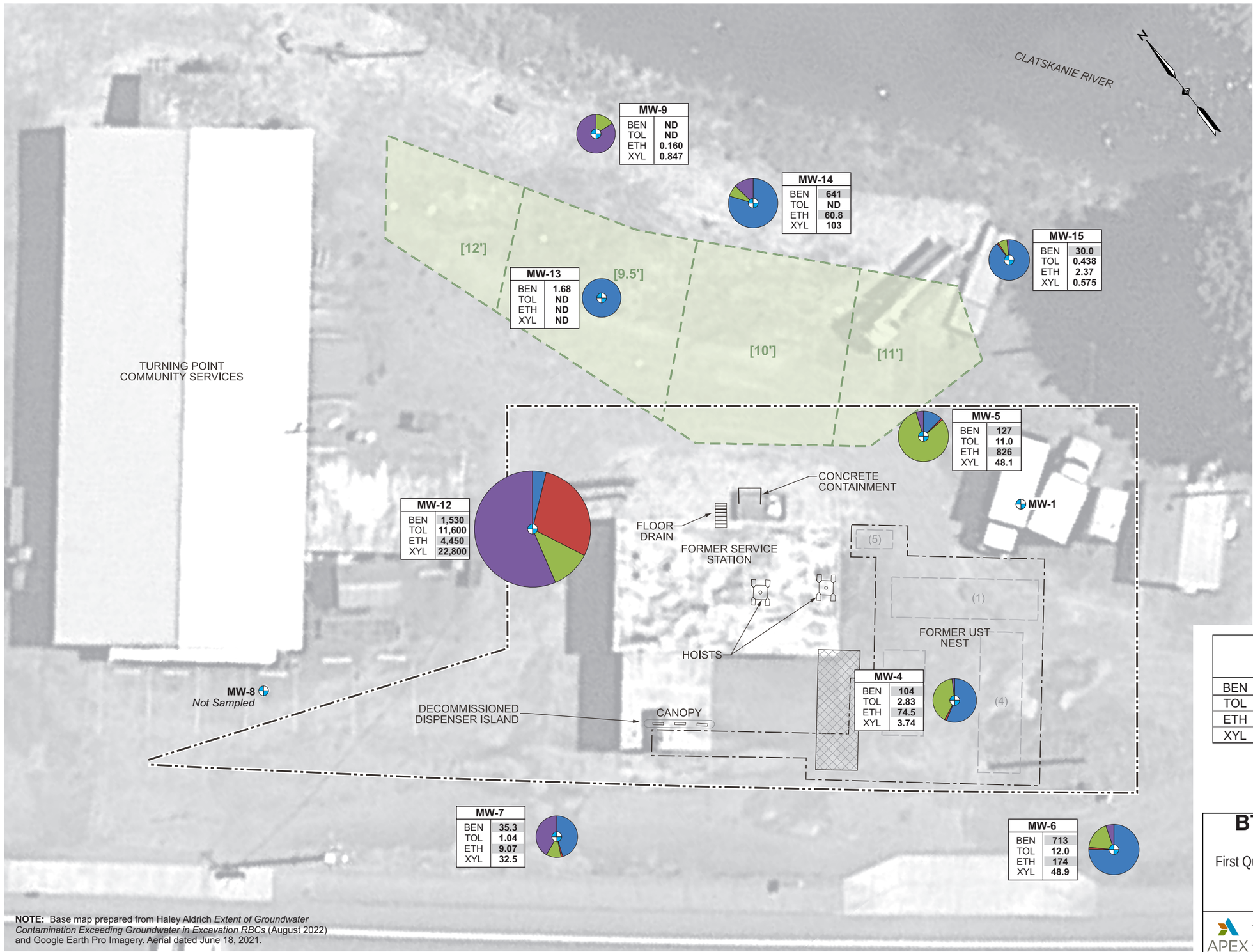

NOTE: Base map prepared from Haley Aldrich *Extent of Groundwater Contamination Exceeding Groundwater in Excavation RBCs* (August 2022) and Google Earth Pro Imagery. Aerial dated June 18, 2021.

Legend:

- Monitoring Well
- [10'] Extent of Excavation and [Depth in Feet]
- Excavation Limits (2008)
- Underground Storage Tank (UST) Decommissioned in Place
- (4) Removed UST and Designation
- Property Boundary

MW-15	
BEN	30.0
TOL	0.438
ETH	2.37
XYL	0.575

Sample Identification

Concentration in Micrograms Per Liter (µg/L)

Analyte Sampled (See Table Below)

Highlight Exceeds Risk-Based Concentrations (RBCs) for Commercial Vapor Intrusion (RBCwi)

ND = Not Detected Above Laboratory Reporting Limit

MW-4

Detected BTEX Chart
(Size of Chart Proportional to BTEX Concentration)

B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES

Abbreviations		DEQ RBC for Commercial Vapor Intrusion (µg/L)
BEN	Benzene	**12**
TOL	Toluene	**150,000**
ETH	Ethylbenzene	**31**
XYL	Total Xylenes	**3,300**

0 20 40

Approximate Scale in Feet

BTEX Results in Groundwater (January 2025)

First Quarter Groundwater Monitoring - Former Johnson Oil Site
280 East Columbia River Highway
Clatskanie, Oregon

APEX
Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, Oregon 97224

Project Number:	Drawn:	Approved:	Figure
32-24008422	--	TC/CW	4

June 2025

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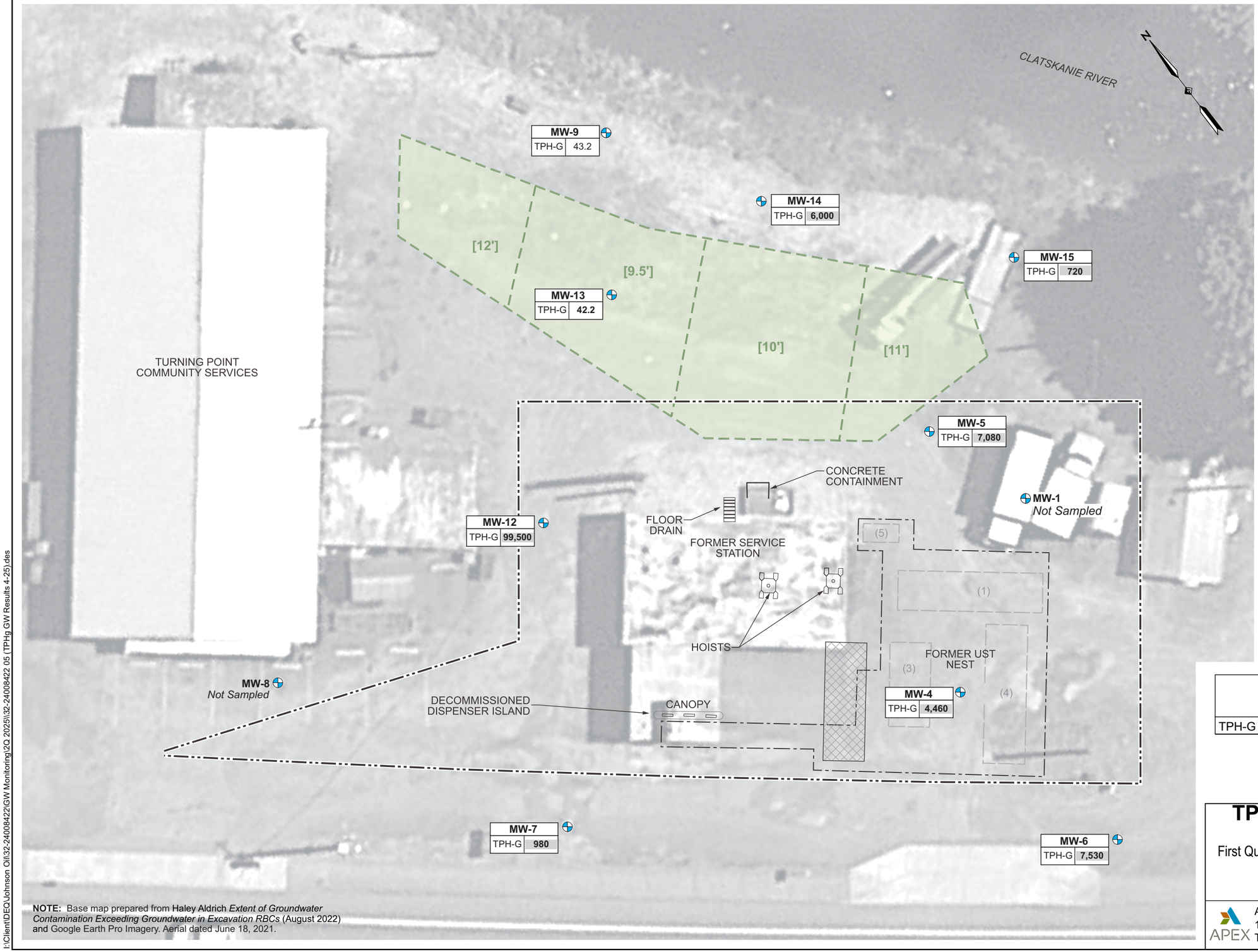


NOTE: Base map prepared from Haley Aldrich *Extent of Groundwater Contamination Exceeding Groundwater in Excavation RBCs* (August 2022) and Google Earth Pro Imagery. Aerial dated June 18, 2021.

Legend:

- Monitoring Well
- [10'] Extent of Excavation and [Depth in Feet]
- Excavation Limits (2008)
- Underground Storage Tank (UST) Decommissioned in Place
- (4) Removed UST and Designation
- Property Boundary

MW-14 / TPH-G 6,000 — Sample Identification; Concentration in Micrograms Per Liter (µg/L); Analyte Sampled (See Table Below)

Highlight Exceeds Risk-Based Concentrations (RBCs) for Commercial Vapor Intrusion (RBCwi)

ND = Not Detected Above Laboratory Reporting Limit

Abbreviations		DEQ RBC for Commercial Vapor Intrusion (µg/L)
TPH-G	Gasoline-Range Organics	520

0 20 40

Approximate Scale in Feet

TPH-G Results in Groundwater (January 2025)

First Quarter Groundwater Monitoring - Former Johnson Oil Site
280 East Columbia River Highway
Clatskanie, Oregon

Apex Companies, LLC
15618 SW 72nd Avenue
Tigard, Oregon 97224

Project Number:	Drawn:	Approved:	Figure
32-24008422	--	TC/CO	5

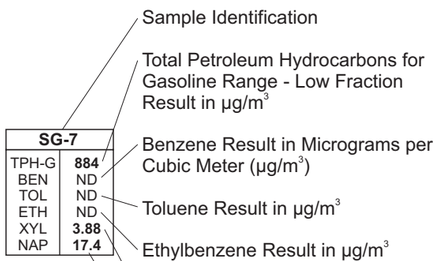
June 2025

I:\Client\DEQ\Johnson Oil\32-24008422\GW Monitoring\2Q 2025\\32-24008422 05 (TPHg GW Results 4-25).des

NOTE: Base map prepared from Haley Aldrich *Extent of Groundwater Contamination Exceeding Groundwater in Excavation RBCs* (August 2022) and Google Earth Pro Imagery. Aerial dated June 18, 2021.

Legend:

- Ambient Air Location
- Porewater Sample
- Soil Gas Sample (From Existing Probe)
- Monitoring Well (Installed 2023)
- Historic Monitoring Well
- [10'] Extent of Excavation and [Depth in Feet]
- Excavation Limits (2008)
- Underground Storage Tank (UST) Decommissioned in Place
- (4) Removed UST and Designation
- Property Boundary



ND = Not Detected Above Laboratory Reporting Limit

-- = Not Sampled

0 20 40

Approximate Scale in Feet

Soil Vapor and Ambient Air Results (January 2025)

First Quarter Groundwater Monitoring - Former Johnson Oil Site
280 East Columbia River Highway
Clatskanie, Oregon

Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-24008422	Drawn: --	Approved: TC/CW	Figure 6
	June 2025			

I:\Client\DEQ\Oregon\Johnson Oil\32-24008422\GW Monitoring\3Q 2024\32-24008422 05 (Soil Gas Results 7-24).des

Appendix A

Sampling Documentation

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224			Job Number:	24008422
	Client:	DEQ	Date:	1/21/2025
	Project:	Johnson Oil	Sampler:	Chris Weer
	Weather:	31° Sunny	Time In/Out:	8:27/16:15

WATER LEVEL DATA

Well I.D.	Time	Depth to Free Product (feet)	Depth to Water (feet)	Depth to Well Bottom (feet)	Product Thickness (feet)	Water Column Height (feet)	Notes/Other Remarks
MW-4	9:23	-	1.44	20	-	18.56	
MW-5	9:13	-	3.16	20	-	16.84	
MW-6	9:19	-	4.73	20	-	15.27	
MW-7	9:21	-	6.17	20	-	13.83	
MW-8	—	-	—	15	-	—	Not accessible - paved over
MW-9	9:05	-	9.77	15	-	5.23	
MW-12	9:26	-	5.32	15	-	9.68	hydrocarbon odor
MW-13	9:10	-	3.15	17	-	13.85	
MW-14	9:11	-	10.31	20	-	8.69	
MW-15	9:09	-	8.47	20	-	11.53	

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-4	Job Number:	24008422
	Client:	DEQ	Date:	1/22/25
	Project:	Johnson Oil	Sampler:	Chris Weer
	Weather:	43° Sunny	Time In/Out:	15:00 / 1530

WELL DATA

Well Depth:	20 feet	Well Diameter:	2 inch	Water Height	
Depth to Water:	1.45 feet	Screened Interval:		x Multiplier	
Water Column Length:	18.55 feet	Depth to Free Product:	n/a	x Casing Volumes	
Purge Volume:		Free Product Thickness:	n/a	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	Low flow (peristaltic pump)	Pump Intake Depth:	~15'		Comments
Sampling Method:	Low flow (peristaltic pump)	Tubing Type:	1/4 inch Polyethylene		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1510			1.45	0.25	6.15	12.76	486	3.63	-104.5	-	C
1513			1.45	0.25	6.17	12.67	486	3.13	-108.6	-	C
1516			1.45	0.25	6.20	12.55	486	2.76	-111.9	-	C
1519			1.45	0.25	6.22	12.80	486	2.52	-114.8	-	C
1522			1.45	0.25	6.23	12.79	486	2.37	-116.8	-	C

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-4	Sampling Flow Rate	0.25	Analytical Laboratory:	Pace	
Sample Time:	15:25	Final Depth to Water:	1.45 feet	Did Well Dewater?	NO	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes (no)	No Filter		
3 VOA	HCl	NWTPH-Gx	yes (no)	No Filter		
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

hydrocarbon odor

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-5	Job Number:	24008422
	Client:	DEQ	Date:	1/22/25
	Project:	Johnson Oil	Sampler:	Chris Weer
	Weather:	37° partly cloudy	Time In/Out:	12:05/12:40

WELL DATA

Well Depth:	20 feet	Well Diameter:	2 inch	Water Height	
Depth to Water:	3.14 feet	Screened Interval:		x Multiplier	
Water Column Length:	16.86 feet	Depth to Free Product:	n/a	x Casing Volumes	
Purge Volume:		Free Product Thickness:	n/a	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	Low flow (peristaltic pump)	Pump Intake Depth:	~15'	Comments
Sampling Method:	Low flow (peristaltic pump)	Tubing Type:	1/4 inch Polyethylene	

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
12:15			4.56	0.25	5.56	11.77	463	3.33	-101.5	-	C
12:18			5.14	0.25	5.58	11.75	462	2.87	-104.6	-	C
12:21			5.68	0.25	5.60	11.77	460	2.58	-106.8	-	C
12:24			6.42	0.25	5.62	11.79	461	2.42	-108.5	-	C

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-5	Sampling Flow Rate	0.25	Analytical Laboratory:	Pace	
Sample Time:	12:32	Final Depth to Water:	5.74 feet	Did Well Dewater?	NO	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes (no)	No Filter		
3 VOA	HCl	NWTPH-Gx	yes (no)	No Filter		
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-6	Job Number:	24008422
	Client:	DEQ	Date:	1/22/2025
	Project:	Johnson Oil	Sampler:	Chris Weer
	Weather:	39° Sunny	Time In/Out:	1340/1410

WELL DATA

Well Depth:	20 feet		Well Diameter:	2 inch		Water Height	
Depth to Water:	4.66 feet		Screened Interval:			x Multiplier	
Water Column Length:	15.34 feet		Depth to Free Product:	n/a		x Casing Volumes	
Purge Volume:			Free Product Thickness:	n/a		= Purge Volume	
Water Height Multipliers (gal)		1-inch = 0.041	2-inch = 0.162		4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	Low flow (peristaltic pump)		Pump Intake Depth:	~15'		Comments	
Sampling Method:	Low flow (peristaltic pump)		Tubing Type:	1/4 inch Polyethylene			

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
1350			5.40	0.30	5.76	14.64	494	3.49	-93.1	~	C
1353			6.22	0.25	5.79	15.11	490	2.86	-95.5	~	C
1356			7.22	0.25	5.82	14.92	491	2.56	-97.4	~	C
1359			8.10	0.25	5.84	14.95	490	2.36	-98.3		

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-6	Sampling Flow Rate	0.25	Analytical Laboratory:	Pace	
Sample Time:	14:02	Final Depth to Water:	8.44 feet	Did Well Dewater?	NO	

# Containers/Type		Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
3	VOA	HCl	VOC	yes	no	No Filter		
3	VOA	HCl	NWTPH-Gx	yes	no	No Filter		
				yes	no			
				yes	no			
				yes	no			
				yes	no			

COMMENTS

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-7	Job Number:	24008422
	Client:	DEQ	Date:	1/22/25
	Project:	Johnson Oil	Sampler:	Chris Weer
	Weather:	41° Sunny	Time In/Out:	1415/1445

WELL DATA

Well Depth:	20 feet		Well Diameter:	2 inch		Water Height	
Depth to Water:	5.98 feet		Screened Interval:			x Multiplier	
Water Column Length:	14.02 feet		Depth to Free Product:	n/a		x Casing Volumes	
Purge Volume:			Free Product Thickness:	n/a		= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041		2-inch = 0.162	4-inch = 0.653		1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	Low flow (peristaltic pump)	Pump Intake Depth:	~15'	Comments
Sampling Method:	Low flow (peristaltic pump)	Tubing Type:	1/4 inch Polyethylene	

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
14:25			7.67	0.30	5.50	15.59	384	2.49	-34.4	-	AC
14:28			8.45	0.25	5.48	15.76	383	2.23	-31.8	-	AC
14:31			8.84	0.25	5.50	15.68	386	2.10	-30.9	-	AC

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-7	Sampling Flow Rate	0.25	Analytical Laboratory:	Pace	
Sample Time:	14:37	Final Depth to Water:	9.69 feet	Did Well Dewater?	NO	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes **no**	No Filter		
3 VOA	HCl	NWTPH-Gx	yes **no**	No Filter		
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-9	Job Number:	24008422
		Client:	DEQ	Date:	1/22/2025
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:	31° Sunny	Time In/Out:	9:30/10:25

WELL DATA

Well Depth:	15 feet	Well Diameter:	2 inch	Water Height	
Depth to Water:	9.74 feet	Screened Interval:		x Multiplier	
Water Column Length:	5.26 feet	Depth to Free Product:	n/a	x Casing Volumes	
Purge Volume:		Free Product Thickness:	n/a	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	Low flow (peristaltic pump)	Pump Intake Depth:	~ 12'	Comments	
Sampling Method:	Low flow (peristaltic pump)	Tubing Type: RE	1/4 inch Polyethylene		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
9:50			11.94	0.20	3.98	10.94	66	5.06	144.0	-	VC
9:53			12.75	0.20	3.82	10.89	69	4.99	165.3	-	SC
9:56			13.54	0.20	3.64	11.03	68	5.05	135.5	-	AC
9:59			14.31	0.20	3.57	10.99	68	5.16	138.4	-	AC
10:02			14.62	0.20	3.54	11.00	68	5.21	141.1	-	AC

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-8	Sampling Flow Rate	0.25	Analytical Laboratory:	Pace	
Sample Time:	10:21	Final Depth to Water:	14.93 feet	Did Well Dewater?	Yes	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes (no)	No Filter		
3 VOA	HCl	NWTPH-Gx	yes (no)	No Filter		
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-14	Job Number:	24008422
		Client:	DEQ	Date:	1/22/2025
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:	38° Sunny	Time In/Out:	12:50/1336

WELL DATA

Well Depth:	20 feet	Well Diameter:	2 inch	Water Height	
Depth to Water:	9.15 feet	Screened Interval:		x Multiplier	
Water Column Length:	10.85 feet	Depth to Free Product:	n/a	x Casing Volumes	
Purge Volume:		Free Product Thickness:	n/a	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	Low flow (peristaltic pump)	Pump Intake Depth:	~15'	Comments	
Sampling Method:	Low flow (peristaltic pump)	Tubing Type:	1/4 inch Polyethylene		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
13:05			9.67	0.30	5.78	12.11	556	4.59	-105.7	-	C
1308			10.01	0.25	5.80	12.11	541	4.11	-104	-	C
1311			10.33	0.25	5.83	12.20	535	3.89	-95.5	-	C
13:14			10.54	0.30	5.85	12.53	529	3.70	-92.1	-	C

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-14	Sampling Flow Rate	0.25	Analytical Laboratory:	Pace
Sample Time:	13:21/1329	Final Depth to Water:	1955 feet	Did Well Dewater?	NO

# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
6 VOA	HCl	VOC	yes	no	No Filter		DUP
6 VOA	HCl	NWTPH-Gx	yes	no	No Filter		DUP
			yes	no			
			yes	no			
			yes	no			
			yes	no			

COMMENTS

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-12	Job Number:	24008422
	Client:	DEQ	Date:	1/22/2025
	Project:	Johnson Oil	Sampler:	Chris Weer
	Weather:	43° Sunny	Time In/Out:	15:40/1615

WELL DATA

Well Depth:	15 feet	Well Diameter:	2 inch	Water Height	
Depth to Water:	5.22 feet	Screened Interval:		x Multiplier	
Water Column Length:	9.78 feet	Depth to Free Product:	n/a	x Casing Volumes	
Purge Volume:		Free Product Thickness:	n/a	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	Low flow (peristaltic pump)				Pump Intake Depth:						Comments	
Sampling Method:	Low flow (peristaltic pump)				Tubing Type:		1/4 inch Polyethylene					
Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks	
					+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria	
15:50			5.68	0.25	5.83	13.02	319	4.47	-58.1	-	C	
15:53			5.86	0.25	5.80	13.02	318	3.77	-59.6	-	C	
15:56			6.02	0.25	5.80	12.80	318	3.44	-60.1	-	C	
15:59			6.17	0.25	5.81	12.34	320	3.18	-60.6	-	C	
1602			6.27	0.25	5.80	12.30	320	3.00	-61.7	-	C	

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-12	Sampling Flow Rate	0.20	Analytical Laboratory:	Pace	
Sample Time:	16:05	Final Depth to Water:	6.12 feet	Did Well Dewater?	NO	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes **no**	No Filter		
3 VOA	HCl	NWTPH-Gx	yes **no**	No Filter		
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-13	Job Number:	24008422
	Client:	DEQ	Date:	1/22/2025
	Project:	Johnson Oil	Sampler:	Chris Weer
	Weather:	35° mostly Cloudy	Time In/Out:	11:15/1151

WELL DATA

Well Depth:	17 feet	Well Diameter:	2 inch	Water Height	
Depth to Water:	3.15 feet	Screened Interval:		x Multiplier	
Water Column Length:	13.85 feet	Depth to Free Product:	n/a	x Casing Volumes	
Purge Volume:		Free Product Thickness:	n/a	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	Low flow (peristaltic pump)	Pump Intake Depth:	~13'	Comments	
Sampling Method:	Low flow (peristaltic pump)	Tubing Type:	1/4 inch Polyethylene		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
11:29			3.12	0.25	6.26	11.34	350	3.60	-48.4	—	C
11:32			3.17	0.25	6.30	11.25	350	2.95	-51.2	—	C
11:35			3.17	0.25	6.32	11.30	351	2.78	-53.0	—	C
11:38			3.17	0.25	6.35	11.16	351	2.50	-56.4	—	C

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-15	Sampling Flow Rate	0.25	Analytical Laboratory:	Pace	
Sample Time:	11:45	Final Depth to Water:	3.15 feet	Did Well Dewater?	NO	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes (no)	No Filter		
3 VOA	HCl	NWTPH-Gx	yes (no)	No Filter		
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-15	Job Number:	24008422
	Client:	DEQ	Date:	1/22/25
	Project:	Johnson Oil	Sampler:	Chris Weer
	Weather:	34° mostly cloudy	Time In/Out:	10:40/11:10

WELL DATA

Well Depth:	15 feet	Well Diameter:	2 inch	Water Height	
Depth to Water:	8.47 feet	Screened Interval:		x Multiplier	
Water Column Length:	5.53 feet	Depth to Free Product:	n/a	x Casing Volumes	
Purge Volume:		Free Product Thickness:	n/a	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:	Low flow (peristaltic pump)	Pump Intake Depth:	~12'	Comments	
Sampling Method:	Low flow (peristaltic pump)	Tubing Type:	1/4 inch Polyethylene		

Time	Volume Purged (liters)	Cumulative Volume Purged (liters)	DTW (btc)	Purge Rate (L/min)	pH	Temp (°C)	Cond (µS/cm)	DO (ppm)	ORP (mV)	Turbidity (NTUs)	Clarity/Color Other Remarks
					+/-0.1	+/-0.5° C	+/-5%	+/- 0.5 ppm	+/-20mV	+/-10%	<-- Stabilization Criteria
10:50			9.38	0.25	5.30	11.44	497	3.01	-69.7	-	C
10:53			9.52	0.20	5.34	11.46	497	2.73	-72.7	-	C
10:56			9.60	0.25	5.39	11.33	495	2.56	-75.8	-	C

Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

SAMPLING DATA

Sample ID:	MW-9	Sampling Flow Rate	0.20	Analytical Laboratory:	Pace	
Sample Time:	11:01	Final Depth to Water:	8.93 feet	Did Well Dewater?	NO	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes **no**	No Filter		
3 VOA	HCl	NWTPH-Gx	yes **no**	No Filter		
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

Appendix B

Historical Data and Trend Plots

Table B-1
Groundwater Elevations and Field Parameters
Former Johnson Oil
Clatskanie, Oregon

Monitoring Well	Date	TOC Elevation (ft[1])	Depth to Groundwater (ft BTOC)	Depth to Product (ft BTOC)	Product Thickness (ft)	Groundwater Elevation (ft[1])	pH	Temperature (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-1 (1987)	6/2/2008	NS	3.5	--	--	--	--	--	--	--	--
MW-2	5/10/2018	94.36	7.30	--	--	87.06	6.76	12.73	754	0.87	-52.9
	6/13/2018		8.00	--	--	86.36	--	--	--	--	--
	5/24/2019		8.15	7.61	0.54	86.62	5.48	13.93	1		98.3
	7/10/2019		9.65	--	--	84.71	--	--	--	--	--
	9/16/2019		9.88	9.83	0.05	84.52	--	--	--	--	--
	1/17/2019		9.78	--	--	84.58	--	--	--	--	--
	4/1/2022		8.80	8.35	0.45	85.90	--	--	--	--	--
Decommissioned on 4/1/2022											
MW-3	5/10/2018	93.98	7.18	--	--	86.80	6.78	12.89	342	0.56	-53.5
	6/13/2018		8.31	--	--	85.67	--	--	--	--	--
	5/24/2019		5.43	--	--	88.55	6.33	13.12	0		43.5
	7/10/2019		9.47	--	--	84.51	--	--	--	--	--
	9/16/2019		10.07	--	--	83.91	--	--	--	--	--
	1-/17/2019		9.33	--	--	84.65	--	--	--	--	--
	5/12/2022		9.04	--	--	84.94	--	--	--	--	--
Decommissioned on 5/12/2022											
MW-4	5/10/2018	94.43	1.12	--	--	93.31	6.71	13.57	290	0.27	-67.4
	6/13/2018		1.30	--	--	93.13	--	--	--	--	--
	5/23/2019		0.97	--	--	93.46	6.44	13.34	283	--	-84.7
	7/10/2023		2.43	--	--	92.00	--	--	--	--	--
	9/16/2019		2.61	--	--	91.82	--	--	--	--	--
	10/17/2019		1.38	--	--	93.05	--	--	--	--	--
	5/12/2022		0.95	--	--	93.48	--	--	--	--	--
	3/29/2023		1.00	--	--	93.43	7.14	11.90	466	0.17	-136.1
	5/22/2023		1.77	--	--	92.66	6.92	13.50	460	0.28	-106.6
	9/21/2023		4.27	--	--	90.16	5.73	17.74	464	0.68	-115.4
	11/7/2023		0.9	--	--	93.53	6.43	15.82	585	0.23	-98.1
	2/26/2024		1.04	--	--	93.39	6.27	11.77	532	0.36	-39.9
	4/8/2024		1.30	--	--	93.13	6.75	12.64	566	1.40	-120.3
	7/22/2024		2.74	--	--	91.69	6.87	17.00	635	0.00	-215.5
	10/21/2024		3.93	--	--	90.50	6.56	16.30	569	0.26	-110.2
	1/22/2025		1.44	--	--	92.99	6.23	12.79	486	2.37	-116.8
MW-5	5/23/2019	94.30	4.65	--	--	89.65	6.06	13.70	189	--	30.6
	7/10/2019		4.86	--	--	89.44	--	--	--	--	--
	9/16/2019		5.79	--	--	88.51	--	--	--	--	--
	10/17/2019		4.59	--	--	89.71	--	--	--	--	--
	5/12/2022		6.60	--	--	87.70	--	--	--	--	--
	3/29/2023		3.76	--	--	90.54	6.92	11.50	448	0.50	-137.5
	5/22/2023		3.94	--	--	90.36	6.64	13.00	339	0.80	-120.7
	9/21/2023		6.79	--	--	87.51	5.37	16.51	324	0.66	-98.5
	11/7/2023		2.56	--	--	91.74	6.24	15.35	417	0.18	-104
	2/26/2024		2.97	--	--	91.33	5.94	11.60	469	0.32	48.8
	4/8/2024		3.44	--	--	90.86	6.53	12.19	461	1.11	-125.3
	7/22/2024		4.50	--	--	89.80	8.95	15.40	542	0.00	-230.1
	10/21/2024		6.33	--	--	87.97	6.43	15.40	342	0.23	-199
	1/22/2025		3.16	--	--	91.14	5.62	11.79	461	2.42	-108.5
MW-6	5/23/2019	95.57	4.57	--	--	91.00	5.95	13.76	181.000	--	3.00
	7/10/2019		6.55	--	--	89.02	--	--	--	--	--
	9/16/2019		7.31	--	--	88.26	--	--	--	--	--
	10/17/2019		7.48	--	--	88.09	--	--	--	--	--
	5/12/2022		7.75	--	--	87.82	--	--	--	--	--
	3/29/2023		4.61	--	--	90.96	6.94	12.30	576	0.30	-118.6
	5/22/2023		6.66	--	--	88.91	6.62	13.50	479	0.28	-84.8
	9/21/2023		7.68	--	--	87.89	5.64	17.73	452	0.62	-117.5
	11/7/2023		4.93	--	--	90.64	6.13	17.28	432	0.21	-78.8
	2/26/2024		4.88	--	--	90.69	5.99	12.50	469	0.58	-33.8
	4/8/2024		4.55	--	--	91.02	6.52	13.24	484	1.08	-108.4

Please see notes at end of table.

Table B-1
Groundwater Elevations and Field Parameters
Former Johnson Oil
Clatskanie, Oregon

Monitoring Well	Date	TOC Elevation (ft[1])	Depth to Groundwater (ft BTOC)	Depth to Product (ft BTOC)	Product Thickness (ft)	Groundwater Elevation (ft[1])	pH	Temperature (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-6	7/22/2024		5.69	--	--	89.88	6.59	16.10	580	0.00	-208.8
	10/21/2024		7.38	--	--	88.19	6.41	16.90	493	0.19	-118.1
	1/22/2025		4.73	--	--	90.84	5.84	14.95	490	2.36	-98.3
MW-7	3/23/2019	95.04	8.02	--	--	87.02	5.64	15.12	644	2.65	45.8
	7/10/2019		6.23	--	--	88.81	--	--	--	--	--
	9/16/2019		7.33	--	--	87.71	--	--	--	--	--
	10/17/2019		10.39	--	--	84.65	--	--	--	--	--
	5/12/2022		9.21	--	--	85.83	--	--	--	--	--
	3/29/2023		5.37	--	--	89.67	6.79	13.60	673	0.07	-111.0
	5/22/2023		10.62	--	--	84.42	6.53	14.80	708	1.28	-73.2
	9/20/2023		6.20	--	--	88.84	5.35	19.00	491	0.61	-92.6
	11/7/2023		7.71	--	--	87.33	5.96	17.00	383	0.23	-32.0
	2/26/2024		8.07	--	--	86.97	5.93	13.81	578	0.77	-31.2
	4/8/2024		9.23	--	--	85.81	6.23	14.03	446	1.37	-52.5
	7/22/2024		6.26	--	--	88.78	6.5	16.90	623	0.00	-174.2
	10/21/2024		8.25	--	--	86.79	6.29	17.40	529	0.17	-99.1
	1/22/2025		6.17	--	--	88.87	5.50	15.68	386	2.10	-30.9
MW-8	5/24/2019	96.22	5.43	--	--	90.79	6.25	14.55	886	--	-72.4
	7/10/2019		6.01	--	--	90.21	--	--	--	--	--
	9/16/2019		6.32	--	--	89.90	--	--	--	--	--
	10/17/2019		6.43	--	--	89.79	--	--	--	--	--
	3/29/2023		5.17	--	--	91.05	6.65	12.30	946	0.68	-99.6
	5/22/2023		5.74	--	--	90.48	6.41	14.20	827	0.23	-76.0
	9/20/2023		6.80	--	--	89.42	5.44	19.53	868	0.07	-130.4
	11/7/2023		6.11	--	--	90.11	6.11	18.30	902	0.34	-127.1
	2/26/2024		5.09	--	--	91.13	6.07	12.18	953	0.75	-56.8
	4/8/2024		5.33	--	--	90.89	6.36	12.62	896	0.00	-106.3
	7/22/2024		5.92	--	--	90.30	6.49	17.80	940	0.00	-198.3
	10/21/2024		Well Inaccessible; Covered by Asphalt Concrete								
	1/22/2025		Well Inaccessible; Covered by Asphalt Concrete								
MW-9	5/23/2019	94.54	10.41	--	--	84.13	4.62	12.90	610	2.88	34.1
	7/10/2019		10.28	--	--	84.26	--	--	--	--	--
	9/16/2019		8.21	--	--	86.33	--	--	--	--	--
	10/17/2019		4.68	--	--	89.86	--	--	--	--	--
	9/20/2023		9.09	--	--	85.45	3.71	15.44	146	3.77	256.0
	11/7/2023		5.07	--	--	89.47	4.99	14.47	52	2.19	223.0
	5/23/2029		10.41	--	--	84.13	--	--	--	--	--
	7/10/2019		10.28	--	--	84.26	--	--	--	--	--
	9/16/2019		8.21	--	--	86.33	--	--	--	--	--
	10/17/2019		4.68	--	--	89.86	--	--	--	--	--
	2/26/2024		4.90	--	--	89.64	4.43	9.82	51	4.33	256.5
	4/8/2024		6.33	--	--	88.21	4.94	10.95	62	3.96	238.4
	7/22/2024		9.47	--	--	85.07	4.91	14.11	78	4.19	55.2
	10/21/2024		6.59	--	--	87.95	5.03	15.10	81	4.10	226.9
	1/22/2025		9.77	--	--	84.77	3.54	11.00	68	5.21	141.1
MW-10	5/23/2019	94.50	12.91	--	--	81.59	--	--	--	--	--
	7/10/2019		7.35	--	--	87.15	--	--	--	--	--
	9/16/2019		8.22	--	--	86.28	--	--	--	--	--
	10/17/2019		8.39	--	--	86.11	--	--	--	--	--
	4/1/2022		6.13	--	--	88.37	--	--	--	--	--
Decommissioned on 4/1/2022											
MW-11	5/24/2019	94.62	5.93	--	--	88.69	--	--	--	--	--
	7/10/2019		6.84	--	--	87.78	--	--	--	--	--
	9/16/2019		7.68	--	--	86.94	--	--	--	--	--
	10/17/2019		7.44	--	--	87.18	--	--	--	--	--
	4/1/2022		6.15	--	--	88.47	--	--	--	--	--
Decommissioned on 4/1/2022											

Please see notes at end of table.

Table B-1
Groundwater Elevations and Field Parameters
Former Johnson Oil
Clatskanie, Oregon

Monitoring Well	Date	TOC Elevation (ft[1])	Depth to Groundwater (ft BTOC)	Depth to Product (ft BTOC)	Product Thickness (ft)	Groundwater Elevation (ft[1])	pH	Temperature (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-12	3/29/2023	99.06	4.41	--	--	94.65	6.51	11.80	389	1.36	71.5
	5/22/2023		4.78	--	--	94.28	6.47	13.20	371	0.32	-59.1
	9/21/2023		7.50	--	--	91.56	5.33	18.73	544	0.58	-103.8
	11/7/2023		5.26	--	--	93.80	6.11	16.18	325	0.38	-67.8
	2/26/2024		4.61	--	--	94.45	5.90	11.68	355	0.27	-23.3
	4/8/2024		5.10	--	--	93.96	6.33	12.64	331	1.13	-86.8
	7/22/2024		6.10	--	--	92.96	6.29	18.00	343	0.00	-158.5
	10/21/2024		7.39	--	--	91.67	6.25	17.50	458	0.14	-85.6
	1/22/2025		5.32	--	--	93.74	5.80	12.30	320	3.00	-61.7
MW-13	3/29/2023	98.28	2.75	--	--	95.53	7.95	10.60	670	0.00	-103.2
	5/22/2023		3.40	--	--	94.88	7.27	12.70	541	0.42	-87.9
	9/20/2023		5.67	--	--	92.61	6.03	18.42	912	0.60	-116.3
	11/7/2023		2.54	--	--	95.74	6.79	16.15	901	0.25	-65.3
	2/26/2024		2.67	--	--	95.61	6.85	9.59	352	0.56	-9.4
	4/8/2024		3.09	--	--	95.19	7.40	10.96	375	0.00	-125.2
	7/22/2024		4.43	--	--	93.85	7.33	16.30	609	0.00	-208.4
	10/21/2024		5.74	--	--	92.54	6.93	16.90	705	0.22	-124
	1/22/2025		3.15	--	--	95.13	6.35	11.16	351	2.50	-56.4
MW-14	3/29/2023	99.28	7.95	--	--	91.33	6.51	11.40	507	0.08	-31.6
	5/22/2023		6.83	--	--	92.45	6.58	12.00	594	0.46	-38.6
	9/20/2023		10.00	--	--	89.28	5.69	15.44	705	0.58	-131.6
	11/7/2023		7.97	--	--	91.31	5.98	14.87	425	0.18	-90.5
	2/26/2024		8.05	--	--	91.23	5.9	11.78	335	0.65	-30.6
	4/8/2024		8.77	--	--	90.51	6.45	11.92	338	0.00	-106.8
	7/22/2024		9.43	--	--	89.85	6.71	14.50	505	0.37	-192.4
	10/21/2024		9.79	--	--	89.49	6.56	14.00	504	0.12	-140.4
	1/22/2025		10.31	--	--	88.97	5.85	12.53	529	3.70	-92.1
MW-15	3/29/2023	100.32	8.30	--	--	92.02	6.46	11.90	699	4.83	51.6
	5/22/2023		6.78	--	--	93.54	6.63	12.00	445	0.30	-86.7
	9/20/2023		9.67	--	--	90.65	5.2	14.18	577	0.73	-72.9
	11/7/2023		7.87	--	--	92.45	5.95	13.72	348	0.21	-59.4
	2/26/2024		8.31	--	--	92.01	5.77	9.08	320	0.54	-16.0
	4/8/2024		9.07	--	--	91.25	6.45	11.31	407	0.00	-134.6
	7/22/2024		9.66	--	--	90.66	6.71	14.50	505	0.37	-192.4
	10/21/2024		9.05	--	--	91.27	6.32	12.90	474	0.24	-135.3
	1/22/2025		8.47	--	--	91.85	5.39	11.33	495	2.56	-75.8

Notes:

1. Elevations are relative to an assumed reference datum of 100 feet (point located at the northwest corner of a concrete pad for a metal sign along Highway 30).
2. ft = feet
3. BTOC = Below Top of Casing.
4. NS = Not surveyed.
5. °C = Degrees Celsius.
6. µS/cm = MicroSiemens per centimeter
7. mg/L = Milligrams per liter.
8. ORP (mV) = Oxidation-reduction potential (millivolts).

Table B-2
Groundwater Analytical Results
Former Johnson Oil
Clatskanie, Oregon

Monitoring Well Number	Sample Date	Concentrations in µg/L									
		TPH-G	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert-butyl ether	Naphthalene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	BTEX
MW-4	5/10/2018	14,400	18.5	10.9 J	619	1,720	<0.367	283 J	1,190	404	2,368
	5/23/2019	7,340	117	2.07	436	43.2	<0.0367	284	58.3	22.9	598
	3/29/2023	5,720	84.5	1.83	196	3.43	<0.101	213	1.05	0.934 J	286
	5/22/2023	4,660	87.6	<10.0	188	<30.0	<10.0	117 J-	<10.0	<10.0	296
	9/21/2023	4,950	60.8	1.29	287	2.69 J	<1.00	363	0.412 J	0.292 J	352
	11/8/2023	4,870	199	<20.0	354	9.63 J	<20.0	137	<20.0	<20.0	573
	2/27/2024	3,120	94.2	<20.0	104	7.88	<20.0	130	4.57	<20.0	216
	4/9/2024	3,450	117	<20.0	108	<60.0	<20.0	96.2	2.19	<20.0	265
	7/23/2024	3,370	102	2.94	95.0	3.71	<1.00	173	<1.00	<1.00	204
	10/21/2024	6,130	140	4.28	221	8.50	<0.101	324	2.87 J	0.156 J	374
	1/22/2025	4,460	104	2.83 J	74.5	3.74 J	<10.0	123	<10.0	<10.0	185
MW-5	5/23/2019	3,590	46.2	5.82	428	45.8	<0.367	151	48.6	22.7	526
	3/30/2023	6,270	68.4	4.24	380	14.3	<0.101	178	0.561 J	1.99	467
	5/23/2023	4,790	56.3	3.20 J	208	7.81 J	<10.0	54.9 J-	<10.0	k	275
	9/21/2023	3,430	32.0	2.13	200	9.57	<1.00	120	0.341 J	0.975 J	244
	11/8/2023	6,100	141	13.1	244	29.4 J	<10.0	220	<10.0	2.58 J	428
	2/27/2024	5,070	147	13.6	1,080	61.4	<10.0	331	24.2	3.07	1,302
	4/9/2024	7,910	155	11.1	970	51.0	<10.0	318	35.3	1.94	1,187
	7/23/2024	8,250	112	9.17	536	29.1	0.141 J	246	5.16	2.10	686
	10/21/2024	3,220	34.4	2.67	145	9.70	<0.101	60.0	3.96 J	0.527 J	192
	1/22/2025	7,080	127	11.0	826	48.1	<10.0	309	<10.0	2.14 J	1,012
MW-6	5/23/2019	28,100	1,690	1,500	2,250	4,180	<18.4	241 J	809	206	9,620
	3/29/2023	1,490	609	8.50	240	194	<0.101	45.1	42.9	10.3	1,052
	5/22/2023	4,720	665	14.2 J	297	88.9 J	<50.0	<250 UJ	<50.0	11.1 J	1,065
	9/21/2023	2,450	379	6.25	92.7	41.1	<1.00	9.88	<1.00	2.57	519
	11/8/2023	6,250	772	11.2	230	74.3	<10.0	28.0 J	6.60 J	5.36 J	1,088
	2/27/2024	4,060	668	13.1	215	55.7	<10.0	19.6	3.09	7.72	952
	4/9/2024	6,860	576	10.4	152	31.5	<10.0	28.5	2.52	3.66	770
	7/23/2024	7,040	838	13.4	288	84.3	0.217 J	24.6	19.3	9.49	1,224
	10/21/2024	3,790	619	14.5	184	43.8	<0.101	9.13	2.80	4.87	861
	1/22/2025	7,530	713	12.0 J	174	48.9 J	<20.0	74.2 J	<20.0	4.30 J	887
MW-7	5/23/2019	5,610	524	<8.24	396	1,020	45.7	37.4 J	269	49.3	1,944
	3/29/2023	42.7 J	96.6	1.93	70.5	138	24.3	12.8	28.2	7.53	307
	5/22/2023	4,910	518	4.15	410	411	36.9	71.5 J-	148	39.0	1,343
	9/21/2023	876	49.6	1.44	35.6	99.3	14.6	2.66 J	18.0	5.3	186
	11/8/2023	1,640	166	0.981 J	163	92.2	12.4	17.1	22.6	4.7	422
	2/27/2024	1,310	131	2.19	123	236	17.4	10.3	19.4	11.8	492
	4/9/2024	2,350	112	2.42	87.8	294	14.9	4.15	11.8	14.5	496
	7/23/2024	1,610	53.4	2.06	29.3	51.6	26.7	5.37	10.0	3.27	136
	10/21/2024	1,520	108	2.15	92.5	132	19.8	9.54	18.4	9.58	335
	1/22/2025	980	35.3	1.04	9.07	32.5	12.1	1.83 J-	6.10	1.97	77.9
MW-8	5/24/2019	88.0	2.16	<0.412	<0.384	26.0	<0.367	<1.00	4.53	1.43	28.6
	3/29/2023	4,550	<0.0941	<0.278	<0.137	3.21	0.331 J	<1.00	0.486 J	0.258 J	3.46
	5/22/2023	189 J	<1.00	<1.00	<1.00	11.5	0.273 J	<5.00 UJ	3.64	1.15	13.0
	9/20/2023	54.5 J	<1.00	<1.00	0.231 J	1.47 J	0.297 J	<5.00	<1.00	0.137 J	2.70

Please see notes at end of table.

Table B-2
Groundwater Analytical Results
Former Johnson Oil
Clatskanie, Oregon

Monitoring Well Number	Sample Date	Concentrations in µg/L									
		TPH-G	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert-butyl ether	Naphthalene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	BTEX
MW-8	11/7/2023	35.5	0.125 J	<1.00	0.587 J	0.923 J	<1.00	1.33 J	<1.00	<1.00	2.14
	2/26/2024	52.0 B	<1.00	<1.00	<1.00	4.26	0.296	<5.00	0.400	<1.00	5.76
	4/8/2024	84.8	<1.00	<1.00	0.206	8.77	0.336	<5.00	0.83	0.77	10.0
	7/22/2024	234	<1.00	<1.00	<1.00	1.12 J	0.232 J	<5.00	<1.00	<1.00	2.62
	10/21/2024	Well Inaccessible; Covered by Asphalt Concrete									
	1/22/2025	Well Inaccessible; Covered by Asphalt Concrete									
MW-9	5/23/2019	3,760	1,320	15.0	40.7	563.0	<0.376	3.31 J	141	44.3	1,939
	9/20/2023	<100	<1.00	<1.00	<1.00	<3.00	<1.00	<5.00	<1.00	<1.00	<1.00
	11/7/2023	55.7 J	<1.00	<1.00	<1.00	<3.00	<1.00	<5.00	<1.00	<1.00	<1.00
	2/26/2024	<100	<1.00	<1.00	<1.00	<3.00	<1.00	<5.00	<1.00	<1.00	<1.00
	4/8/2024	<100	<1.00	<1.00	<1.00	<3.00	<1.00	<5.00	<1.00	<1.00	<1.00
	7/23/2024	31.7 JB	0.186 J	0.303 J	0.182 J	0.893 J	<1.00	<5.00	<1.00	<1.00	1.56
	10/21/2024	<31.6	0.247 J	<0.278	0.221 J	0.271	<0.101	<1.00	0.106 J	<0.104	0.88
	1/22/2025	43.2 JB	<1.00	<1.00	0.160 J	0.847	<1.00	<5.00 UJ	<1.00	0.117 J	2.01
MW-12	3/30/2023	49,600	1,510	12,600	2,720	11,800	<2.02	508	1,980	519	28,630
	5/23/2023	82,400	2,930	13,600	3,090	14,300	<500	<2,500 UJ	1,910	621	33,920
	9/21/2023	31,000	4,540	145	1,490	3,870	15.3	193 J	1,120	297	10,045
	11/8/2023	104,000	4,150	13,200	4,650	22,500	<50.0	288	2,380	649	44,500
	2/27/2024	125,000	1,650	19,300	4,990	23,400	<100	511	724	797	49,340
	4/8/2024	120,000	1,810	15,900	3,410	17,500	<100	340	533	603	38,620
	7/23/2024	82,600	5,130	4,590	4,000	13,800	<25.0	660	2,750	704	27,520
	10/21/2024	24,500	3,150	181	1,450	3,530	16.6	193	387	354	8,311
	1/22/2025	99,500	1,530	11600	4,450	22,800	<50.0	494	2490	686	40,380
MW-13	3/30/2023	2,300	59.7	5.48	217	264	<0.101	53.5	205	117	546
	5/23/2023	2,550	123	<10.0	226	50.2	<10.0	18.8 J-	46.3	57.1	404
	9/20/2023	3,170	166	<20.0	279	16.1 J	<1.00	14.3	114	36.5	471
	11/7/2023	271	2.79	<1.00	10.4	1.47 J	<1.00	<5.00	1.96	0.177 J	15.2
	2/26/2024	98.3 B	1.45	<1.00	7.86	0.329	<1.00	<5.00	<1.00	<1.00	10.1
	4/8/2024	238	35.3	0.501	6.11	<3.00	<1.00	<5.00	<1.00	0.381	43.4
	7/22/2024	256	12.0	<1.00	2.68	<3.00	<1.00	<5.00	<1.00	<1.00	16.7
	10/21/2024	299 J-	21.6 J-	<0.278 UJ	20.6 J-	4.90 J-	<0.101 UJ	2.79 J-	1.45 J-	0.288 J-	47.2
	1/22/2025	42.2 JB	1.68	<1.00	<1.00	<3.00	<1.00	<5.00 UJ	<1.00	<1.00	4.18
MW-14	3/30/2023	4,190	107	1.64	58.7	18.1	<0.101	15.3	9.54	1.68	185
	5/23/2023	6,080	1,230	8.69	34.6	15.6	<1.00	6.45 J-	38.0	23.8	1,289
	9/20/2023	4,570	703	4.08	46.7	7.73 J	<1.01	7.83	<25.0	22.4	762
	11/8/2023	3,300	370	6.99 J	<25.0	21.5 J	<25.0	<125	<25.0	<25.0	411
	2/27/2024	3,440	554	4.94	34.9	15.8	<5.00	<25.0	9.57	4.87	610
	4/8/2024	3,790	334	4.30	19.4	13.8	<5.00	<25.0	8.35	3.48	372
	7/22/2024	3,660	387	8.59 J	29.8	43.6	<10.0	22.0 J	12.6	4.85 J	469
	10/21/2024	6,260	850	5.69	56.3	17.1	<0.101	5.71	23.5	5.32	929
	1/22/2025	6,000	641	<25.0	60.8	103	<25.0	<125 UJ	15.4 J	7.25 J	817
MW-15	3/30/2023	2,160	990	16.6	35.6	19.8	10.6	3.80 J	8.70	10.2	1,062
	5/23/2023	2,340	92.8	<10.0	45.1	11.2 J	<10.0	<50 UJ	<10.0	<10.0	154
	9/20/2023	2,590	250	2.96	20.9	2.98 J	6.43	1.84 J	<10.0	<10.0	277
	11/7/2023	709	28.7	0.377 J	14.5	2.69 J	<1.00	3.84 J	0.73 J	0.16 J	46.3
	2/26/2024	940	27.6	0.518	33.2	6.20	<1.00	6.10	10.4	<1.00	67.5

Please see notes at end of table.

Table B-2
Groundwater Analytical Results
Former Johnson Oil
Clatskanie, Oregon

Monitoring Well Number	Sample Date	Concentrations in µg/L									
		TPH-G	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert-butyl ether	Naphthalene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	BTEX
MW-15	4/8/2024	**1,010**	**35.1**	**0.895**	**28.5**	**3.26**	<1.00	**5.31**	**11.0**	<1.00	**67.8**
	7/22/2024	**344**	**8.93**	**0.706 J**	<1.00	**0.228 J**	<1.00	**1.98 J**	<1.00	<1.00	**10.4**
	10/21/2024	**1,550 J**	**24.2**	**3.19**	**0.692 J**	**3.92**	**7.72**	**2.06 J**	**3.98 J**	**0.269 J**	**32.0**
	1/22/2025	**720**	**30.0**	**0.438 J**	**2.37**	**0.575 J**	<1.00	<5.00 UJ	<1.00	<1.00	**33.4**
Groundwater to Indoor	Chronic	--	650	160,000	420,000	200,000	1,600,000	83,000	--	--	--
Air - Commercial	Acute	520	12	150,000	31	3,300	3,200	50	2,400	1,700	--
Groundwater in Excavation (RBC_{we})		14,000	1,800	220,000	4,500	23,000	63,000	500	6,300	7,500	--

Notes:

1. Volatile organic compounds by EPA Method 8260D.
2. GRO = Gasoline range organics by NWTPH-Gx Method.
3. µg/L = Micrograms per liter.
4. Only compounds of potential interest are present in table.
5. **Bold** values indicate concentration detected above the method detection limit.
6. < = Concentration was not detected above the shown minimum reporting limit.
7. B = Analyte concentration is less than 10 times greater than a detection in the method blank and the result may be biased.
8. J = Result is an estimated value.
9. J- = Result is an estimated value and may be biased low.
10. UJ = The analyte was not detected but the reporting limit may be inaccurate or imprecise.
11. DEQ Human Health RBC = Risk-Based Concentrations from the DEQ's *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* (updated June 2023).
12. Shaded values represent exceedances of applicable RBCs:

Table B-3
Soil Vapor Analytical Results
Former Johnson Oil
Clatskanie, Oregon

Sample Location	Former Produce Market	Former Service Station Building									Turning Point Building												Outdoor Samples		RBC_{sv} - Commercial	
Sample ID	SG-9	SG 1	SG 2	SG-10							SG-7						SG-8						SG 3	SG 6		
Date	5/23/2019	5/9/2018	5/10/2018	5/23/2019	4/4/2023	11/7/2023	2/26/2024	7/22/2024	1/21/2025		5/23/2019	4/4/2023	11/7/2023	2/26/2024	7/22/2024	1/21/2025	5/23/2019	4/4/2023	11/7/2023	2/26/2024	7/22/2024	1/21/2025	5/10/2018	5/10/2018	Chronic	Acute
Volatile Organic Compounds (VOCs) by EPA Method TO-15 in µg/m ^{3}																										
Acetone	**38.3**	**27.6**	**9.98 J**	**212**	<2.97	**20.5**	**9.08**	**20.0**	**6.7**		**1,360**	<2.97	**8.72**	**32.1**	**28.5**	**6.04**	**73.7**	**14.1**	**11.9**	**3.26**	**7.91**	**9.96**	**1,180**	**5,680**	--	6,300,000
Allyl Chloride	--	--	--	--	<0.626	<0.626	<0.626	<0.626	<0.626		--	<0.626	<0.626	<0.626	<0.626	<0.626	--	<0.626	<0.626	<0.626	<0.626	<0.626	--	--	68	--
Benzene	**3.26**	<1.28	<1.28 J	**2.24**	<0.639	**0.684**	*<63.9*	<0.639	<0.639		<12.5	<0.639	<0.639	<0.639	**0.818**	**<0.639**	<1.28	**0.684**	<0.639	<0.639	<0.639	<0.639	**11,400**	**33.8**	52	2,900
Benzyl Chloride	--	--	--	--	<1.04	<1.04	<1.04	<1.04	<1.04		--	<1.04	<1.04	<1.04	<1.04	<1.04	--	<1.04	<1.04	<1.04	<1.04	<1.04	--	--	8.3	24,000
Bromodichloromethane	--	--	--	--	<1.34	<1.34	<134	<1.34	<1.34		--	<1.34	<1.34	<1.34	<1.34	<1.34	--	<1.34	<1.34	<1.34	<1.34	<1.34	--	--	11	--
Bromoform	--	--	--	--	<6.21	<6.21	<6.21	<6.21	<6.52		--	<6.21	<6.21	<6.21	<6.21	<6.52	--	<6.21	<6.21	<6.21	<6.21	<6.52	--	--	370	--
Bromomethane	--	--	--	--	<0.776	<0.776	<0.776	<0.776	<0.776		--	<0.776	<0.776	<0.776	<0.776	<0.776	--	<0.776	<0.776	<0.776	<0.776	<0.776	--	--	730	400,000
1,3-Butadiene	--	--	--	--	<4.43	<4.43	<4.43	<4.43	<4.43		--	<4.43	<4.43	<4.43	<4.43	<4.43	--	<4.43	<4.43	<4.43	<4.43	<4.43	--	--	14	67,000
Carbon Disulfide	<1.24	**3.1**	**2.8**	**3.46**	<0.622	**0.890**	<0.622	<1.24	<1.25		<12.4	<0.622	<0.622	**3.70**	<1.24	2.09	<1.24	**4.17**	<0.622	<0.622	**8.40**	**2.49**	**25.7**	**7.77**	100,000	630,000
Carbon Tetrachloride	--	--	--	--	<1.26	<1.26	<1.26	**1.26**	<1.26		--	<1.26	<1.26	<1.26	<1.26	<1.26	--	<1.26	<1.26	<1.26	<1.26	<1.26	--	--	68	190,000
Chlorobenzene	--	--	--	--	<0.924	<0.924	<92.4	<0.924	<0.924		--	<0.924	<0.924	<0.924	<0.924	<0.924	--	<0.924	<0.924	<0.924	<0.924	<0.924	--	--	7,300	--
Chloroethane	--	--	--	--	**2.85**	<0.528	<0.528	<0.528	<0.528		--	<0.528	<0.528	**1.01**	<0.528	<0.528	--	<0.528	<0.528	<0.528	<0.528	<0.528	--	--	580,000	4,000,000
Chloroform	--	--	--	--	<0.973	<0.973	<0.973	<0.973	<0.973		--	<0.973	<0.973	<0.973	<0.973	<0.973	--	<0.973	<0.973	<0.973	<0.973	<0.973	--	--	18	50,000
Chloromethane	--	--	--	--	**3.53**	**0.554**	<0.413	**0.845**	<0.413		--	<0.413	**0.591**	**3.74**	<0.413	<0.413	--	<0.413	**1.06**	<0.413	<0.413	**0.558**	--	--	13,000	100,000
2-Chlorotoluene	--	--	--	--	<1.03	<1.03	<1.03	<1.03	<1.03		--	<1.03	<1.03	<1.03	<1.03	<1.03	--	<1.03	<1.03	<1.03	<1.03	<1.03	--	--	--	--
Cyclohexane	<1.38	<1.38	<1.38	<1.38	**1.69**	**8.16**	**1,540**	<0.689	<0.689		<13.8	<0.689	<0.689	<0.689	<0.689	<0.689	<1.38	<0.689	<0.689	<0.689	<0.689	<0.689	<1.38	5,390	880,000	--
Chlorodibromomethane	--	--	--	--	<1.70	<1.70	<170	<1.70	<1.70		--	<1.70	<1.70	<1.70	<1.70	<1.70	--	<1.70	<1.70	<1.70	<1.70	<1.70	--	--	--	--
1,2-Dibromoethane	<3.08	*<3.08*	*<3.08*	*<3.08*	*<1.54*	*<1.54*	*<154*	<1.54	<1.54		*<30.8*	*<1.54*	*<1.54*	*<1.54*	<1.54	<1.54	*<3.08*	*<1.54*	*<1.54*	*<1.54*	<1.54	<1.54	*<3.08*	*<3.08*	0.68	--
1,2-Dichlorobenzene	--	--	--	--	<1.20	<1.20	<1.20	<1.20	<1.20		--	<1.20	<1.20	<1.20	<1.20	<1.20	--	<1.20	<1.20	<1.20	<1.20	<1.20	--	--	29,000	--
1,3-Dichlorobenzene	--	--	--	--	<1.20	<1.20	<1.20	<1.20	<1.20		--	<1.20	<1.20	<1.20	<1.20	<1.20	--	<1.20	<1.20	<1.20	<1.20	<1.20	--	--	--	--
1,4-Dichlorobenzene	--	--	--	--	<1.20	<1.20	<1.20	<1.20	<1.20		--	<1.20	<1.20	<1.20	<1.20	<1.20	--	<1.20	<1.20	<1.20	<1.20	<1.20	--	--	37	1,200,000
1,2-Dichloroethane	<1.62	<1.62	<1.62	<1.62	<0.810	<0.810	*<81.0*	<0.810	<0.810		<16.2	<0.810	<0.810	<0.810	<0.810	<0.810	<1.62	<0.810	<0.810	<0.810	<0.810	<0.810	<1.62	<1.62	16	--
1,1-Dichloroethane	--	--	--	--	<0.802	<0.802	<0.802	<0.802	<0.802		--	<0.802	<0.802	<0.802	<0.802	<0.802	--	<0.802	<0.802	<0.802	<0.802	<0.802	--	--	260	--
1,1-Dichloroethene	--	--	--	--	<0.793	<0.793	<0.793	<0.793	<0.793		--	<0.793	<0.793	<0.793	<0.793	<0.793	--	<0.793	<0.793	<0.793	<0.793	<0.793	--	--	29,000	20,000
cis-1,2-Dichloroethene	--	--	--	--	**2.14**	<0.793	<0.793	<0.793	<0.793		--	<0.793	<0.793	<0.793	<0.793	<0.793	--	<0.793	<0.793	<0.793	<0.793	<0.793	--	--	5,800	--
trans-1,2-Dichloroethene	--	--	--	--	<0.793	<0.793	<0.793	<0.793	<0.793		--	<0.793	<0.793	<0.793	<0.793	<0.793	--	<0.793	<0.793	<0.793	<0.793	<0.793	--	--	5,800	80,000
1,2-Dichloropropane	--	--	--	--	<0.924	<0.924	<92.4	<0.924	<0.924		--	<0.924	<0.924	<0.924	<0.924	<0.924	--	<0.924	<0.924	<0.924	<0.924	<0.924	--	--	110	23,000
cis-1,3-Dichloropropene	--	--	--	--	<0.908	<0.908	<90.8	<0.908	<0.908		--	<0.908	<0.908	<0.908	<0.908	<0.908	--	<0.908	<0.908	<0.908	<0.908	<0.908	--	--	100	3,700
trans-1,3-Dichloropropene	--	--	--	--	<0.908	<0.908	<90.8	<0.908	<0.908		--	<0.908	<0.908	<0.908	<0.908	<0.908	--	<0.908	<0.908	<0.908	<0.908	<0.908	--	--	100	3,700
1,4-Dioxane	<1.44	--	--	<1.44	<0.721	<0.721	*<227*	<2.27	<2.27		<14.4	<0.721	<0.721	<2.27	<2.27	<2.27	**3.52**	<0.721	<0.721	<2.27	<2.27	<2.27	--	--	82	730,000
Ethanol	**98.9**	**70.5**	**17.9 J**	**259**	<4.71	**58.6**	**7.94**	**5.51**	**14.4**		**1,380**	**35.3**	**14.9**	**78.6**	**51.1**	**12**	**43.7**	**54.3**	**31.1**	**4.98 B**	**6.00**	**24.50**	**22.5**	**23.3**	--	--
Ethylbenzene	**17.5**	**4.84**	<1.73	<1.73	<0.867	<0.867	<0.867	<0.867	<0.867		**45.1**	**2.37**	**2.44**	**1.03**	**1.19**	<0.867	<1.73	**5.20**	<0.867	<0.867	<0.867	<0.867	**320**	**4.52**	160	2,200,000
4-Ethyltoluene	**10.4**	**3.7**	<1.96	<1.96	<0.982	<0.982	<0.982	<0.982	<0.982		**516**	<0.982	**6.43**	**4.61**	**3.61**	**1.95**	**3.75**	<0.982	<0.982	<0.982	<0.982	<0.982	**43.5**	**2.2**	--	--
Trichlorofluoromethane	**3.49**	<2.25	<2.25	<3.07	**1.20**	<1.12	**1.20**	<1.12	**1.15**		<22.5	<1.12	**1.48**	**1.61**	**1.66**	**1.25**	**3.46**	<1.12	**1.17**	**1.46**	**1.79**	**1.25**	**2.26**	<2.25	--	--
Dichlorodifluoromethane	**2.45**	--	--	**2.08**	**2.84**	**1.99**	**1.41**	**1.97**	**2.10**		<34.0	<0.989	**1.70**	**1.16**	**1.48**	<0.989	**2.27**	**2.11**	**2.06**	**1.36**	**1.66**	**2.21**	--	--	15,000	--
1,1,2-Trichlorotrifluoroethane	--	--	--	--	<1.53	<1.53	<1.53	<1.53	<1.53		--	<1.53	<1.53	<1.53	<1.53	<1.53	--	<1.53	<1.53	<1.53	<1.53	<1.53	--	--	730,000	--
1,2-Dichlorotetrafluoroethane	--	--	--	--	<1.40	<1.40	<1.40	<1.40	<1.40		--	<1.40	<1.40	<1.40	<1.40	<1.40	--	<1.40	<1.40	<1.40	<1.40	<1.40	--	--	--	--

Please see notes at end of table.

Table B-3
Soil Vapor Analytical Results
Former Johnson Oil
Clatskanie, Oregon

Sample Location	Former Produce Market	Former Service Station Building								Turning Point Building												Outdoor Samples		RBC_{sv} - Commercial	
Sample ID	SG-9	SG 1	SG 2	SG-10						SG-7						SG-8						SG 3	SG 6		
Date	5/23/2019	5/9/2018	5/10/2018	5/23/2019	4/4/2023	11/7/2023	2/26/2024	7/22/2024	1/21/2025	5/23/2019	4/4/2023	11/7/2023	2/26/2024	7/22/2024	1/21/2025	5/23/2019	4/4/2023	11/7/2023	2/26/2024	7/22/2024	1/21/2025	5/10/2018	5/10/2018	Chronic	Acute
Volatile Organic Compounds (VOCs) by EPA Method TO-15 in µg/m ^{3}																									
Heptane	**7.86**	**10.6**	<1.64	<1.64	**8.51**	**2.57**	**2,090**	<0.818	<0.818	<16.4	<0.818	<0.818	**0.830**	**1.21**	<0.818	<1.64	<0.818	<0.818	<0.818	<0.818	<0.818	<1.64	**409**	58,000	--
Hexachloro-1,3-butadiene	--	--	--	--	<6.73	<6.73	<6.73	<6.73	<6.73	--	<6.73	<6.73	<6.73	<6.73	<6.73	--	<6.73	<6.73	<6.73	<6.73	<6.73	--	--	19	--
n-Hexane	**3.32**	**4.32**	<1.41	**1.58**	**15.7**	<2.22	**2,240**	<2.22	<2.22	<14.1	<2.22	<2.22	<2.22	**2.34**	<2.22	<1.41	<2.22	<2.22	<2.22	<2.22	<2.22	**40,100**	**3,020**	100,000	--
Isopropylbenzene	<1.97	<1.97	<1.97	<1.97	<0.983	<0.983	<0.983	**5.11**	<0.983	**60.6**	**3.24**	**4.09**	<0.983	**2.09**	<0.983	<1.97	<0.983	<0.983	<0.983	<0.983	<0.983	**18.5**	**4.34**	58,000	--
Methylene Chloride	**3.99**	**3.51**	<1.39	**2.89**	<0.694	**5.17**	<0.694	<0.694	**0.882**	<13.9	<0.694	**1.50**	<0.694	**2.92**	<0.694	**1.43**	<0.694	**3.09**	<0.694	<0.694	**1.17**	<1.39	<1.39	41,000	210,000
Methyl Butyl Ketone	--	--	--	--	<5.11	<5.11	<511	<5.11	<5.11	--	<5.11	<5.11	<5.11	<5.11	<5.11	--	<5.11	<5.11	<5.11	<5.11	<5.11	--	--	4,400	--
2-Butanone (MEK)	<7.73	<7.37	<7.37	**20.6**	<3.69	**12.7**	<3.69	**5.22**	<3.69	**403**	<3.69	<3.69	**3.98**	**11.1**	<3.69	**16.1**	**9.94**	<3.69	<3.69	<3.69	<3.69	<7.37	<7.37	730,000	500,000
4-Methyl-2-pentanone (MIBK)	--	--	--	--	<5.12	<5.12	<512	<5.12	<5.12	--	<5.12	<5.12	<5.12	**5.73**	<5.12	--	<5.12	<5.12	<5.12	<5.12	<5.12	--	--	440,000	--
Methyl Methacrylate	--	--	--	--	<0.819	<0.819	<81.9	<0.819	<0.819	--	<0.819	<0.819	<0.819	<0.819	<0.819	--	<0.819	<0.819	<0.819	<0.819	<0.819	--	--	100,000	--
Methyl Tert Butyl Ether (MTBE)	<1.44	<1.44	<1.44	<1.44	<0.721	<0.721	<0.721	<0.721	<0.721	<14.4	<0.721	<0.721	<0.721	<0.721	<0.721	<1.44	<0.721	<0.721	<0.721	<0.721	<0.721	<1.44	<1.44	1,600	800,000
Naphthalene	<6.60	<6.60	<6.60	<6.60	<3.30	<3.30	<3.30	<3.30	<3.30	**146**	<3.30	**9.32**	**71.2**	**9.95**	**17.4**	<6.60	<3.30	<3.30	<3.30	<3.30	<3.30	<6.60	<6.60	12	20,000
2-Propanol	**11.9**	**8.29**	<6.15	**19.4**	<3.07	**49.9**	**5.19**	<3.07	**3.15**	**263**	<3.07	**4.99**	**17.3**	**34.9**	**3.66**	**102**	**7.25**	**9.78**	**3.22**	<3.07	**4.33**	<6.15	<6.15	29,000	320,000
Propene	<1.38	<1.38	**4.22**	**2.71**	<2.15	<2.15	<2.15	<2.15	<2.15	<13.8	<2.15	<2.15	<2.15	<2.15	<2.15	**1.43**	<2.15	<2.15	<2.15	<2.15	**2.65**	**422**	**2,090**	440,000	--
n-Propylbenzene	**2.36**	<1.96	<1.96	<1.96	<0.982	<0.982	<0.982	<0.982	<0.982	**134**	**6.97**	**8.2**	<0.982	**4.02**	**1.87**	<1.96	<0.982	<0.982	<0.982	<0.982	<0.982	<1.96	<1.96	150,000	--
Styrene	<1.70	<1.70	<1.70	<1.70	<0.851	<0.851	<0.851	<1.70	<1.70	<17.0	<0.851	<0.851	<0.851	<1.70	<1.70	<1.70	<0.851	<0.851	<0.851	<1.70	<1.70	**15**	<1.70	150,000	2,100,000
1,1,2,2-Tetrachloroethane	--	--	--	--	<1.37	<1.37	<1.37	<1.37	<1.37	--	<1.37	<1.37	<1.37	<1.37	<1.37	--	<1.37	<1.37	<1.37	<1.37	<1.37	--	--	7.1	--
Tetrachloroethylene	<2.72	**5.69**	**4.55**	**3.14**	<1.36	<1.36	<1.36	**1.57**	<1.36	<27.2	<1.36	**2.96**	**1.84**	**5.27**	**1.65**	**5.31**	**6.22**	<1.36	<1.36	<1.36	<1.36	<2.72	<2.72	1,600	4,000
Tetrahydrofuran	<1.18	<1.18	<1.18	<1.18	<0.590	**1.30**	<0.590	<0.590	**0.596**	<11.8	<0.590	<0.590	<0.590	**1.54**	**0.666**	**3.88**	<0.590	<0.590	<0.590	<0.590	**0.687**	<1.18	<1.18	290,000	--
Toluene	**75.6**	**15.8**	**4.69 J**	**6.13**	<1.88	**6.55**	<1.88	**2.46**	<1.88	**25.6**	**4.44**	**3.35**	<1.88	**5.46**	<1.88	**3.04**	**10.1**	**3.09**	<1.88	**1.88**	<1.88	**1,060**	**21**	730,000	770,000
1,2,4-Trichlorobenzene	--	--	--	--	<4.66	<4.66	<4.66	<4.66	<4.66	--	<4.66	<4.66	<4.66	<4.66	<4.66	--	<4.66	<4.66	<4.66	<4.66	<4.66	--	--	290	--
1,1,1-Trichloroethane	--	--	--	--	<1.09	<1.09	<1.09	<1.09	<1.09	--	<1.09	<1.09	<1.09	<1.09	<1.09	--	<1.09	<1.09	<1.09	<1.09	<1.09	--	--	730,000	1,100,000
1,1,2-Trichloroethane	--	--	--	--	<1.09	<1.09	<109	<1.09	<1.09	--	<1.09	<1.09	<1.09	<1.09	<1.09	--	<1.09	<1.09	<1.09	<1.09	<1.09	--	--	26	--
Trichloroethylene	--	--	--	--	**163**	<1.07	*<107*	<1.07	<1.07	--	<1.07	<1.07	<1.07	<1.07	<1.07	--	<1.07	<1.07	**1.78**	<1.07	<1.07	--	--	100	210
1,2,4-Trimethylbenzene	**8.58**	**15.3**	**2.5**	<1.96	<0.982	<0.982	<0.982	<0.982	<0.982	**844**	**49.1**	**52.5**	**51.5**	**30.0**	**13.9**	**6.77**	**1.13**	<0.982	<0.982	<0.982	<0.982	**10.5**	**4.3**	8,800	--
1,3,5-Trimethylbenzene	**3.31**	**4.87**	<1.96	<1.96	<0.982	<0.982	<0.982	<0.982	<0.982	**320**	**23.9**	**25.9**	**19.3**	**13.6**	**5.89**	<1.96	<0.982	<0.982	<0.982	<0.982	<0.982	**7.23**	<1.96	8,800	--
2,2,4-Trimethylpentane	**14.5**	--	--	<1.87	<0.934	<0.934	**2,210**	<0.934	<0.934	<18.7	**1.45**	<1.07	<0.934	**0.976**	<0.934	<1.87	<0.934	<0.934	<0.934	<0.934	**1.21**	--	--	--	--
Vinyl Chloride	--	--	--	--	**1.85**	<0.511	<0.511	<0.511	<0.511	--	<0.511	<0.511	<0.511	<0.511	<0.511	--	<0.511	<0.511	<0.511	<0.511	<0.511	--	--	93	130,000
Vinyl Bromide	--	--	--	--	<0.875	<0.875	<0.875	<0.875	<0.875	--	<0.875	<0.875	<0.875	<0.875	<0.875	--	<0.875	<0.875	<0.875	<0.875	<0.875	--	--	27	--
Vinyl Acetate	<1.41	<1.41	<1.41	<1.41	<0.704	<0.704	<2.22	<2.22	<2.22	<14.1	<0.704	<0.704	<2.22	<2.22	<2.22	<1.41	<0.704	<0.704	<2.22	<2.22	<2.22	<1.41	**18.9**	29,000	20,000
m&p-Xylene	--	--	--	--	<1.73	**1.82**	<1.73	<1.73	<1.73	--	**12.0**	**12.1**	**6.07**	**5.51**	**2.18**	--	**10.0**	<1.73	<1.73	<1.73	<1.73	--	--	--	--
o-Xylene	--	--	--	--	<0.867	<0.867	<0.867	<0.867	<0.867	--	**9.93**	**10.6**	**4.73**	**3.92**	**1.7**	--	**2.11**	<0.867	<0.867	<0.867	<0.867	--	--	15,000	--
TPH (GC/MS) Low Fraction	**953**	**2,300**	**479**	<413	<826	**1,160**	<826	**1,320**	<826	**39,200**	**1,300 J+**	**1,400**	**967**	**843**	**884**	**531**	<826	<826	<826	<826	<826	**358,000**	**256,000**	--	--
Dichlorodifluoromethane	--	2.12	<1.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.98	<1.98	--	--
Total Xylenes	**89.4**	**23.85**	**7.32**	**3.81**	--	--	--	--	--	**377**	--	--	--	--	--	**7.67**	--	--	--	--	--	**1,470**	**41.7**	15,000	870,000

Notes:

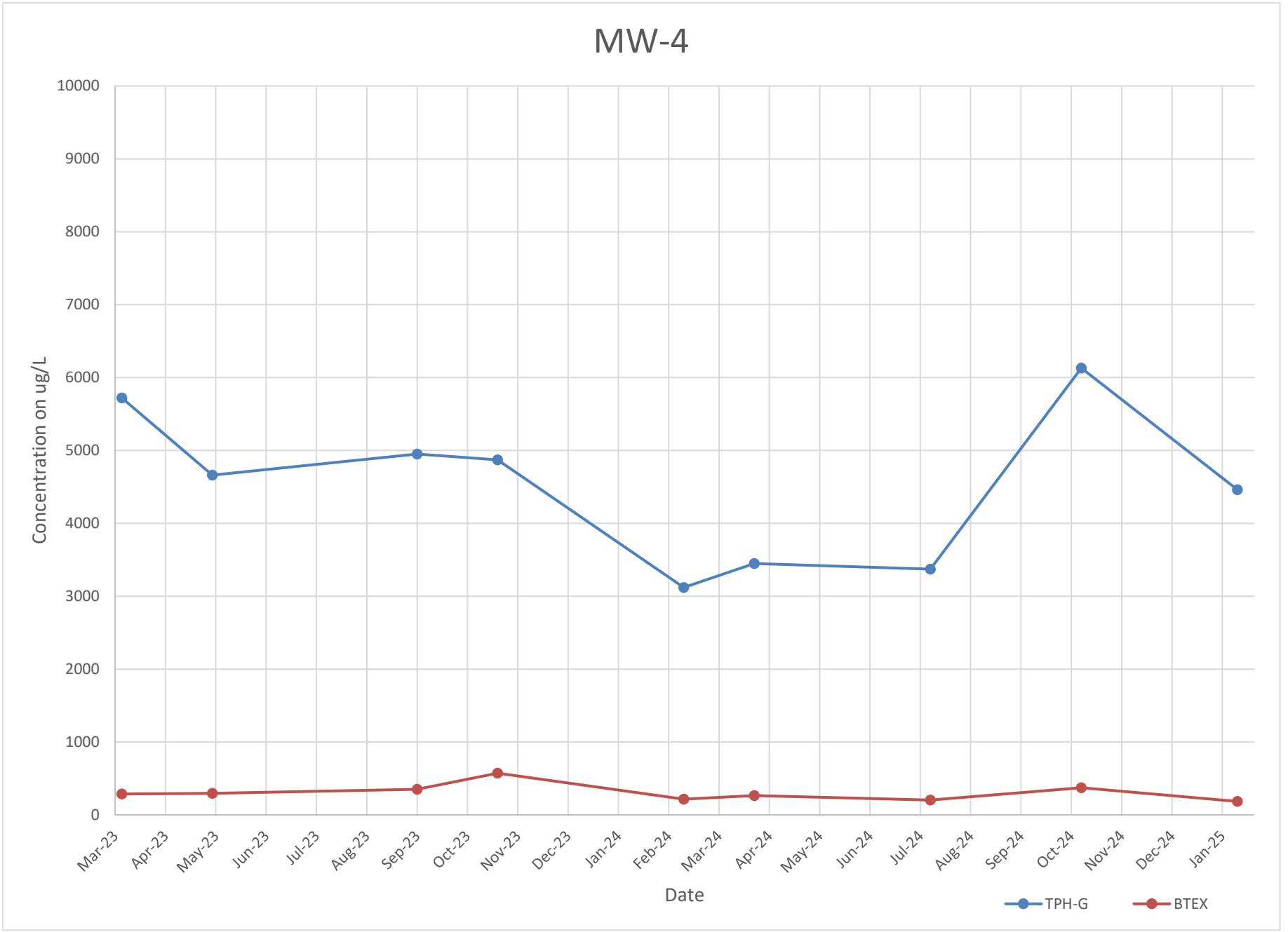
1. µg/m^3 = Micrograms per cubic meter.
2. **Bold** values indicate concentration detected above the minimum reporting limit.
3. Shaded values indicate concentrations detected above one or more applicable RBC.
4. *Italicized* values indicate a reporting limit above the applicable RBC
5. < = Concentration was not detected above the shown minimum reporting limit.
6. -- = Not available.
7. RBCsv = Soil Vapor Risk-Based Concentrations from the DEQ's *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* (updated June 2023).

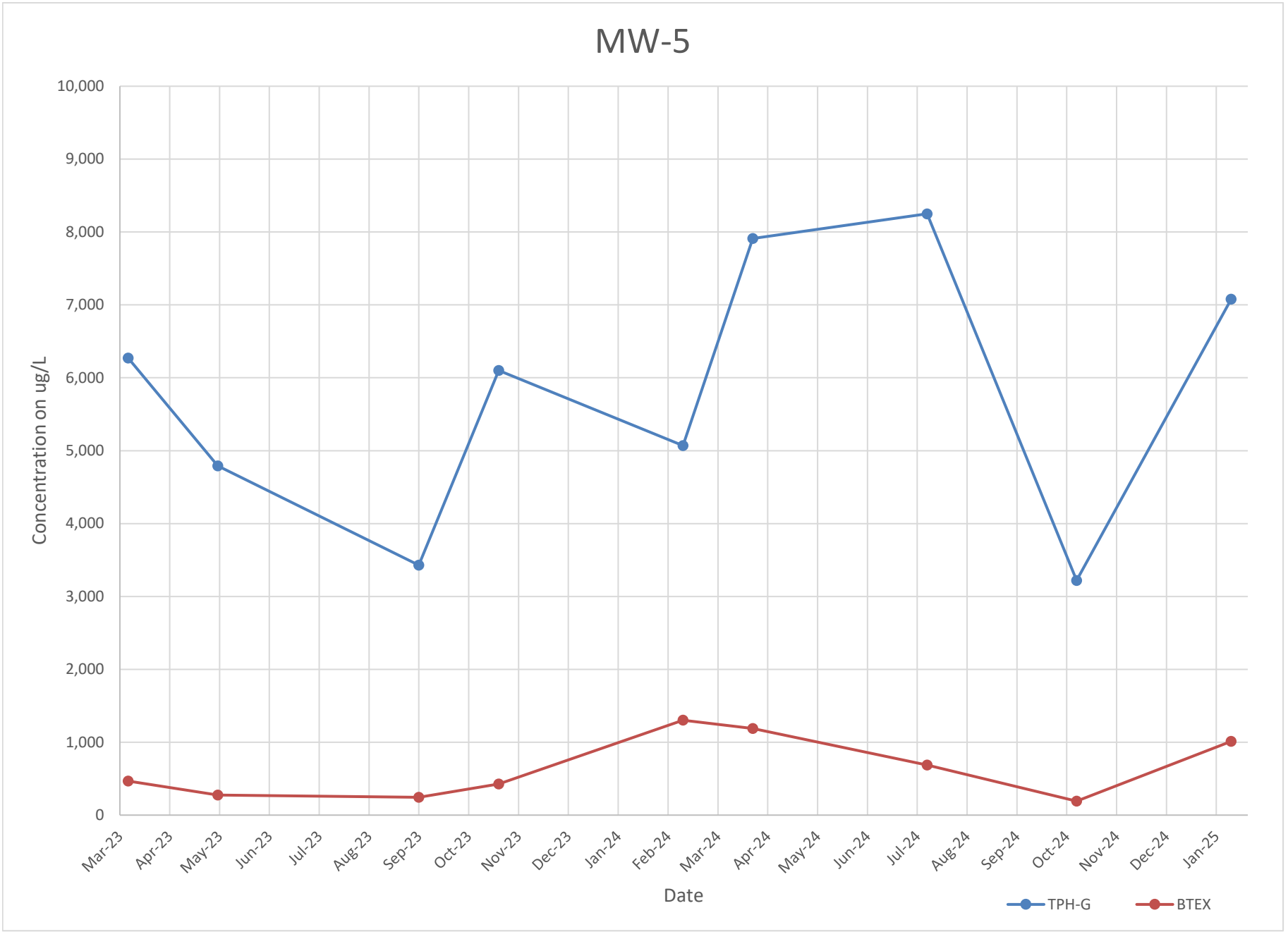
Table B-4
Ambient Air Analytical Results
Former Johnson Oil
Clatskanie, Oregon

Sample Location	Produce Market	Turning Point Building											Former Service Station Building				Outdoor Samples					RBC_{air} - Commercial	
Sample ID	AA-3	AA-1	AA-2	AMB-1				AMB-2					AMB-4				AA-BG	AMB-3					
Date	6/13/2018	6/13/2018	6/13/2018	11/13/2023	2/26/2024	7/30/2024	1/28/2025	11/13/2023	2/26/2024	7/30/2024	1/28/2025		11/13/2023	2/26/2024	7/30/2024	1/28/2025	6/13/2018	11/13/2023	2/26/2024	7/30/2024	1/28/2025	Chronic	Acute
Volatile Organic Compounds (VOCs) by EPA Method TO-17 Passive RAD145 in µg/m³																							
Acetone	**4.66**	**32**	**23.4**	--	--	--	--	--	--	--	--		--	--	--	--	<2.97	--	--	--	--	--	--
Benzene	**0.281**	**1.29**	**0.663**	**2.1**	**1.0**	**1.6**	**0.97**	**1.8**	**1.2**	**0.90**	**1.30**		**0.79**	--	<0.50	**0.57**	**0.157**	**1.1**	**0.67**	<0.50	**0.61**	1.6	87
2 Butanone (MEK)	<3.69	**4.82**	**3.95**	--	--	--	--	--	--	--	--		--	--	--	--	<3.69	--	--	--	--	--	--
Carbon tetrachloride	**0.522**	**0.499**	**0.5**	--	--	--	--	--	--	--	--		--	--	--	--	**0.48**	--	--	--	--	--	--
Chloroethane	<0.106	**0.256**	<0.106	--	--	--	--	--	--	--	--		--	--	--	--	<0.107	--	--	--	--	--	--
Chloromethane	**1.24**	**2.54**	**1.28**	--	--	--	--	--	--	--	--		--	--	--	--	**1.16**	--	--	--	--	--	--
Cyclohexane	--	--	--	**0.91**	**0.72**	**1.0**	**0.54**	**0.73**	**0.67**	**0.68**	**0.77**		**0.076**	--	<0.18	<0.18	--	**0.19**	**0.86**	<0.18	<0.18	26,000	--
1,2 Dibromoethane (EDB)	<0.154	<0.154	<0.154	--	--	--	--	--	--	--	--		--	--	--	--	<0.154	--	--	--	--	--	--
1,2 Dichloroethane (EDC)	**0.113**	**0.292**	**0.118**	--	--	--	--	--	--	--	--		--	--	--	--	**0.097**	--	--	--	--	--	--
Dichlorodifluoromethane	**2.13**	**1.99**	**2.43**	--	--	--	--	--	--	--	--		--	--	--	--	**1.97**	--	--	--	--	--	--
Ethanol	**8.1**	**172**	**136**	--	--	--	--	--	--	--	--		--	--	--	--	**1.84**	--	--	--	--	--	--
Ethylbenzene	**1.14**	**2.96**	**2.6**	**2.8**	**1.00**	**1.4**	**0.60**	**2.7**	**1.1**	**0.72**	**0.92**		**0.16**	--	<0.14	<0.15	<0.130	**0.2**	**0.12**	<0.14	<0.15	4.9	66,000
4 Ethyltoluene	<0.982	**1.27**	<0.982	--	--	--	--	--	--	--	--		--	--	--	--	<0.982	--	--	--	--	--	--
Heptane	<0.818	**1.42**	**0.858**	--	--	--	--	--	--	--	--		--	--	--	--	<0.818	--	--	--	--	--	--
n Hexane	<0.705	**1.18**	**1.1**	--	--	--	--	--	--	--	--		--	--	--	--	<0.705	--	--	--	--	--	--
Isopropylbenzene	<0.983	<0.983	<0.983	--	--	--	--	--	--	--	--		--	--	--	--	<0.983	--	--	--	--	--	--
Methyl tert butyl ether	<0.721	<0.721	<0.721	--	--	--	--	--	--	--	--		--	--	--	--	<0.721	--	--	--	--	--	--
Methylene Chloride	**1.67**	**1.38**	**1.9**	--	--	--	--	--	--	--	--		--	--	--	--	<0.694	--	--	--	--	--	--
Naphthalene	<3.3	<3.3	<3.3	--	--	--	--	--	--	--	--		--	--	--	--	<3.3	--	--	--	--	--	--
2 Propanol	<3.07	**8.56**	**4.55**	--	--	--	--	--	--	--	--		--	--	--	--	<3.07	--	--	--	--	--	--
n Propylbenzene	<0.982	<0.982	<0.982	--	--	--	--	--	--	--	--		--	--	--	--	<0.982	--	--	--	--	--	--
Styrene	<0.851	**0.87**	<0.851	**0.62**	**0.36**	<0.16	<0.16	**0.66**	**0.52**	<0.16	<0.16		**0.19**	--	<0.16	<0.16	<0.851	**0.25**	**0.085**	<0.16	<0.16	4,400	63,000
Tetrachloroethene	<0.136	**0.29**	**0.175**	**0.079**	**0.053**	<0.17	<0.17	**0.095**	**0.056**	<0.17	<0.17		**1.000**	--	**0.65**	**0.41**	<0.136	**0.065**	**0.044**	<0.17	<0.17	47	120
Tetrahydrofuran	<0.590	**4.02**	**3.58**	--	--	--	--	--	--	--	--		--	--	--	--	<0.590	--	--	--	--	--	--
Toluene	**1.52**	**8.56**	**6.85**	**18 E**	**6.7 E**	**12**		**18 E**	**>6.3 S**	**6.2**	**6.0**		**0.81**	--	**0.21**	<0.13	<0.753	**0.90**	**0.64**	**0.28**	**0.61**	22,000	23,000
1,1,1 Trichloroethane	<0.109	**0.672**	**0.503**	<0.058	<0.05	<0.14	<0.16	<0.058	<0.05	<0.14	<0.16		<0.058	--	<0.14	<0.16	<0.109	<0.058	<0.05	<0.14	<0.16	3	6.3
Trichloroethylene	--	--	--	<0.021	<0.018	<0.14	<0.17	<0.021	<0.018	<0.14	<0.14		**0.042**	--	<0.14	<0.14	--	<0.021	<0.018	<0.14	<0.14	3	6.3
Trichlorofluoromethane	**1.44**	**2.73**	**2.26**	--	--	--	--	--	--	--	--		--	--	--	--	**1.30**	--	--	--	--	--	--
1,2,4 Trimethylbenzene	<0.982	**1.6**	**1.5**	--	--	--	--	--	--	--	--		--	--	--	--	<0.982	--	--	--	--	--	--
1,3,5 Trimethylbenzene	<0.982	<0.982	<0.982	--	--	--	--	--	--	--	--		--	--	--	--	<0.982	--	--	--	--	--	--
2,2,4 Trimethylpentane	<0.934	**1.12**	**1.25**	--	--	--	--	--	--	--	--		--	--	--	--	<0.934	--	--	--	--	--	--
Vinyl Acetate	<0.070	**0.143**	**0.167**	--	--	--	--	--	--	--	--		--	--	--	--	<0.070	--	--	--	--	--	--
m&p-Xylene	--	--	--	**11 E**	**3.8 E**	**6.0**	**2.2**	**3.600**	**3.900**	**2.9**	**3.5**		**0.5**	--	**0.16**	<0.14	--	**0.55**	**0.34**	**0.16**	**0.34**	880	--
o-Xylene	--	--	--	**3.6**	**1.4**	**2.0**	**0.8**	**0.66**	**1.5**	**0.93**	**1.2**		**0.19**	--	<0.15	<0.15	--	**0.22**	**0.14**	<0.15	<0.15	440	--
Total Xylenes	**2.09**	**14.31**	**14.36**	--	--	--	--	--	--	--	--		--	--	--	--	<1.73	--	--	--	--	--	--
TPH-Low Fraction	<207	<207	<207	--	--	--	--	--	--	--	--		--	--	--	--	<207	--	--	--	--	--	--

Notes:

1. µg/m³ = Micrograms per cubic meter.
2. Bold values indicate concentration detected above the minimum reporting limit.
3. Shaded values indicate concentrations detected above one or more applicable RBC.
4. -- = Not available.
5. E = Estimated concentration that may be biased high.
6. S = Saturated Peak; data reported as estimated
7. RBCair = Ambient Air Risk-Based Concentrations from the DEQ's *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* (updated June 2023).
8. TP = Turning Point building, OD = outdoor, FS = former station building


MW-4
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Concentration on ug/L
Mar-23
Apr-23
May-23
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Date
TPH-G
BTEX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10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Concentration on ug/L
Mar-23
Apr-23
May-23
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Date
TPH-G
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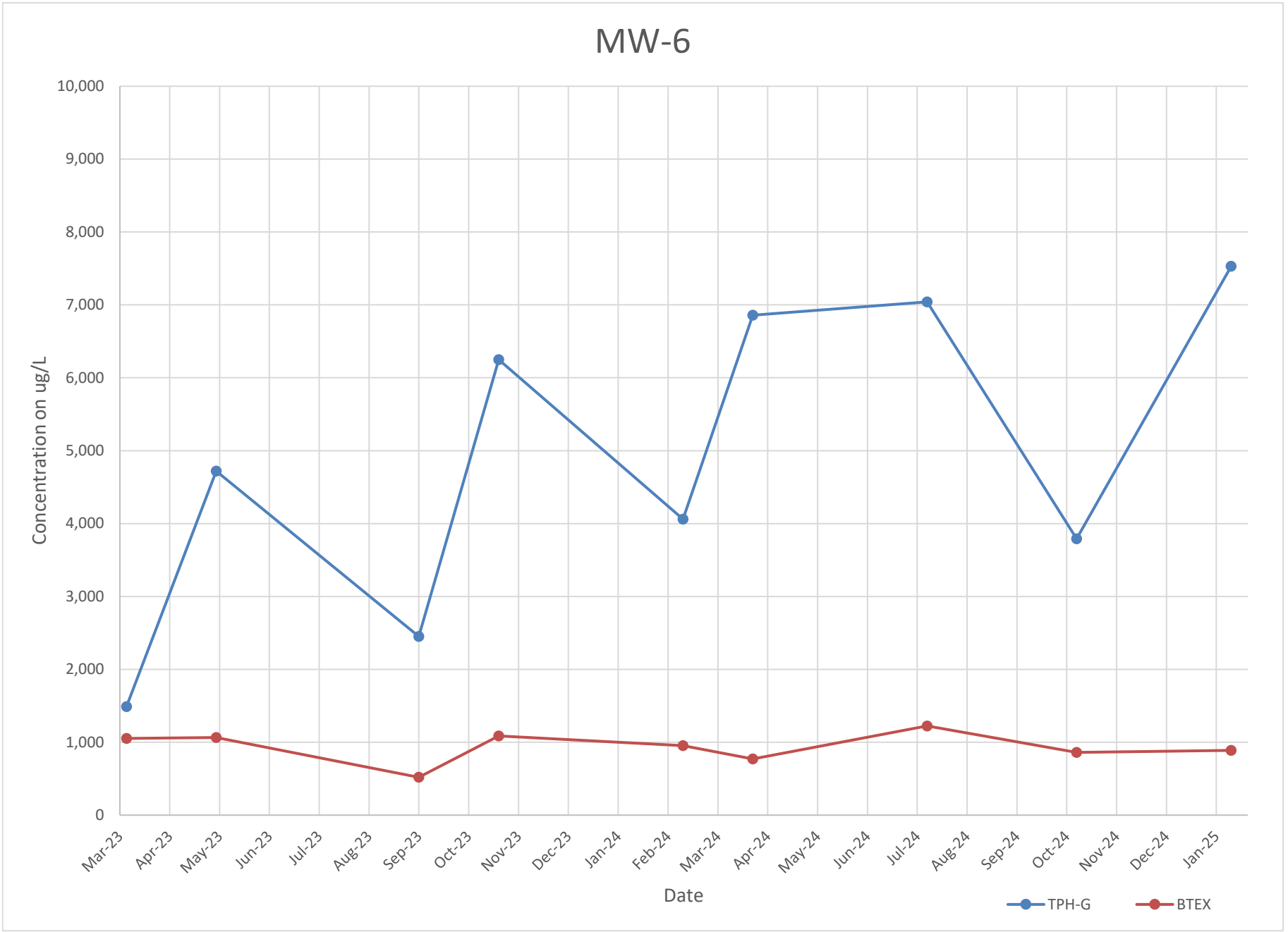
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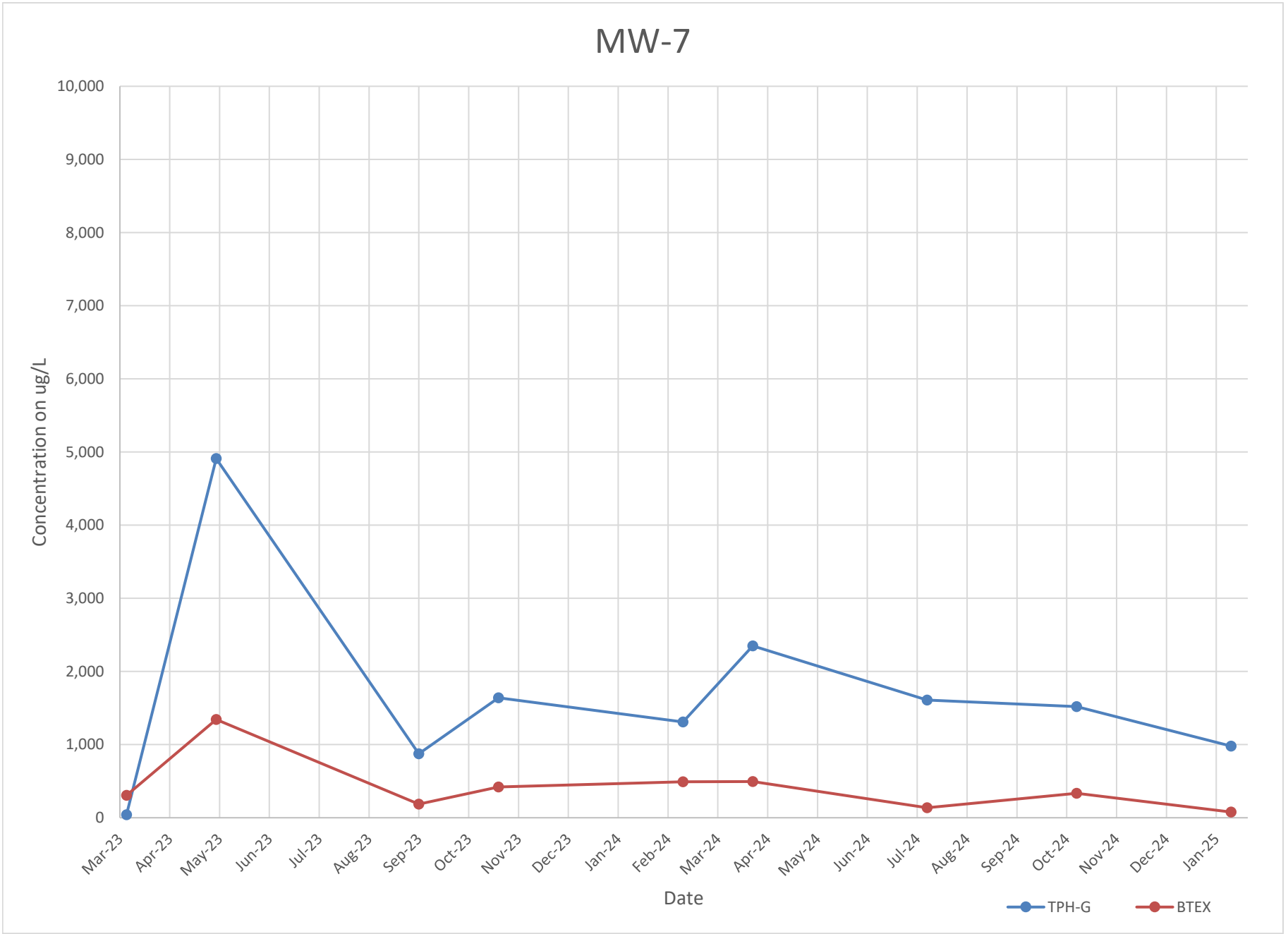
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Concentration on ug/L
Mar-23
Apr-23
May-23
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Date
TPH-G
BTEX


MW-7
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Concentration on ug/L
Mar-23
Apr-23
May-23
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Date
TPH-G
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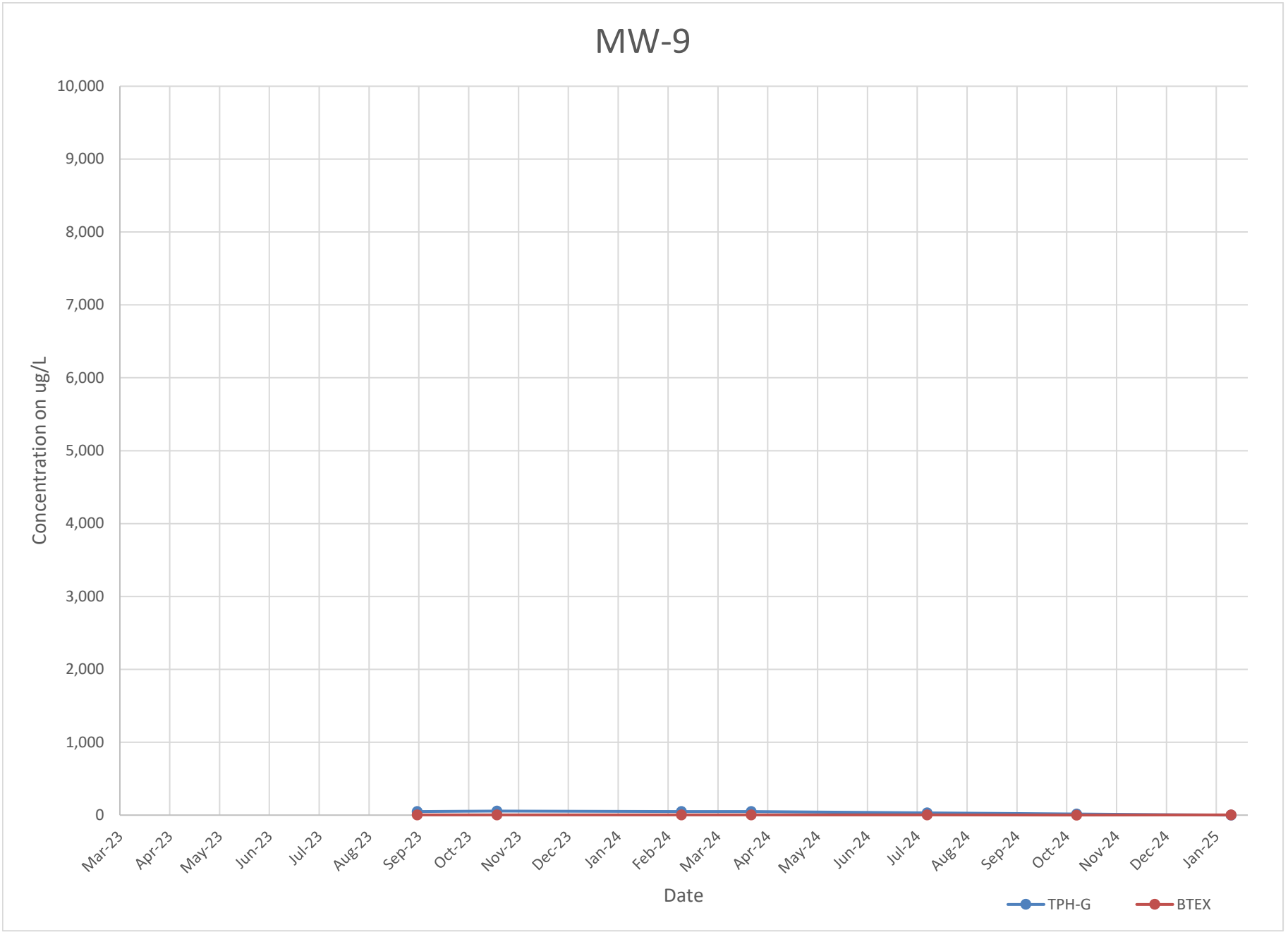
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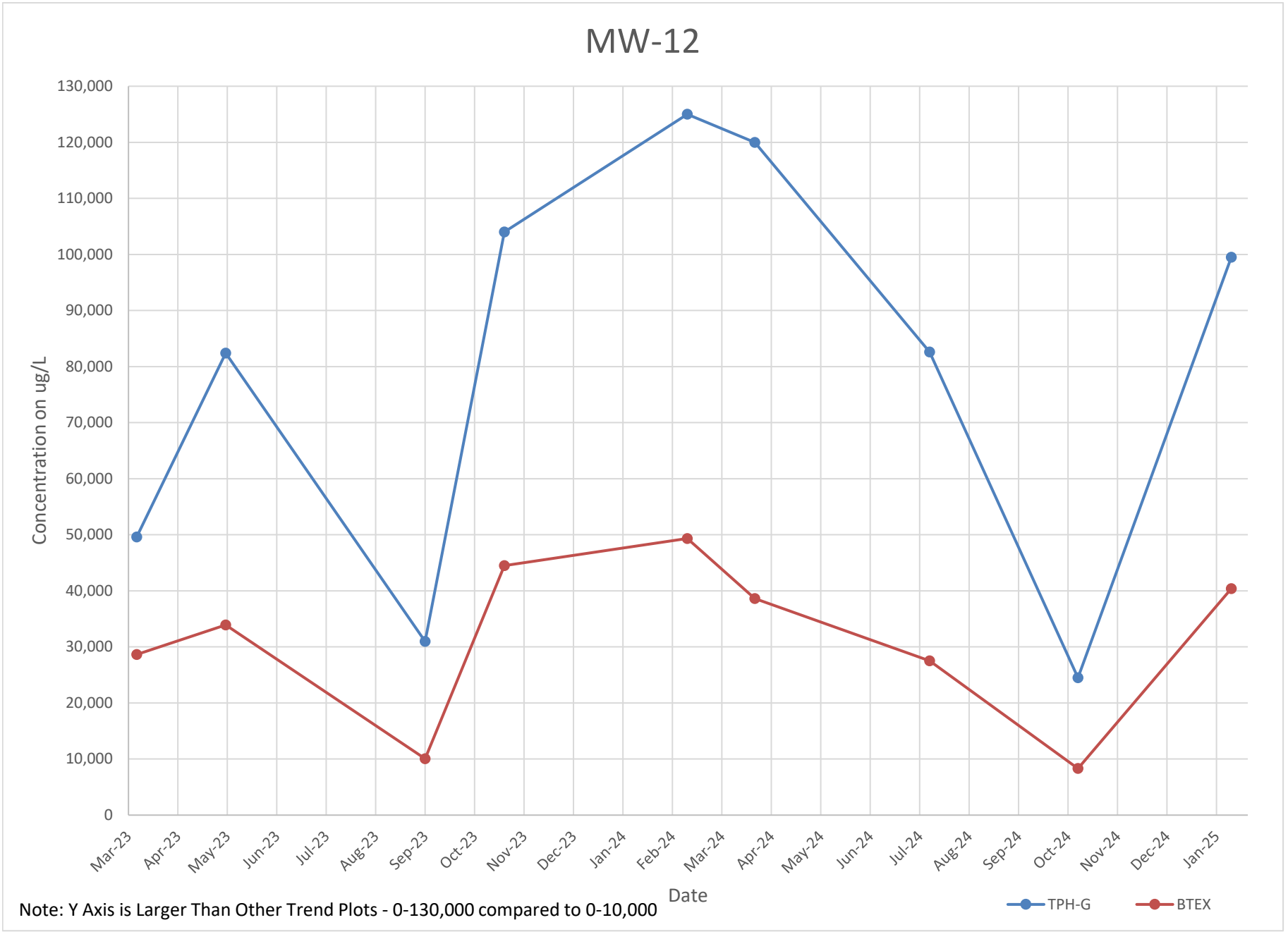
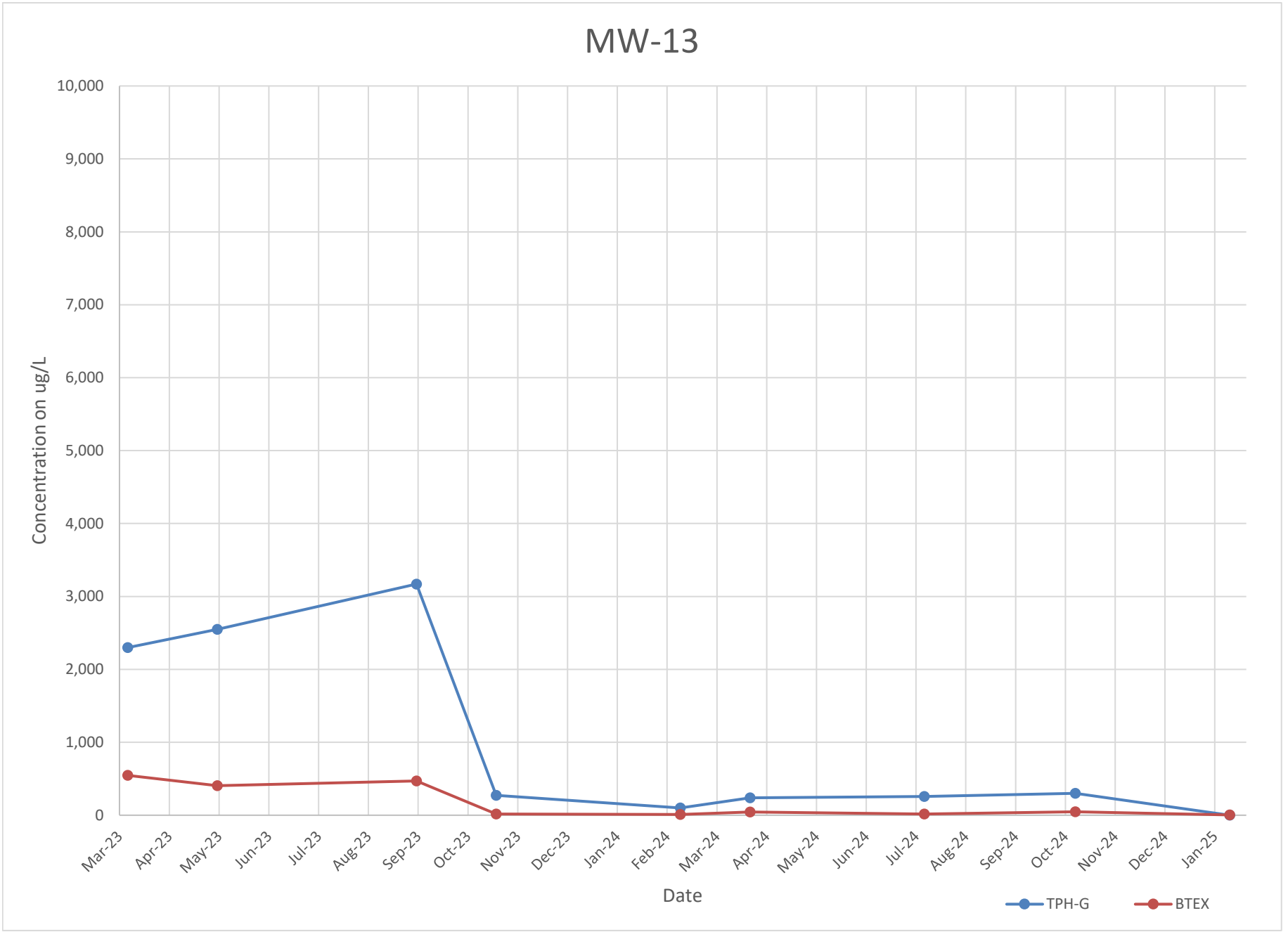
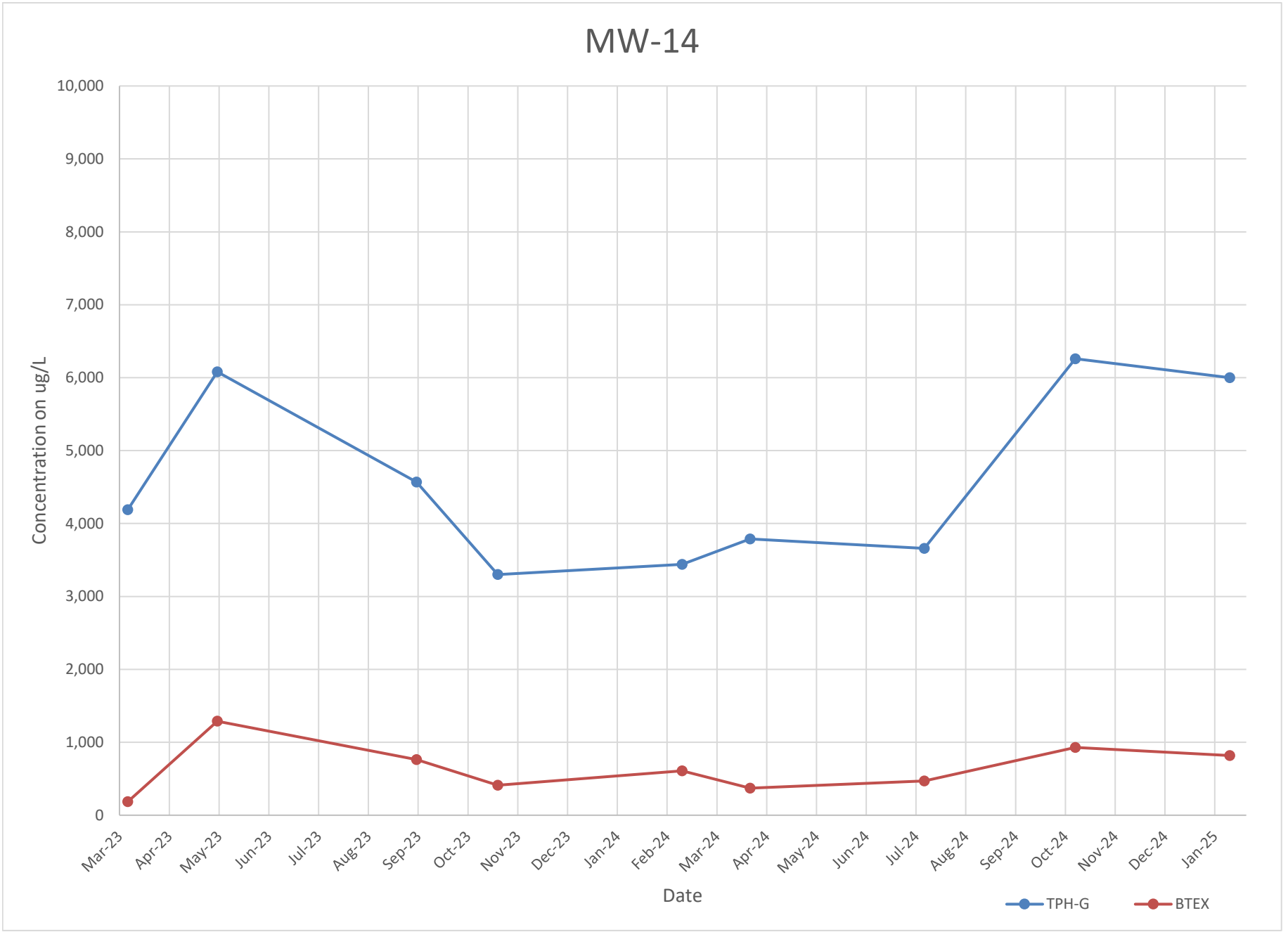
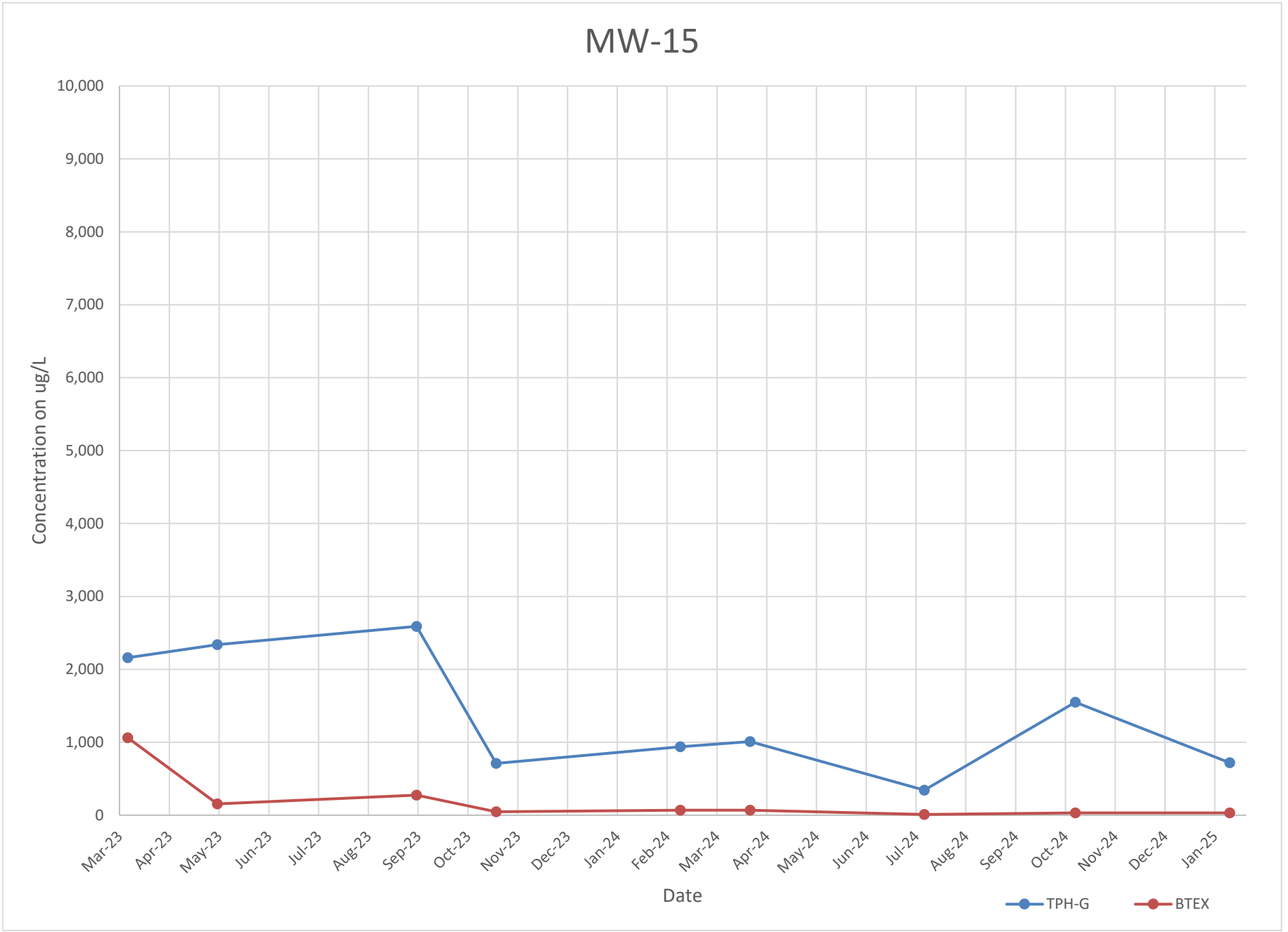
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Concentration on ug/L
Mar-23
Apr-23
May-23
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Date
TPH-G
BTEX



Note: Y Axis is Larger Than Other Trend Plots - 0-130,000 compared to 0-10,000


MW-13
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Concentration on ug/L
Mar-23
Apr-23
May-23
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Date
TPH-G
BTEX


MW-14
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Concentration on ug/L
Mar-23
Apr-23
May-23
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Date
TPH-G
BTEX


MW-15
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Concentration on ug/L
Mar-23
Apr-23
May-23
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Date
TPH-G
BTEX

Appendix C

Laboratory Analytical Reports and Data Quality Review

Appendix C – QA/QC Review

This appendix documents the results of a quality assurance/quality control (QA/QC) review of the analytical data for the first quarter 2025 monitoring event at the former Johnson Oil Site in Clatskanie, Oregon. The groundwater and soil vapor samples were submitted to Pace Analytical Services, LLC (Pace) in Mt. Juliet, Tennessee under their Price Agreement with the Oregon Department of Environmental Quality (DEQ). The ambient air (Radiello) samples were submitted to Eurofins Air Toxics of Folsom, California. Copies of the analytical laboratory reports are included in this appendix.

Laboratory Report	Date Reported	Media
L1819896	January 30, 2025	Groundwater
L1819424	January 28, 2025	Soil Vapor
2501635	February 12, 2025	Ambient Air

1.0 Analytical Methods

Chemical analyses of groundwater samples included in this QA/QC Review consisted of the following:

- Total petroleum hydrocarbons as gasoline (TPH-Gx) by Northwest Method NWTPH-Gx; and
- Volatile organic compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Method 8260D.

Chemical analyses of soil vapor samples included in this QA/QC review consisted of the following:

- TPH (low fraction) and VOCs by EPA Method TO-15.

Chemical analyses of ambient air samples included in this QA/QC review consisted of the following:

- VOCs by EPA Method TO-17 using Radiello 130 sorbent tubes.

2.0 Data Validation

The QA/QC review included examination and validation of the laboratory data packages for the following:

- Analytical preparation and quantitation methods;
- Analytical method holding times;
- Sample handling;
- Chain of custody procedures;
- Detection and reporting limits;
- Method blank detections;

- Laboratory control samples, matrix spikes, and surrogates to assess accuracy; and
- Laboratory control sample duplicates and matrix spike duplicates.

The QA/QC review did not include a review of raw data.

This QA/QC review documents the relationship between analytical findings and data quality objectives based on precision and accuracy. It also summarizes possible error or bias and the effect on data quality and usability.

The laboratory QC samples provided in data packages were used to evaluate laboratory contamination or background interferences, sample preparation efficiency and instrumentation performance. The QC samples provided by the analytical laboratory include method blanks, laboratory control samples (LCS/LCSD), and matrix spikes (MS/MSD). Surrogates are also required for VOC and TPH-Gx analysis to assess sample preparation efficiency and matrix interferences.

2.1 Data Qualifiers

Any data that is found to have possible bias or error was qualified and flagged. The following are definitions of qualifiers used in this data quality report and data tables.

J	Result is an estimated value.
J	Results may be biased low.
B	Analyte was detected in method blank.

3.0 Data Quality Assurance Review

The general QA objectives for this project were to develop and implement procedures for obtaining, evaluating, and confirming the usability of data of a specified quality. To collect such information, analytical data must have an appropriate degree of accuracy and reproducibility, samples collected must be representative of actual field conditions, and samples must be collected and analyzed using unbroken chain of custody procedures.

Reporting limits and analytical results were compared to cleanup and screening levels for each parameter in the matrix of concern. Precision, accuracy, completeness, and comparability parameters used to indicate data quality are discussed below.

3.1 Reporting Limits

Reporting limits are the lowest concentration an instrument is capable of accurately detecting an analyte. Reporting limits are determined by the laboratory and are based on instrumentation capabilities, the matrix of field samples, sample preparation procedures, and EPA suggested reporting limits.

The reporting limits were consistent with method standards and were generally below applicable screening level values. Several analytes in groundwater samples were identified by the laboratory at concentrations that were between the laboratory minimum reporting limit (MRL) and the method detection limit (MDL). These concentrations are estimated values and have been 'J' flagged accordingly.

3.2 Holding Times and Sample Receipt

The holding time is the minimum amount of time the sample can be stored before analytes start to degrade and are not representative of initial sampling concentrations. Holding times are defined by analytical methods and samples were analyzed within the method specified holding time.

The integrity of the groundwater and soil vapor samples received was documented by the Pace Analytical *Sample Receipt Checklist* or *Cooler Receipt Form,* which ensures that samples are representative of the field and were not compromised during shipment. Confirmation of receipt of Radiello passive ambient monitors was documented by Eurofins on the chain of custody and indicated that the samples arrived in good condition.

The chain of custody followed an unbroken procedure and was relinquished by the Apex Companies sampler and received by the analytical laboratory as indicated by signatures. The sample ID, collection time and requested analyses were all clearly and properly filled in by the Apex Companies sampler.

3.3 Method Blanks

A method – or laboratory – blank is a sample prepared in the laboratory along with the actual samples and analyzed for the same parameters at the same time. It is used to assess if detected compounds may have been the result of contamination or background levels in the laboratory. No analytes were detected in the method blanks.

TPH-Gx was detected in the groundwater method blank of analytical batch WG2439626 and WG2439811 at concentrations of 53.9 ug/L and 65.5 ug/L respectively. The associated groundwater concentrations of TPH-Gx for the first quarter 2025 event were generally greater than ten times the method blank concentration with the exception of groundwater samples from MW-9 and MW-13. The TPH-Gx results for these wells may have had significant contribution from laboratory contamination and result is 'J' and 'B' flagged.

3.4 Accuracy

Accuracy is assessed through the comparison of analytes of known concentration to concentrations determined analytically. A percent recovery is calculated from the analytical concentration to the known concentration of analyte, which must be within control limits established by methods. If the percent recovery is outside of control limits, then data might be compromised. The analytical laboratory will provide quality control samples and surrogates to help determine the accuracy of the data provided. These quality control samples and surrogates are discussed below.

3.4.1 Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control duplicate samples (LCSD) were analyzed by the laboratory to assess the analytical methods. One set of LCS and LCSDs were analyzed per analytical batch. The samples were prepared from an analyte-free matrix that is then spiked with known levels of constituents of interest (COI; i.e. a standard). The concentrations were measured, and the results compared to the known spiked levels. This comparison is expressed as a percent recovery.

The LCS associated with batch WG2439781 observed concentrations outside of recovery limits for trans-1,2-dichloroethene in groundwater. This analyte is not presented in the data tables and therefore is not flagged. Any concentrations above the method detection limit should be considered an estimate.

3.4.2 Matrix Samples

A matrix spike QC sample is used to assess the performance of the analytical method by determining potential matrix interferences. Matrix spike (MS) and matrix spike duplicate (MSD) analyses are performed on one environmental sample per analytical batch. A matrix spike sample uses an environmental sample that is spiked with known concentrations of analytes of interest. The matrix spike is then prepared and analyzed with the same analytical procedures as environmental samples in the analytical batch. The resulting concentration of the matrix spike is then compared to the known – or true – values added to the non-spiked environmental sample concentration. This comparison is expressed as a percent recovery. All percent recoveries were within laboratory control limits.

3.4.3 Surrogates

Surrogates are organic compounds that are similar in chemical composition to the analytes of interest but are not likely to be found in the environment. They are spiked into environmental and batch QC samples prior to sample preparation and analysis. Surrogate recoveries for environmental samples are used to evaluate matrix interference and sample preparation and analysis efficiency on a sample-specific basis. Surrogates were recovered within control limits.

3.4.4 Continuing Calibration Verification

Calibration verification samples are analyzed at method-specified intervals to assess the performance and accuracy of the instrumentation. The continuing calibration verification (CCV) failed low for groundwater analysis of bromomethane, n-butylbenzene, 1,2-dibromo-3-chloropropane, and naphthalene in wells MW-7, MW-9, MW-12, MW-13, MW-14, and MW-15. Bromomethane, n-butylbenzene, and 1,2-dibromo-3-chloropropane are not contaminants of concern, but results should be considered estimated with a potential low bias. Naphthalene is a contaminant of concern and detected results are 'J-' flagged as estimated with a potential low bias. Non-detect results for naphthalene are 'UJ' flagged.

3.5 Precision

Precision is measured by how close concentrations of duplicate analyses are to each other. These duplicate analyses are of separate aliquots of the same sample that are prepared or analyzed at the same (or similar) time. Precision in the field ensures that samples taken are representative of field concentrations. Field precision is demonstrated by field duplicates. Analytical precision is measured by the laboratory through duplicate analysis of samples and quality control samples. Precision is estimated by the relative percent difference (RPD) between the original analysis and the duplicate analysis.

3.5.1 Laboratory Control Samples

LCSD analyte concentrations were compared to LCS analyte concentrations to assess the precision of the analytical method. This comparison can be expressed by the relative percent difference (RPD) between the LCS and LCSD samples. RPD values for LCS/LCSDs were within control limits.

3.5.2 Matrix Spike Duplicate

Similar to the LCS/LCSD, the analytical batch MS/MSD analyte concentrations are also compared to each other and expressed as an RPD. RPD values for MS/MSDs were within control limits.

4.0 Conclusion

In conclusion, the QA objectives have been met and the data are of sufficient quality for use in this project.

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Analytical Report

4/9/2025

Ms. Carmen Owens
Apex Companies, LLC (formerly Ash Creek Associates)
15618 SW 72nd Ave

Tigard OR 97224

Project Name: Johnson Oil
Project #: 32-24008422
Workorder #: 2501635R1

Dear Ms. Carmen Owens

The following report includes the data for the above referenced project for sample(s) received on 1/30/2025 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by Passive S.E. RAD130/SKC are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics LLC. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Monica Tran at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Monica Tran

Project Manager

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WORK ORDER #: 2501635R1

Work Order Summary

CLIENT:	Ms. Carmen Owens Apex Companies, LLC 15618 SW 72nd Ave Tigard, OR 97224	**BILL TO:**	Accounts Payable Apex Companies, LLC 15618 SW 72nd Ave Tigard, OR 97224
PHONE:	503-924-4704	**P.O. #**	32-24008422 Task 2
FAX:	503-924-4707	**PROJECT #**	32-24008422 Johnson Oil
DATE RECEIVED:	01/30/2025	**CONTACT:**	Monica Tran
DATE COMPLETED:	02/12/2025		
DATE REISSUED:	04/09/2025		

FRACTION #	NAME	TEST
01A	AMB-3	Passive S.E. RAD130/SKC
02A	AMB-2	Passive S.E. RAD130/SKC
03A	AMB-1	Passive S.E. RAD130/SKC
04A	AMB-4	Passive S.E. RAD130/SKC
05A	Lab Blank	Passive S.E. RAD130/SKC
06A	CCV	Passive S.E. RAD130/SKC
07A	LCS	Passive S.E. RAD130/SKC
07AA	LCSD	Passive S.E. RAD130/SKC

CERTIFIED BY: Heidi Hayes DATE: 04/09/25

Technical Director

Cert. No.: AZ Licensure-AZ0775, FL NELAP-E87680, LA NELAP–02089, MN NELAP-2836569, NH NELAP–209224-A, NJ NELAP-CA016, NY NELAP-11291, TX NELAP-T104704434, UT NELAP-CA009332023-16, VA NELAP-13180, WA NELAP-C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-21
Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, LLC.

LABORATORY NARRATIVE
RAD130 Passive SE by Mod EPA TO-17
Apex Companies, LLC (formerly Ash Creek Associates)
Workorder# 2501635R1

Four Radiello 130 (Solvent) samples were received on January 30, 2025. The laboratory analyzed the charcoal sorbent bed of the passive sampler following modified method EPA TO-17. The VOCs were chemically extracted using carbon disulfide and an aliquot of the extract was injected into a GC/MS for identification and quantification of volatile organic compounds (VOCs).

The mass of each target compound adsorbed by the sampler was converted to units of concentration using the sample deployment time and the sampling rate for each VOC. If sampling rates were calculated by the lab or the manufacturer, the concentration result has been flagged as an estimated value. Results are not corrected for desorption efficiency.

The reference method used for this procedure is EPA TO-17, which describes the collection of VOCs in ambient air using sorbents and analysis by GC/MS. Because TO-17 describes active sample collection using a pump and thermal desorption as the preparation step, several modifications are required. Modifications to TO-17 are listed in the table below:

Requirement	***TO-17***	***ATL Modifications***
Sample Collection	Pump pulls measured air volume through sorbent tube	VOCs in air adsorbed onto sorbent bed passively through diffusion
Sample Preparation	Thermal extraction	Solvent extraction
Sorbent tube conditioning	Condition newly packed tubes prior to use	Charcoal-based sorbent is a single use media and conditioning is conducted by vendor.
Instrumentation	Thermal desorption introduction system	Liquid injection introduction system
Internal Standard	Gas-phase internal standard introduced on the tube or focusing trap during analysis	Liquid-phase internal standard introduced on the tube at the time of extraction
Media and sample storage	<4 deg C, 30 days	Media shelf life is determined by vendor; sample hold-time is 6 months for the RAD130 and WMS. Sample preservation requirements are storage in a cool, solvent-free refrigerator and optional use of ice during shipping.
Internal Standard Recovery	+/-40% of daily CCV area	-50% to +100% of daily CCV area

Receiving Notes

The Chain of Custody contained incorrect method information. The laboratory proceeded with the analysis as per the original contract or verbal agreement.

The work order was reissued on 04/09/2025 to change sample identification for laboratory fractions 01A and 03A to AMB-3 and AMB-1 per the revised Chain of Custody (COC) provided by the client

to the laboratory on 04/09/2025.

Analytical Notes

The uptake rates were corrected based on average field temperatures if provided. In the absence of field temperatures, the uptake rates determined at 25 deg C were used.

To calculate ug/m3 concentrations in the Lab Blank, a sampling duration of 10059 minutes was applied. The assumed temperature used for the uptake rate is listed on the data page. If the field temperatures were provided, the rate was adjusted in the same manner as the field samples.

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

C - Estimated concentration due to calculated sampling rate

CN - See case narrative explanation.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: AMB-3

Lab ID#: 2501635R1-01A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.15	0.12	0.18
Carbon Tetrachloride	0.10	0.15	0.17	0.25
Benzene	0.40	0.50	0.49	0.61
Heptane	0.10	0.17	0.11	0.20
Toluene	0.10	0.13	0.45	0.61
m,p-Xylene	0.10	0.14	0.24	0.34

Client Sample ID: AMB-2

Lab ID#: 2501635R1-02A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.97	7.7	7.5
Hexane	0.10	0.15	0.94	1.4
2-Butanone (Methyl Ethyl Ketone)	0.20	0.25	0.22	0.28
Chloroform	0.10	0.13	0.13	0.17
Cyclohexane	0.10	0.18	0.42	0.77
Carbon Tetrachloride	0.10	0.15	0.22	0.32
Benzene	0.40	0.50	1.0	1.3
Heptane	0.10	0.17	0.63	1.1
Toluene	0.10	0.13	4.4	6.0
Ethyl Benzene	0.10	0.15	0.63	0.92
m,p-Xylene	0.10	0.14	2.5	3.5
o-Xylene	0.10	0.15	0.80	1.2
Propylbenzene	0.10	0.17	0.12	0.22
1,2,4-Trimethylbenzene	0.10	0.20	0.62	1.2

Client Sample ID: AMB-1

Lab ID#: 2501635R1-03A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.98	26	25
Hexane	0.10	0.15	0.58	0.88
Ethyl Acetate	0.40	0.51	0.47	0.60

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Summary of Detected Compounds
VOCS BY PASSIVE SAMPLER - GC/MS

Client Sample ID: AMB-1

Lab ID#: 2501635R1-03A

2-Butanone (Methyl Ethyl Ketone)	0.20	0.25	0.31	0.39
Chloroform	0.10	0.13	0.13	0.17
Cyclohexane	0.10	0.18	0.29	0.54
Carbon Tetrachloride	0.10	0.15	0.18	0.27
Benzene	0.40	0.50	0.78	0.97
Heptane	0.10	0.17	0.44	0.75
Toluene	0.10	0.13	2.6	3.5
Ethyl Benzene	0.10	0.15	0.41	0.60
m,p-Xylene	0.10	0.14	1.6	2.2
o-Xylene	0.10	0.15	0.52	0.80
1,2,4-Trimethylbenzene	0.10	0.20	0.41	0.81

Client Sample ID: AMB-4

Lab ID#: 2501635R1-04A

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Hexane	0.10	0.15	0.12	0.19
Carbon Tetrachloride	0.10	0.15	0.17	0.25
Benzene	0.40	0.50	0.46	0.57
Toluene	0.10	0.13	0.44	0.59
Tetrachloroethene	0.10	0.17	0.24	0.41
m,p-Xylene	0.10	0.14	0.25	0.36

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Client Sample ID: AMB-3

Lab ID#: 2501635R1-01A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18020519sim**	**Date of Collection: 1/28/25 10:07:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/5/25 05:07 PM**	
		Date of Extraction: 2/5/25	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.98	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.15	Not Detected	Not Detected
Hexane	0.10	0.15	0.12	0.18
Ethyl Acetate	0.40	0.51	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.25	Not Detected	Not Detected
Chloroform	0.10	0.13	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.16	Not Detected	Not Detected
Cyclohexane	0.10	0.18	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.15	0.17	0.25
Benzene	0.40	0.50	0.49	0.61
1,2-Dichloroethane	0.10	0.13	Not Detected	Not Detected
Heptane	0.10	0.17	0.11	0.20
Trichloroethene	0.10	0.14	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.30	Not Detected	Not Detected
Toluene	0.10	0.13	0.45	0.61
Tetrachloroethene	0.10	0.17	Not Detected	Not Detected
Chlorobenzene	0.10	0.15	Not Detected	Not Detected
Ethyl Benzene	0.10	0.15	Not Detected	Not Detected
m,p-Xylene	0.10	0.14	0.24	0.34
o-Xylene	0.10	0.15	Not Detected	Not Detected
Styrene	0.10	0.16	Not Detected	Not Detected
Propylbenzene	0.10	0.17	Not Detected	Not Detected
1,2,4-Trimethylbenzene	0.10	0.20	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.20	Not Detected	Not Detected
Naphthalene	0.10	0.40	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10046 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130

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Client Sample ID: AMB-2

Lab ID#: 2501635R1-02A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18020520sim**	**Date of Collection: 1/28/25 10:03:00 AM**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/5/25 05:34 PM**	
		Date of Extraction: 2/5/25	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.97	7.7	7.5
Methyl tert-butyl ether	0.10	0.15	Not Detected	Not Detected
Hexane	0.10	0.15	0.94	1.4
Ethyl Acetate	0.40	0.51	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.25	0.22	0.28
Chloroform	0.10	0.13	0.13	0.17
1,1,1-Trichloroethane	0.10	0.16	Not Detected	Not Detected
Cyclohexane	0.10	0.18	0.42	0.77
Carbon Tetrachloride	0.10	0.15	0.22	0.32
Benzene	0.40	0.50	1.0	1.3
1,2-Dichloroethane	0.10	0.13	Not Detected	Not Detected
Heptane	0.10	0.17	0.63	1.1
Trichloroethene	0.10	0.14	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.30	Not Detected	Not Detected
Toluene	0.10	0.13	4.4	6.0
Tetrachloroethene	0.10	0.17	Not Detected	Not Detected
Chlorobenzene	0.10	0.15	Not Detected	Not Detected
Ethyl Benzene	0.10	0.15	0.63	0.92
m,p-Xylene	0.10	0.14	2.5	3.5
o-Xylene	0.10	0.15	0.80	1.2
Styrene	0.10	0.16	Not Detected	Not Detected
Propylbenzene	0.10	0.17	0.12	0.22
1,2,4-Trimethylbenzene	0.10	0.20	0.62	1.2
1,4-Dichlorobenzene	0.10	0.19	Not Detected	Not Detected
Naphthalene	0.10	0.40	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10059 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130

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Client Sample ID: AMB-1

Lab ID#: 2501635R1-03A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18020521sim**	**Date of Collection:**	**1/28/25 10:00:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis:**	**2/5/25 06:01 PM**
		Date of Extraction:	**2/5/25**

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.98	26	25
Methyl tert-butyl ether	0.10	0.15	Not Detected	Not Detected
Hexane	0.10	0.15	0.58	0.88
Ethyl Acetate	0.40	0.51	0.47	0.60
2-Butanone (Methyl Ethyl Ketone)	0.20	0.25	0.31	0.39
Chloroform	0.10	0.13	0.13	0.17
1,1,1-Trichloroethane	0.10	0.16	Not Detected	Not Detected
Cyclohexane	0.10	0.18	0.29	0.54
Carbon Tetrachloride	0.10	0.15	0.18	0.27
Benzene	0.40	0.50	0.78	0.97
1,2-Dichloroethane	0.10	0.13	Not Detected	Not Detected
Heptane	0.10	0.17	0.44	0.75
Trichloroethene	0.10	0.14	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.30	Not Detected	Not Detected
Toluene	0.10	0.13	2.6	3.5
Tetrachloroethene	0.10	0.17	Not Detected	Not Detected
Chlorobenzene	0.10	0.15	Not Detected	Not Detected
Ethyl Benzene	0.10	0.15	0.41	0.60
m,p-Xylene	0.10	0.14	1.6	2.2
o-Xylene	0.10	0.15	0.52	0.80
Styrene	0.10	0.16	Not Detected	Not Detected
Propylbenzene	0.10	0.17	Not Detected	Not Detected
1,2,4-Trimethylbenzene	0.10	0.20	0.41	0.81
1,4-Dichlorobenzene	0.10	0.20	Not Detected	Not Detected
Naphthalene	0.10	0.40	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10046 minutes.
Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130

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Client Sample ID: AMB-4

Lab ID#: 2501635R1-04A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18020522sim**	**Date of Collection: 1/28/25 10:10:00 AM**
Dil. Factor:	**1.00**	**Date of Analysis: 2/5/25 06:29 PM**
		Date of Extraction: 2/5/25

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.98	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.15	Not Detected	Not Detected
Hexane	0.10	0.15	0.12	0.19
Ethyl Acetate	0.40	0.51	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.25	Not Detected	Not Detected
Chloroform	0.10	0.13	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.16	Not Detected	Not Detected
Cyclohexane	0.10	0.18	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.15	0.17	0.25
Benzene	0.40	0.50	0.46	0.57
1,2-Dichloroethane	0.10	0.13	Not Detected	Not Detected
Heptane	0.10	0.17	Not Detected	Not Detected
Trichloroethene	0.10	0.14	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.30	Not Detected	Not Detected
Toluene	0.10	0.13	0.44	0.59
Tetrachloroethene	0.10	0.17	0.24	0.41
Chlorobenzene	0.10	0.15	Not Detected	Not Detected
Ethyl Benzene	0.10	0.15	Not Detected	Not Detected
m,p-Xylene	0.10	0.14	0.25	0.36
o-Xylene	0.10	0.15	Not Detected	Not Detected
Styrene	0.10	0.16	Not Detected	Not Detected
Propylbenzene	0.10	0.17	Not Detected	Not Detected
1,2,4-Trimethylbenzene	0.10	0.20	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.20	Not Detected	Not Detected
Naphthalene	0.10	0.40	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10040 minutes.
Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2501635R1-05A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18020505sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/5/25 10:41 AM**	
		Date of Extraction: 2/5/25	

Compound	Rpt. Limit (ug)	Rpt. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
Ethanol	1.0	0.97	Not Detected	Not Detected
Methyl tert-butyl ether	0.10	0.15	Not Detected	Not Detected
Hexane	0.10	0.15	Not Detected	Not Detected
Ethyl Acetate	0.40	0.51	Not Detected	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.20	0.25	Not Detected	Not Detected
Chloroform	0.10	0.13	Not Detected	Not Detected
1,1,1-Trichloroethane	0.10	0.16	Not Detected	Not Detected
Cyclohexane	0.10	0.18	Not Detected	Not Detected
Carbon Tetrachloride	0.10	0.15	Not Detected	Not Detected
Benzene	0.40	0.50	Not Detected	Not Detected
1,2-Dichloroethane	0.10	0.13	Not Detected	Not Detected
Heptane	0.10	0.17	Not Detected	Not Detected
Trichloroethene	0.10	0.14	Not Detected	Not Detected
4-Methyl-2-pentanone	0.20	0.30	Not Detected	Not Detected
Toluene	0.10	0.13	Not Detected	Not Detected
Tetrachloroethene	0.10	0.17	Not Detected	Not Detected
Chlorobenzene	0.10	0.15	Not Detected	Not Detected
Ethyl Benzene	0.10	0.15	Not Detected	Not Detected
m,p-Xylene	0.10	0.14	Not Detected	Not Detected
o-Xylene	0.10	0.15	Not Detected	Not Detected
Styrene	0.10	0.16	Not Detected	Not Detected
Propylbenzene	0.10	0.17	Not Detected	Not Detected
1,2,4-Trimethylbenzene	0.10	0.20	Not Detected	Not Detected
1,4-Dichlorobenzene	0.10	0.19	Not Detected	Not Detected
Naphthalene	0.10	0.40	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10059 minutes.

Container Type: Radiello 130 (Solvent)

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 2501635R1-06A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18020502sim**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 2/5/25 09:19 AM**
		Date of Extraction: NA

Compound	%Recovery
Ethanol	83
Methyl tert-butyl ether	114
Hexane	113
Ethyl Acetate	104
2-Butanone (Methyl Ethyl Ketone)	105
Chloroform	109
1,1,1-Trichloroethane	105
Cyclohexane	105
Carbon Tetrachloride	105
Benzene	101
1,2-Dichloroethane	115
Heptane	106
Trichloroethene	103
4-Methyl-2-pentanone	109
Toluene	106
Tetrachloroethene	102
Chlorobenzene	107
Ethyl Benzene	105
m,p-Xylene	105
o-Xylene	106
Styrene	108
Propylbenzene	113
1,2,4-Trimethylbenzene	111
1,4-Dichlorobenzene	107
Naphthalene	104

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130

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Client Sample ID: LCS

Lab ID#: 2501635R1-07A

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18020503sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/5/25 09:46 AM**	
		Date of Extraction: 2/5/25	

Compound	%Recovery	Method Limits
Ethanol	54	50-130
Methyl tert-butyl ether	90	70-130
Hexane	92	70-130
Ethyl Acetate	81	70-130
2-Butanone (Methyl Ethyl Ketone)	78	70-130
Chloroform	84	70-130
1,1,1-Trichloroethane	80	70-130
Cyclohexane	84	70-130
Carbon Tetrachloride	80	70-130
Benzene	75	70-130
1,2-Dichloroethane	85	70-130
Heptane	83	70-130
Trichloroethene	80	70-130
4-Methyl-2-pentanone	81	70-130
Toluene	80	70-130
Tetrachloroethene	77	70-130
Chlorobenzene	78	70-130
Ethyl Benzene	80	70-130
m,p-Xylene	79	70-130
o-Xylene	77	70-130
Styrene	51	20-100
Propylbenzene	86	70-130
1,2,4-Trimethylbenzene	80	70-130
1,4-Dichlorobenzene	71	50-110
Naphthalene	26	5-80

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130

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Client Sample ID: LCSD

Lab ID#: 2501635R1-07AA

VOCS BY PASSIVE SAMPLER - GC/MS

File Name:	**18020504sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 2/5/25 10:13 AM**	
		Date of Extraction: 2/5/25	

Compound	%Recovery	Method Limits
Ethanol	50	50-130
Methyl tert-butyl ether	90	70-130
Hexane	91	70-130
Ethyl Acetate	81	70-130
2-Butanone (Methyl Ethyl Ketone)	77	70-130
Chloroform	84	70-130
1,1,1-Trichloroethane	79	70-130
Cyclohexane	83	70-130
Carbon Tetrachloride	79	70-130
Benzene	74	70-130
1,2-Dichloroethane	84	70-130
Heptane	83	70-130
Trichloroethene	80	70-130
4-Methyl-2-pentanone	81	70-130
Toluene	80	70-130
Tetrachloroethene	77	70-130
Chlorobenzene	78	70-130
Ethyl Benzene	80	70-130
m,p-Xylene	79	70-130
o-Xylene	77	70-130
Styrene	52	20-100
Propylbenzene	87	70-130
1,2,4-Trimethylbenzene	81	70-130
1,4-Dichlorobenzene	71	50-110
Naphthalene	26	5-80

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130

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Method : Passive SE GC/MS - Full 130 (rev 2023)

CAS Number	Compound	Rpt. Limit (ug)
64-17-5	Ethanol	1.0
1634-04-4	Methyl tert-butyl ether	0.10
110-54-3	Hexane	0.10
141-78-6	Ethyl Acetate	0.40
78-93-3	2-Butanone (Methyl Ethyl Ketone)	0.20
67-66-3	Chloroform	0.10
71-55-6	1,1,1-Trichloroethane	0.10
110-82-7	Cyclohexane	0.10
56-23-5	Carbon Tetrachloride	0.10
71-43-2	Benzene	0.40
107-06-2	1,2-Dichloroethane	0.10
142-82-5	Heptane	0.10
79-01-6	**Trichloroethene**	**0.10**
108-10-1	4-Methyl-2-pentanone	0.20
108-88-3	Toluene	0.10
127-18-4	Tetrachloroethene	0.10
108-90-7	Chlorobenzene	0.10
100-41-4	Ethyl Benzene	0.10
108-38-3	m,p-Xylene	0.10
95-47-6	o-Xylene	0.10
100-42-5	Styrene	0.10
103-65-1	Propylbenzene	0.10
95-63-6	1,2,4-Trimethylbenzene	0.10
106-46-7	1,4-Dichlorobenzene	0.10
91-20-3	Naphthalene	0.10

	Surrogate	Method Limits
2037-26-5	Toluene-d8	70-130

ANALYTICAL REPORT

January 28, 2025

Oregon Dept. of Env. Quality - ODEQ

Sample Delivery Group:	L1819424
Samples Received:	01/23/2025
Project Number:	32-24008422
Description:	Johnson Oil
Report To:	Kara Master

Entire Report Reviewed By:

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

SG-7 L1819424-01 Air

Collected by: Christine Weer
Collected date/time: 01/21/25 10:26
Received date/time: 01/23/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2439175	1	01/24/25 18:01	01/24/25 18:01	JAP	Mt. Juliet, TN

SG-8 L1819424-02 Air

Collected by: Christine Weer
Collected date/time: 01/21/25 10:36
Received date/time: 01/23/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2439175	1	01/24/25 18:29	01/24/25 18:29	JAP	Mt. Juliet, TN

SG-10 L1819424-03 Air

Collected by: Christine Weer
Collected date/time: 01/21/25 11:00
Received date/time: 01/23/25 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2439175	1	01/24/25 18:57	01/24/25 18:57	JAP	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Project Manager

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	2.54	6.04		1	WG2439175
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2439175
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2439175
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2439175
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2439175
Bromoform	75-25-2	253	0.630	6.52	ND	ND		1	WG2439175
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2439175
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2439175
Carbon disulfide	75-15-0	76.10	0.400	1.24	0.671	2.09		1	WG2439175
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2439175
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2439175
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2439175
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2439175
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG2439175
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2439175
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2439175
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2439175
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2439175
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2439175
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2439175
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2439175
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2439175
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2439175
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2439175
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2439175
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2439175
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2439175
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2439175
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2439175
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2439175
Ethanol	64-17-5	46.10	2.50	4.71	6.35	12.0		1	WG2439175
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2439175
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.397	1.95		1	WG2439175
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.223	1.25		1	WG2439175
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	ND	ND		1	WG2439175
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2439175
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2439175
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2439175
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2439175
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2439175
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2439175
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG2439175
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2439175
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2439175
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2439175
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2439175
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2439175
Naphthalene	91-20-3	128	0.630	3.30	3.33	17.4		1	WG2439175
2-Propanol	67-63-0	60.10	1.25	3.07	1.49	3.66		1	WG2439175
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2439175
n-Propylbenzene	103-65-1	120	0.200	0.982	0.382	1.87		1	WG2439175
Styrene	100-42-5	104	0.400	1.70	ND	ND		1	WG2439175
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2439175
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.243	1.65		1	WG2439175
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	0.226	0.666		1	WG2439175
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2439175

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2439175
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2439175
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2439175
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2439175
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	2.83	13.9		1	WG2439175
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	1.20	5.89		1	WG2439175
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG2439175
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2439175
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2439175
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2439175
m&p-Xylene	179601-23-1	106	0.400	1.73	0.503	2.18		1	WG2439175
o-Xylene	95-47-6	106	0.200	0.867	0.393	1.70		1	WG2439175
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	214	884		1	WG2439175
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*94.3*				WG2439175

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	4.19	9.96		1	WG2439175
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2439175
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2439175
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2439175
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2439175
Bromoform	75-25-2	253	0.630	6.52	ND	ND		1	WG2439175
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2439175
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2439175
Carbon disulfide	75-15-0	76.10	0.400	1.24	0.799	2.49		1	WG2439175
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2439175
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2439175
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2439175
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2439175
Chloromethane	74-87-3	50.50	0.200	0.413	0.270	0.558		1	WG2439175
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2439175
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2439175
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2439175
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2439175
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2439175
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2439175
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2439175
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2439175
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2439175
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2439175
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2439175
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2439175
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2439175
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2439175
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2439175
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2439175
Ethanol	64-17-5	46.10	2.50	4.71	13.0	24.5		1	WG2439175
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2439175
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2439175
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.222	1.25		1	WG2439175
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.446	2.21		1	WG2439175
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2439175
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2439175
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2439175
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2439175
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2439175
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2439175
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.338	1.17		1	WG2439175
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2439175
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2439175
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2439175
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2439175
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2439175
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2439175
2-Propanol	67-63-0	60.10	1.25	3.07	1.76	4.33		1	WG2439175
Propene	115-07-1	42.10	1.25	2.15	1.54	2.65		1	WG2439175
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2439175
Styrene	100-42-5	104	0.400	1.70	ND	ND		1	WG2439175
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2439175
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG2439175
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	0.233	0.687		1	WG2439175
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2439175

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2439175
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2439175
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2439175
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2439175
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG2439175
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2439175
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.259	1.21		1	WG2439175
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2439175
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2439175
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2439175
m&p-Xylene	179601-23-1	106	0.400	1.73	ND	ND		1	WG2439175
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2439175
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2439175
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*92.0*				WG2439175

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	2.81	6.68		1	WG2439175
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2439175
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2439175
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2439175
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2439175
Bromoform	75-25-2	253	0.630	6.52	ND	ND		1	WG2439175
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2439175
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2439175
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		1	WG2439175
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2439175
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2439175
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2439175
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2439175
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG2439175
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2439175
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2439175
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2439175
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2439175
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2439175
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2439175
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2439175
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2439175
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2439175
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2439175
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2439175
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2439175
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2439175
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2439175
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2439175
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2439175
Ethanol	64-17-5	46.10	2.50	4.71	7.62	14.4		1	WG2439175
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2439175
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2439175
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.205	1.15		1	WG2439175
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.425	2.10		1	WG2439175
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2439175
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2439175
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2439175
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2439175
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2439175
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2439175
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.254	0.882		1	WG2439175
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2439175
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2439175
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2439175
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2439175
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2439175
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2439175
2-Propanol	67-63-0	60.10	1.25	3.07	1.28	3.15		1	WG2439175
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2439175
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2439175
Styrene	100-42-5	104	0.400	1.70	ND	ND		1	WG2439175
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2439175
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG2439175
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	0.202	0.596		1	WG2439175
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2439175

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2439175
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2439175
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2439175
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2439175
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG2439175
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2439175
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG2439175
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2439175
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2439175
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2439175
m&p-Xylene	179601-23-1	106	0.400	1.73	ND	ND		1	WG2439175
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2439175
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2439175
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*87.7*				WG2439175

Method Blank (MB)

(MB) R4170985-3 01/24/25 09:20

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.520	1.25
Allyl chloride	U		0.186	0.200
Benzene	U		0.110	0.200
Benzyl Chloride	U		0.0888	0.200
Bromodichloromethane	U		0.0695	0.200
Bromoform	U		0.0755	0.630
Bromomethane	U		0.0938	0.200
1,3-Butadiene	U		0.158	2.00
Carbon disulfide	U		0.160	0.400
Carbon tetrachloride	U		0.0746	0.200
Chlorobenzene	U		0.118	0.200
Chloroethane	U		0.110	0.200
Chloroform	U		0.104	0.200
Chloromethane	U		0.110	0.200
2-Chlorotoluene	U		0.0787	0.200
Cyclohexane	U		0.170	0.200
Dibromochloromethane	U		0.0696	0.200
1,2-Dibromoethane	U		0.0690	0.200
1,2-Dichlorobenzene	U		0.0734	0.200
1,3-Dichlorobenzene	U		0.0753	0.200
1,4-Dichlorobenzene	U		0.0768	0.200
1,2-Dichloroethane	U		0.0730	0.200
1,1-Dichloroethane	U		0.0710	0.200
1,1-Dichloroethene	U		0.0747	0.200
cis-1,2-Dichloroethene	U		0.0796	0.200
trans-1,2-Dichloroethene	U		0.0735	0.200
1,2-Dichloropropane	U		0.0752	0.200
cis-1,3-Dichloropropene	U		0.0743	0.200
trans-1,3-Dichloropropene	U		0.0795	0.200
1,4-Dioxane	U		0.164	0.630
Ethanol	U		2.37	2.50
Ethylbenzene	U		0.0778	0.200
4-Ethyltoluene	U		0.0887	0.200
Trichlorofluoromethane	U		0.0771	0.200
Dichlorodifluoromethane	U		0.0806	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0751	0.200
1,2-Dichlorotetrafluoroethane	U		0.0756	0.200
Heptane	U		0.114	0.200
Hexachloro-1,3-butadiene	U		0.0800	0.630
n-Hexane	U		0.143	0.630

Method Blank (MB)

(MB) R4170985-3 01/24/25 09:20

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Isopropylbenzene	U		0.0722	0.200
Methylene Chloride	U		0.169	0.200
Methyl Butyl Ketone	U		0.133	1.25
2-Butanone (MEK)	U		0.116	1.25
4-Methyl-2-pentanone (MIBK)	U		0.106	1.25
Methyl methacrylate	U		0.169	0.200
MTBE	U		0.0813	0.200
Naphthalene	U		0.617	0.630
2-Propanol	U		0.680	1.25
Propene	U		0.214	1.25
n-Propylbenzene	U		0.0807	0.200
Styrene	U		0.0802	0.400
1,1,2,2-Tetrachloroethane	U		0.0695	0.200
Tetrachloroethylene	U		0.111	0.200
Tetrahydrofuran	U		0.164	0.200
Toluene	U		0.130	0.500
1,2,4-Trichlorobenzene	U		0.462	0.630
1,1,1-Trichloroethane	U		0.0718	0.200
1,1,2-Trichloroethane	U		0.0683	0.200
Trichloroethylene	U		0.0680	0.200
1,2,4-Trimethylbenzene	U		0.0927	0.200
1,3,5-Trimethylbenzene	U		0.0853	0.200
2,2,4-Trimethylpentane	U		0.0898	0.200
Vinyl chloride	U		0.0826	0.200
Vinyl Bromide	U		0.0749	0.200
Vinyl acetate	U		0.0968	0.630
m&p-Xylene	U		0.174	0.400
o-Xylene	U		0.0887	0.200
TPH (GC/MS) Low Fraction	U		68.3	200
(S) 1,4-Bromofluorobenzene	*92.7*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4170985-1 01/24/25 08:23 • (LCSD) R4170985-2 01/24/25 08:53

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	3.75	3.42	3.31	91.2	88.3	70.0-130			3.27	25
Allyl chloride	3.75	3.82	3.74	102	99.7	70.0-130			2.12	25
Benzene	3.75	3.59	3.58	95.7	95.5	70.0-130			0.279	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4170985-1 01/24/25 08:23 • (LCSD) R4170985-2 01/24/25 08:53

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzyl Chloride	3.75	3.63	3.53	96.8	94.1	70.0-152			2.79	25
Bromodichloromethane	3.75	3.72	3.66	99.2	97.6	70.0-130			1.63	25
Bromoform	3.75	3.13	3.08	83.5	82.1	70.0-130			1.61	25
Bromomethane	3.75	3.75	3.68	100	98.1	70.0-130			1.88	25
1,3-Butadiene	3.75	3.47	3.48	92.5	92.8	70.0-130			0.288	25
Carbon disulfide	7.50	7.37	7.25	98.3	96.7	70.0-130			1.64	25
Carbon tetrachloride	3.75	3.81	3.71	102	98.9	70.0-130			2.66	25
Chlorobenzene	3.75	4.07	4.00	109	107	70.0-130			1.73	25
Chloroethane	3.75	3.49	3.53	93.1	94.1	70.0-130			1.14	25
Chloroform	3.75	3.74	3.69	99.7	98.4	70.0-130			1.35	25
Chloromethane	3.75	3.36	3.29	89.6	87.7	70.0-130			2.11	25
2-Chlorotoluene	3.75	3.80	3.76	101	100	70.0-130			1.06	25
Cyclohexane	3.75	3.74	3.66	99.7	97.6	70.0-130			2.16	25
Dibromochloromethane	3.75	3.78	3.74	101	99.7	70.0-130			1.06	25
1,2-Dibromoethane	3.75	3.94	3.94	105	105	70.0-130			0.000	25
1,2-Dichlorobenzene	3.75	4.09	4.03	109	107	70.0-130			1.48	25
1,3-Dichlorobenzene	3.75	4.12	4.01	110	107	70.0-130			2.71	25
1,4-Dichlorobenzene	3.75	3.97	3.92	106	105	70.0-130			1.27	25
1,2-Dichloroethane	3.75	3.64	3.70	97.1	98.7	70.0-130			1.63	25
1,1-Dichloroethane	3.75	3.69	3.63	98.4	96.8	70.0-130			1.64	25
1,1-Dichloroethene	3.75	3.58	3.55	95.5	94.7	70.0-130			0.842	25
cis-1,2-Dichloroethene	3.75	3.69	3.57	98.4	95.2	70.0-130			3.31	25
trans-1,2-Dichloroethene	3.75	3.69	3.60	98.4	96.0	70.0-130			2.47	25
1,2-Dichloropropane	3.75	3.78	3.72	101	99.2	70.0-130			1.60	25
cis-1,3-Dichloropropene	3.75	3.71	3.76	98.9	100	70.0-130			1.34	25
trans-1,3-Dichloropropene	3.75	3.74	3.69	99.7	98.4	70.0-130			1.35	25
1,4-Dioxane	3.75	4.02	3.91	107	104	70.0-140			2.77	25
Ethanol	3.75	2.97	3.01	79.2	80.3	55.0-148			1.34	25
Ethylbenzene	3.75	3.83	3.77	102	101	70.0-130			1.58	25
4-Ethyltoluene	3.75	4.12	4.09	110	109	70.0-130			0.731	25
Trichlorofluoromethane	3.75	3.69	3.68	98.4	98.1	70.0-130			0.271	25
Dichlorodifluoromethane	3.75	3.64	3.63	97.1	96.8	64.0-139			0.275	25
1,1,2-Trichlorotrifluoroethane	3.75	3.72	3.67	99.2	97.9	70.0-130			1.35	25
1,2-Dichlorotetrafluoroethane	3.75	3.68	3.66	98.1	97.6	70.0-130			0.545	25
Heptane	3.75	3.69	3.61	98.4	96.3	70.0-130			2.19	25
Hexachloro-1,3-butadiene	3.75	3.94	3.81	105	102	70.0-151			3.35	25
n-Hexane	3.75	3.63	3.60	96.8	96.0	70.0-130			0.830	25
Isopropylbenzene	3.75	3.92	3.88	105	103	70.0-130			1.03	25
Methylene Chloride	3.75	3.41	3.34	90.9	89.1	70.0-130			2.07	25
Methyl Butyl Ketone	3.75	3.64	3.54	97.1	94.4	70.0-149			2.79	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4170985-1 01/24/25 08:23 • (LCSD) R4170985-2 01/24/25 08:53

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2-Butanone (MEK)	3.75	3.73	3.66	99.5	97.6	70.0-130			1.89	25
4-Methyl-2-pentanone (MIBK)	3.75	3.79	3.74	101	99.7	70.0-139			1.33	25
Methyl methacrylate	3.75	3.76	3.67	100	97.9	70.0-130			2.42	25
MTBE	3.75	3.69	3.66	98.4	97.6	70.0-130			0.816	25
Naphthalene	3.75	3.78	3.74	101	99.7	70.0-159			1.06	25
2-Propanol	3.75	3.35	3.31	89.3	88.3	70.0-139			1.20	25
Propene	3.75	3.54	3.46	94.4	92.3	64.0-144			2.29	25
n-Propylbenzene	3.75	4.03	3.94	107	105	70.0-130			2.26	25
Styrene	7.50	8.33	8.27	111	110	70.0-130			0.723	25
1,1,2,2-Tetrachloroethane	3.75	3.78	3.73	101	99.5	70.0-130			1.33	25
Tetrachloroethylene	3.75	4.08	4.04	109	108	70.0-130			0.985	25
Tetrahydrofuran	3.75	3.54	3.45	94.4	92.0	70.0-137			2.58	25
Toluene	3.75	3.87	3.85	103	103	70.0-130			0.518	25
1,2,4-Trichlorobenzene	3.75	3.67	3.56	97.9	94.9	70.0-160			3.04	25
1,1,1-Trichloroethane	3.75	3.75	3.69	100	98.4	70.0-130			1.61	25
1,1,2-Trichloroethane	3.75	3.95	3.86	105	103	70.0-130			2.30	25
Trichloroethylene	3.75	3.84	3.86	102	103	70.0-130			0.519	25
1,2,4-Trimethylbenzene	3.75	4.01	3.98	107	106	70.0-130			0.751	25
1,3,5-Trimethylbenzene	3.75	4.17	4.10	111	109	70.0-130			1.69	25
2,2,4-Trimethylpentane	3.75	3.80	3.65	101	97.3	70.0-130			4.03	25
Vinyl chloride	3.75	3.59	3.57	95.7	95.2	70.0-130			0.559	25
Vinyl Bromide	3.75	3.82	3.78	102	101	70.0-130			1.05	25
Vinyl acetate	3.75	2.77	2.69	73.9	71.7	70.0-130			2.93	25
m&p-Xylene	7.50	7.85	7.65	105	102	70.0-130			2.58	25
o-Xylene	3.75	4.07	4.02	109	107	70.0-130			1.24	25
TPH (GC/MS) Low Fraction	188	172	169	91.5	89.9	70.0-130			1.76	25
(S) 1,4-Bromofluorobenzene				*101*	*99.6*	*60.0-140*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Pace® Location Requested (City/State):

Air CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here: L1819429

Sample Receipt Checklist
COC Seal Present/Intact: Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Airs: 3
Size: 1L 6L 1.4L
Tage Color: G W P B
Tubing Shunt
Unused: 1
T/P#:

Company Name: Apex Companies, LLC - Portland, OR	Contact/Report To: Kara Master
Street Address: 15618 SW 72nd Ave.	Phone #: 503-924-4704
City, State Zip: Tigard, OR 97224	E-Mail: Kara.E.MASTER@deq.oregon.gov
Customer Project #: 32-24008422	Cc E-Mail: carmen.owens@apexcos.com
Project Name: Johnson Oil	Invoice to: Apex Companies, LLC
Site Collection Info/Facility ID (as applicable): Johnson Oil	Invoice E-Mail: carmen.owens@apexcos.com
Time Zone Collected: [ ] AK [X] PT [ ] MT [ ] CT [ ] ET	Purchase Order # (if applicable):
	Quote #:
	State origin of sample(s): Oregon

Data Deliverables:
[ ] Level II [X] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (CAA, RCRA, etc.) as applicable:

Rush (Pre-approval required): 2 Day 3 day 5 day Other

Permit # as applicable:

Date Results Requested:

Units for Reporting: ug/m³ PPBV mg/m³ PPMV

Field Information

Analyses Requested

Lab Use Only
Proj. Manager:
AcctNum / Client ID:
Table: M058
Profile / Template:
Prelog / Bottle Ord. ID: P1026203

* Matrix Codes (Insert in Matrix box below): Ambient (A), Indoor (I), Soil Vapor (SV), Other (O)

Customer Sample ID	Matrix *	Summa Canister ID	Flow Controller ID	Begin Collection Date	Begin Collection Time	End Collection Date	End Collection Time	Canister Pressure / Vacuum: Start Pressure / Vacuum (in Hg)	Canister Pressure / Vacuum: End Pressure / Vacuum (in Hg)	PUF / FILTER: Duration (minutes)	PUF / FILTER: Flow Rate m³/min or L/min	PUF / FILTER: Total Volume Sampled m³ or L	TO-15 Summa	Sample Comment
SG-7	SV	9256	13760	1/21/25	1020	1/21/25	1026	-30	-3	6		1L	X	-01
SG-8	SV	10654	22647	1/21/25	1032	1/21/25	1036	-29	-4	4		1L	X	-02
SG-10	SV	10803	28642	1/21/25	1055	1/21/25	1100	-30	-3	5		1L	X	-03

Customer Remarks / Special Conditions / Possible Hazards:

Collected By: Christine Weer
Printed Name: Christine Weer
Signature: Christine Weer

Additional Instructions from Pace®:

Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C):

Relinquished by/Company: (Signature) Christine Weer / Apex	Date/Time: 1/21/25 1400	Received by/Company: (Signature) Easton Organ	Date/Time: 1/23/25 0900
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number:

Delivered by: In- Person Courier FedEx UPS Other

Page: 1 of: 1

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

ANALYTICAL REPORT

January 30, 2025

Oregon Dept. of Env. Quality - ODEQ

Sample Delivery Group:	L1819896
Samples Received:	01/24/2025
Project Number:	24008422
Description:	Johnson Oil
Report To:	Kara Master

Entire Report Reviewed By:

Brian Ford

Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

MW-4 L1819896-01 GW

Collected by	Collected date/time	Received date/time
	01/22/25 15:25	01/24/25 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2439626	1	01/25/25 05:42	01/25/25 05:42	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2439781	10	01/25/25 18:29	01/25/25 18:29	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2440154	10	01/27/25 01:00	01/27/25 01:00	ACG	Mt. Juliet, TN

MW-5 L1819896-02 GW

Collected by	Collected date/time	Received date/time
	01/22/25 12:32	01/24/25 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2439626	1	01/25/25 06:04	01/25/25 06:04	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2439781	10	01/25/25 18:50	01/25/25 18:50	JAH	Mt. Juliet, TN

MW-6 L1819896-03 GW

Collected by	Collected date/time	Received date/time
	01/22/25 14:02	01/24/25 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2439626	20	01/25/25 08:59	01/25/25 08:59	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2439781	20	01/25/25 19:12	01/25/25 19:12	JAH	Mt. Juliet, TN

MW-7 L1819896-04 GW

Collected by	Collected date/time	Received date/time
	01/22/25 14:37	01/24/25 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2439626	1	01/25/25 06:26	01/25/25 06:26	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2439788	1	01/25/25 13:15	01/25/25 13:15	ACG	Mt. Juliet, TN

MW-9 L1819896-05 GW

Collected by	Collected date/time	Received date/time
	01/22/25 10:21	01/24/25 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2439626	1	01/25/25 06:48	01/25/25 06:48	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2439788	1	01/25/25 13:36	01/25/25 13:36	ACG	Mt. Juliet, TN

MW-12 L1819896-06 GW

Collected by	Collected date/time	Received date/time
	01/22/25 16:05	01/24/25 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2439811	50	01/26/25 12:51	01/26/25 12:51	JBE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2439788	50	01/25/25 18:11	01/25/25 18:11	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2440604	500	01/28/25 06:31	01/28/25 06:31	DYW	Mt. Juliet, TN

MW-13 L1819896-07 GW

Collected by	Collected date/time	Received date/time
	01/22/25 11:45	01/24/25 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2439626	1	01/25/25 07:10	01/25/25 07:10	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2439788	1	01/25/25 13:57	01/25/25 13:57	ACG	Mt. Juliet, TN

MW-14 L1819896-08 GW

Collected by	Collected date/time	Received date/time
	01/22/25 13:21	01/24/25 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2439626	1	01/25/25 07:32	01/25/25 07:32	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2439788	25	01/25/25 18:32	01/25/25 18:32	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2440604	25	01/28/25 05:27	01/28/25 05:27	DYW	Mt. Juliet, TN

MW-15 L1819896-09 GW

Collected by	Collected date/time	Received date/time
	01/22/25 11:01	01/24/25 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2440662	5	01/27/25 20:26	01/27/25 20:26	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2439788	1	01/25/25 14:18	01/25/25 14:18	ACG	Mt. Juliet, TN

DUP L1819896-10 GW

Collected by	Collected date/time	Received date/time
	01/22/25 13:29	01/24/25 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2439626	1	01/25/25 07:54	01/25/25 07:54	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2439788	1	01/25/25 14:39	01/25/25 14:39	GLN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2440604	25	01/28/25 05:49	01/28/25 05:49	DYW	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Brian Ford
Project Manager

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	4460		31.6	100	1	01/25/2025 05:42	WG2439626
(S) a,a,a-Trifluorotoluene(FID)	*108*			*78.0-120*		*01/25/2025 05:42*	WG2439626

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		113	500	10	01/25/2025 18:29	WG2439781
Acrolein	U		25.4	500	10	01/25/2025 18:29	WG2439781
Acrylonitrile	U		6.71	100	10	01/25/2025 18:29	WG2439781
Benzene	104		0.941	10.0	10	01/25/2025 18:29	WG2439781
Bromobenzene	U		1.18	10.0	10	01/25/2025 18:29	WG2439781
Bromodichloromethane	U		1.36	10.0	10	01/25/2025 18:29	WG2439781
Bromoform	U		1.29	10.0	10	01/25/2025 18:29	WG2439781
Bromomethane	U		6.05	50.0	10	01/25/2025 18:29	WG2439781
n-Butylbenzene	17.7		1.57	10.0	10	01/25/2025 18:29	WG2439781
sec-Butylbenzene	17.3		1.25	10.0	10	01/25/2025 18:29	WG2439781
tert-Butylbenzene	U		1.27	10.0	10	01/25/2025 18:29	WG2439781
Carbon disulfide	25.0		0.962	10.0	10	01/25/2025 18:29	WG2439781
Carbon tetrachloride	U		1.28	10.0	10	01/25/2025 18:29	WG2439781
Chlorobenzene	U		1.16	10.0	10	01/25/2025 18:29	WG2439781
Chlorodibromomethane	U		1.40	10.0	10	01/25/2025 18:29	WG2439781
Chloroethane	U		1.92	50.0	10	01/25/2025 18:29	WG2439781
Chloroform	U		1.11	50.0	10	01/25/2025 18:29	WG2439781
Chloromethane	U		9.60	25.0	10	01/25/2025 18:29	WG2439781
2-Chlorotoluene	U		1.06	10.0	10	01/25/2025 18:29	WG2439781
4-Chlorotoluene	U		1.14	10.0	10	01/25/2025 18:29	WG2439781
1,2-Dibromo-3-Chloropropane	U		2.76	50.0	10	01/25/2025 18:29	WG2439781
1,2-Dibromoethane	U		1.26	10.0	10	01/25/2025 18:29	WG2439781
Dibromomethane	U		1.22	10.0	10	01/25/2025 18:29	WG2439781
1,2-Dichlorobenzene	U		1.07	10.0	10	01/25/2025 18:29	WG2439781
1,3-Dichlorobenzene	U		1.10	10.0	10	01/25/2025 18:29	WG2439781
1,4-Dichlorobenzene	U		1.20	10.0	10	01/25/2025 18:29	WG2439781
Dichlorodifluoromethane	U		3.74	50.0	10	01/25/2025 18:29	WG2439781
1,1-Dichloroethane	U		1.00	10.0	10	01/25/2025 18:29	WG2439781
1,2-Dichloroethane	U		0.819	10.0	10	01/25/2025 18:29	WG2439781
1,1-Dichloroethene	U		1.88	10.0	10	01/25/2025 18:29	WG2439781
cis-1,2-Dichloroethene	U		1.26	10.0	10	01/25/2025 18:29	WG2439781
trans-1,2-Dichloroethene	U	J4	1.49	10.0	10	01/25/2025 18:29	WG2439781
1,2-Dichloropropane	U		1.49	10.0	10	01/25/2025 18:29	WG2439781
1,1-Dichloropropene	U		1.42	10.0	10	01/25/2025 18:29	WG2439781
1,3-Dichloropropane	U		1.10	10.0	10	01/25/2025 18:29	WG2439781
cis-1,3-Dichloropropene	U		1.11	10.0	10	01/25/2025 18:29	WG2439781
trans-1,3-Dichloropropene	U		1.18	10.0	10	01/25/2025 18:29	WG2439781
2,2-Dichloropropane	U		1.61	10.0	10	01/25/2025 18:29	WG2439781
Di-isopropyl ether	U		1.05	10.0	10	01/25/2025 18:29	WG2439781
Ethylbenzene	74.5		1.37	10.0	10	01/27/2025 01:00	WG2440154
Hexachloro-1,3-butadiene	U		3.37	10.0	10	01/25/2025 18:29	WG2439781
Isopropylbenzene	63.9		1.05	10.0	10	01/25/2025 18:29	WG2439781
p-Isopropyltoluene	U		1.20	10.0	10	01/25/2025 18:29	WG2439781
2-Butanone (MEK)	U		11.9	100	10	01/25/2025 18:29	WG2439781
Methylene Chloride	U		4.30	50.0	10	01/25/2025 18:29	WG2439781
4-Methyl-2-pentanone (MIBK)	U		4.78	100	10	01/25/2025 18:29	WG2439781
Methyl tert-butyl ether	U		1.01	10.0	10	01/25/2025 18:29	WG2439781
Naphthalene	123		10.0	50.0	10	01/25/2025 18:29	WG2439781

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
n-Propylbenzene	216		0.993	10.0	10	01/25/2025 18:29	WG2439781
Styrene	U		1.18	10.0	10	01/25/2025 18:29	WG2439781
1,1,1,2-Tetrachloroethane	U		1.47	10.0	10	01/25/2025 18:29	WG2439781
1,1,2,2-Tetrachloroethane	U		1.33	10.0	10	01/25/2025 18:29	WG2439781
1,1,2-Trichlorotrifluoroethane	U		1.80	10.0	10	01/25/2025 18:29	WG2439781
Tetrachloroethene	U		3.00	10.0	10	01/25/2025 18:29	WG2439781
Toluene	2.83	J	2.78	10.0	10	01/27/2025 01:00	WG2440154
1,2,3-Trichlorobenzene	U		2.30	10.0	10	01/25/2025 18:29	WG2439781
1,2,4-Trichlorobenzene	U		4.81	10.0	10	01/25/2025 18:29	WG2439781
1,1,1-Trichloroethane	U		1.49	10.0	10	01/25/2025 18:29	WG2439781
1,1,2-Trichloroethane	U		1.58	10.0	10	01/25/2025 18:29	WG2439781
Trichloroethene	U		1.90	10.0	10	01/25/2025 18:29	WG2439781
Trichlorofluoromethane	U		1.60	50.0	10	01/25/2025 18:29	WG2439781
1,2,3-Trichloropropane	U		2.37	25.0	10	01/25/2025 18:29	WG2439781
1,2,4-Trimethylbenzene	U		3.22	10.0	10	01/25/2025 18:29	WG2439781
1,2,3-Trimethylbenzene	2.68	J	1.04	10.0	10	01/25/2025 18:29	WG2439781
1,3,5-Trimethylbenzene	U		1.04	10.0	10	01/25/2025 18:29	WG2439781
Vinyl chloride	U		2.34	10.0	10	01/25/2025 18:29	WG2439781
Xylenes, Total	3.74	J	1.74	30.0	10	01/27/2025 01:00	WG2440154
(S) Toluene-d8	*95.4*			*80.0-120*		*01/25/2025 18:29*	WG2439781
(S) Toluene-d8	*98.9*			*80.0-120*		*01/27/2025 01:00*	WG2440154
(S) 4-Bromofluorobenzene	*98.9*			*77.0-126*		*01/25/2025 18:29*	WG2439781
(S) 4-Bromofluorobenzene	*106*			*77.0-126*		*01/27/2025 01:00*	WG2440154
(S) 1,2-Dichloroethane-d4	*84.3*			*70.0-130*		*01/25/2025 18:29*	WG2439781
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*01/27/2025 01:00*	WG2440154

Sample Narrative:

L1819896-01 WG2439781: Target and Non-target compounds too high to run at a lower dilution.

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	7080		31.6	100	1	01/25/2025 06:04	WG2439626
(S) a,a,a-Trifluorotoluene(FID)	*89.0*			*78.0-120*		*01/25/2025 06:04*	WG2439626

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		113	500	10	01/25/2025 18:50	WG2439781
Acrolein	U		25.4	500	10	01/25/2025 18:50	WG2439781
Acrylonitrile	U		6.71	100	10	01/25/2025 18:50	WG2439781
Benzene	127		0.941	10.0	10	01/25/2025 18:50	WG2439781
Bromobenzene	U		1.18	10.0	10	01/25/2025 18:50	WG2439781
Bromodichloromethane	U		1.36	10.0	10	01/25/2025 18:50	WG2439781
Bromoform	U		1.29	10.0	10	01/25/2025 18:50	WG2439781
Bromomethane	U		6.05	50.0	10	01/25/2025 18:50	WG2439781
n-Butylbenzene	19.4		1.57	10.0	10	01/25/2025 18:50	WG2439781
sec-Butylbenzene	15.1		1.25	10.0	10	01/25/2025 18:50	WG2439781
tert-Butylbenzene	U		1.27	10.0	10	01/25/2025 18:50	WG2439781
Carbon disulfide	15.4		0.962	10.0	10	01/25/2025 18:50	WG2439781
Carbon tetrachloride	U		1.28	10.0	10	01/25/2025 18:50	WG2439781
Chlorobenzene	U		1.16	10.0	10	01/25/2025 18:50	WG2439781
Chlorodibromomethane	U		1.40	10.0	10	01/25/2025 18:50	WG2439781
Chloroethane	U		1.92	50.0	10	01/25/2025 18:50	WG2439781
Chloroform	U		1.11	50.0	10	01/25/2025 18:50	WG2439781
Chloromethane	U		9.60	25.0	10	01/25/2025 18:50	WG2439781
2-Chlorotoluene	U		1.06	10.0	10	01/25/2025 18:50	WG2439781
4-Chlorotoluene	U		1.14	10.0	10	01/25/2025 18:50	WG2439781
1,2-Dibromo-3-Chloropropane	U		2.76	50.0	10	01/25/2025 18:50	WG2439781
1,2-Dibromoethane	U		1.26	10.0	10	01/25/2025 18:50	WG2439781
Dibromomethane	U		1.22	10.0	10	01/25/2025 18:50	WG2439781
1,2-Dichlorobenzene	U		1.07	10.0	10	01/25/2025 18:50	WG2439781
1,3-Dichlorobenzene	U		1.10	10.0	10	01/25/2025 18:50	WG2439781
1,4-Dichlorobenzene	U		1.20	10.0	10	01/25/2025 18:50	WG2439781
Dichlorodifluoromethane	U		3.74	50.0	10	01/25/2025 18:50	WG2439781
1,1-Dichloroethane	U		1.00	10.0	10	01/25/2025 18:50	WG2439781
1,2-Dichloroethane	U		0.819	10.0	10	01/25/2025 18:50	WG2439781
1,1-Dichloroethene	U		1.88	10.0	10	01/25/2025 18:50	WG2439781
cis-1,2-Dichloroethene	U		1.26	10.0	10	01/25/2025 18:50	WG2439781
trans-1,2-Dichloroethene	U	J4	1.49	10.0	10	01/25/2025 18:50	WG2439781
1,2-Dichloropropane	U		1.49	10.0	10	01/25/2025 18:50	WG2439781
1,1-Dichloropropene	U		1.42	10.0	10	01/25/2025 18:50	WG2439781
1,3-Dichloropropane	U		1.10	10.0	10	01/25/2025 18:50	WG2439781
cis-1,3-Dichloropropene	U		1.11	10.0	10	01/25/2025 18:50	WG2439781
trans-1,3-Dichloropropene	U		1.18	10.0	10	01/25/2025 18:50	WG2439781
2,2-Dichloropropane	U		1.61	10.0	10	01/25/2025 18:50	WG2439781
Di-isopropyl ether	U		1.05	10.0	10	01/25/2025 18:50	WG2439781
Ethylbenzene	826		1.37	10.0	10	01/25/2025 18:50	WG2439781
Hexachloro-1,3-butadiene	U		3.37	10.0	10	01/25/2025 18:50	WG2439781
Isopropylbenzene	119		1.05	10.0	10	01/25/2025 18:50	WG2439781
p-Isopropyltoluene	U		1.20	10.0	10	01/25/2025 18:50	WG2439781
2-Butanone (MEK)	U		11.9	100	10	01/25/2025 18:50	WG2439781
Methylene Chloride	U		4.30	50.0	10	01/25/2025 18:50	WG2439781
4-Methyl-2-pentanone (MIBK)	U		4.78	100	10	01/25/2025 18:50	WG2439781
Methyl tert-butyl ether	U		1.01	10.0	10	01/25/2025 18:50	WG2439781
Naphthalene	309		10.0	50.0	10	01/25/2025 18:50	WG2439781

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
n-Propylbenzene	374		0.993	10.0	10	01/25/2025 18:50	WG2439781
Styrene	U		1.18	10.0	10	01/25/2025 18:50	WG2439781
1,1,1,2-Tetrachloroethane	U		1.47	10.0	10	01/25/2025 18:50	WG2439781
1,1,2,2-Tetrachloroethane	U		1.33	10.0	10	01/25/2025 18:50	WG2439781
1,1,2-Trichlorotrifluoroethane	U		1.80	10.0	10	01/25/2025 18:50	WG2439781
Tetrachloroethene	U		3.00	10.0	10	01/25/2025 18:50	WG2439781
Toluene	11.0		2.78	10.0	10	01/25/2025 18:50	WG2439781
1,2,3-Trichlorobenzene	U		2.30	10.0	10	01/25/2025 18:50	WG2439781
1,2,4-Trichlorobenzene	U		4.81	10.0	10	01/25/2025 18:50	WG2439781
1,1,1-Trichloroethane	U		1.49	10.0	10	01/25/2025 18:50	WG2439781
1,1,2-Trichloroethane	U		1.58	10.0	10	01/25/2025 18:50	WG2439781
Trichloroethene	U		1.90	10.0	10	01/25/2025 18:50	WG2439781
Trichlorofluoromethane	U		1.60	50.0	10	01/25/2025 18:50	WG2439781
1,2,3-Trichloropropane	U		2.37	25.0	10	01/25/2025 18:50	WG2439781
1,2,4-Trimethylbenzene	U		3.22	10.0	10	01/25/2025 18:50	WG2439781
1,2,3-Trimethylbenzene	12.1		1.04	10.0	10	01/25/2025 18:50	WG2439781
1,3,5-Trimethylbenzene	2.14	J	1.04	10.0	10	01/25/2025 18:50	WG2439781
Vinyl chloride	U		2.34	10.0	10	01/25/2025 18:50	WG2439781
Xylenes, Total	48.1		1.74	30.0	10	01/25/2025 18:50	WG2439781
(S) Toluene-d8	*101*			*80.0-120*		*01/25/2025 18:50*	WG2439781
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*01/25/2025 18:50*	WG2439781
(S) 1,2-Dichloroethane-d4	*85.6*			*70.0-130*		*01/25/2025 18:50*	WG2439781

Sample Narrative:

L1819896-02 WG2439781: Target and Non-target compounds too high to run at a lower dilution.

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	7530		632	2000	20	01/25/2025 08:59	WG2439626
(S) a,a,a-Trifluorotoluene(FID)	*98.6*			*78.0-120*		*01/25/2025 08:59*	WG2439626

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		226	1000	20	01/25/2025 19:12	WG2439781
Acrolein	U		50.8	1000	20	01/25/2025 19:12	WG2439781
Acrylonitrile	U		13.4	200	20	01/25/2025 19:12	WG2439781
Benzene	713		1.88	20.0	20	01/25/2025 19:12	WG2439781
Bromobenzene	U		2.36	20.0	20	01/25/2025 19:12	WG2439781
Bromodichloromethane	U		2.72	20.0	20	01/25/2025 19:12	WG2439781
Bromoform	U		2.58	20.0	20	01/25/2025 19:12	WG2439781
Bromomethane	U		12.1	100	20	01/25/2025 19:12	WG2439781
n-Butylbenzene	21.8		3.14	20.0	20	01/25/2025 19:12	WG2439781
sec-Butylbenzene	19.7	J	2.50	20.0	20	01/25/2025 19:12	WG2439781
tert-Butylbenzene	U		2.54	20.0	20	01/25/2025 19:12	WG2439781
Carbon disulfide	28.9		1.92	20.0	20	01/25/2025 19:12	WG2439781
Carbon tetrachloride	U		2.56	20.0	20	01/25/2025 19:12	WG2439781
Chlorobenzene	U		2.32	20.0	20	01/25/2025 19:12	WG2439781
Chlorodibromomethane	U		2.80	20.0	20	01/25/2025 19:12	WG2439781
Chloroethane	U		3.84	100	20	01/25/2025 19:12	WG2439781
Chloroform	U		2.22	100	20	01/25/2025 19:12	WG2439781
Chloromethane	U		19.2	50.0	20	01/25/2025 19:12	WG2439781
2-Chlorotoluene	U		2.12	20.0	20	01/25/2025 19:12	WG2439781
4-Chlorotoluene	U		2.28	20.0	20	01/25/2025 19:12	WG2439781
1,2-Dibromo-3-Chloropropane	U		5.52	100	20	01/25/2025 19:12	WG2439781
1,2-Dibromoethane	U		2.52	20.0	20	01/25/2025 19:12	WG2439781
Dibromomethane	U		2.44	20.0	20	01/25/2025 19:12	WG2439781
1,2-Dichlorobenzene	U		2.14	20.0	20	01/25/2025 19:12	WG2439781
1,3-Dichlorobenzene	U		2.20	20.0	20	01/25/2025 19:12	WG2439781
1,4-Dichlorobenzene	U		2.40	20.0	20	01/25/2025 19:12	WG2439781
Dichlorodifluoromethane	U		7.48	100	20	01/25/2025 19:12	WG2439781
1,1-Dichloroethane	U		2.00	20.0	20	01/25/2025 19:12	WG2439781
1,2-Dichloroethane	U		1.64	20.0	20	01/25/2025 19:12	WG2439781
1,1-Dichloroethene	U		3.76	20.0	20	01/25/2025 19:12	WG2439781
cis-1,2-Dichloroethene	U		2.52	20.0	20	01/25/2025 19:12	WG2439781
trans-1,2-Dichloroethene	U	J4	2.98	20.0	20	01/25/2025 19:12	WG2439781
1,2-Dichloropropane	U		2.98	20.0	20	01/25/2025 19:12	WG2439781
1,1-Dichloropropene	U		2.84	20.0	20	01/25/2025 19:12	WG2439781
1,3-Dichloropropane	U		2.20	20.0	20	01/25/2025 19:12	WG2439781
cis-1,3-Dichloropropene	U		2.22	20.0	20	01/25/2025 19:12	WG2439781
trans-1,3-Dichloropropene	U		2.36	20.0	20	01/25/2025 19:12	WG2439781
2,2-Dichloropropane	U		3.22	20.0	20	01/25/2025 19:12	WG2439781
Di-isopropyl ether	U		2.10	20.0	20	01/25/2025 19:12	WG2439781
Ethylbenzene	174		2.74	20.0	20	01/25/2025 19:12	WG2439781
Hexachloro-1,3-butadiene	U		6.74	20.0	20	01/25/2025 19:12	WG2439781
Isopropylbenzene	168		2.10	20.0	20	01/25/2025 19:12	WG2439781
p-Isopropyltoluene	U		2.40	20.0	20	01/25/2025 19:12	WG2439781
2-Butanone (MEK)	U		23.8	200	20	01/25/2025 19:12	WG2439781
Methylene Chloride	U		8.60	100	20	01/25/2025 19:12	WG2439781
4-Methyl-2-pentanone (MIBK)	U		9.56	200	20	01/25/2025 19:12	WG2439781
Methyl tert-butyl ether	U		2.02	20.0	20	01/25/2025 19:12	WG2439781
Naphthalene	74.2	J	20.0	100	20	01/25/2025 19:12	WG2439781

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
n-Propylbenzene	523		1.99	20.0	20	01/25/2025 19:12	WG2439781
Styrene	U		2.36	20.0	20	01/25/2025 19:12	WG2439781
1,1,1,2-Tetrachloroethane	U		2.94	20.0	20	01/25/2025 19:12	WG2439781
1,1,2,2-Tetrachloroethane	U		2.66	20.0	20	01/25/2025 19:12	WG2439781
1,1,2-Trichlorotrifluoroethane	U		3.60	20.0	20	01/25/2025 19:12	WG2439781
Tetrachloroethene	U		6.00	20.0	20	01/25/2025 19:12	WG2439781
Toluene	12.0	J	5.56	20.0	20	01/25/2025 19:12	WG2439781
1,2,3-Trichlorobenzene	U		4.60	20.0	20	01/25/2025 19:12	WG2439781
1,2,4-Trichlorobenzene	U		9.62	20.0	20	01/25/2025 19:12	WG2439781
1,1,1-Trichloroethane	U		2.98	20.0	20	01/25/2025 19:12	WG2439781
1,1,2-Trichloroethane	U		3.16	20.0	20	01/25/2025 19:12	WG2439781
Trichloroethene	U		3.80	20.0	20	01/25/2025 19:12	WG2439781
Trichlorofluoromethane	U		3.20	100	20	01/25/2025 19:12	WG2439781
1,2,3-Trichloropropane	U		4.74	50.0	20	01/25/2025 19:12	WG2439781
1,2,4-Trimethylbenzene	U		6.44	20.0	20	01/25/2025 19:12	WG2439781
1,2,3-Trimethylbenzene	3.42	J	2.08	20.0	20	01/25/2025 19:12	WG2439781
1,3,5-Trimethylbenzene	4.30	J	2.08	20.0	20	01/25/2025 19:12	WG2439781
Vinyl chloride	U		4.68	20.0	20	01/25/2025 19:12	WG2439781
Xylenes, Total	48.9	J	3.48	60.0	20	01/25/2025 19:12	WG2439781
(S) Toluene-d8	*99.7*			*80.0-120*		*01/25/2025 19:12*	WG2439781
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*01/25/2025 19:12*	WG2439781
(S) 1,2-Dichloroethane-d4	*85.6*			*70.0-130*		*01/25/2025 19:12*	WG2439781

Sample Narrative:

L1819896-03 WG2439781: Target and Non-target compounds too high to run at a lower dilution.

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	980		31.6	100	1	01/25/2025 06:26	WG2439626
(S) a,a,a-Trifluorotoluene(FID)	*96.2*			*78.0-120*		*01/25/2025 06:26*	WG2439626

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	01/25/2025 13:15	WG2439788
Acrolein	U		2.54	50.0	1	01/25/2025 13:15	WG2439788
Acrylonitrile	U		0.671	10.0	1	01/25/2025 13:15	WG2439788
Benzene	35.3		0.0941	1.00	1	01/25/2025 13:15	WG2439788
Bromobenzene	U		0.118	1.00	1	01/25/2025 13:15	WG2439788
Bromodichloromethane	U		0.136	1.00	1	01/25/2025 13:15	WG2439788
Bromoform	U		0.129	1.00	1	01/25/2025 13:15	WG2439788
Bromomethane	U	C3	0.605	5.00	1	01/25/2025 13:15	WG2439788
n-Butylbenzene	U	C3	0.157	1.00	1	01/25/2025 13:15	WG2439788
sec-Butylbenzene	0.233	J	0.125	1.00	1	01/25/2025 13:15	WG2439788
tert-Butylbenzene	0.159	J	0.127	1.00	1	01/25/2025 13:15	WG2439788
Carbon disulfide	U		0.0962	1.00	1	01/25/2025 13:15	WG2439788
Carbon tetrachloride	U		0.128	1.00	1	01/25/2025 13:15	WG2439788
Chlorobenzene	U		0.116	1.00	1	01/25/2025 13:15	WG2439788
Chlorodibromomethane	U		0.140	1.00	1	01/25/2025 13:15	WG2439788
Chloroethane	U		0.192	5.00	1	01/25/2025 13:15	WG2439788
Chloroform	3.17	J	0.111	5.00	1	01/25/2025 13:15	WG2439788
Chloromethane	U		0.960	2.50	1	01/25/2025 13:15	WG2439788
2-Chlorotoluene	U		0.106	1.00	1	01/25/2025 13:15	WG2439788
4-Chlorotoluene	U		0.114	1.00	1	01/25/2025 13:15	WG2439788
1,2-Dibromo-3-Chloropropane	U	C3	0.276	5.00	1	01/25/2025 13:15	WG2439788
1,2-Dibromoethane	U		0.126	1.00	1	01/25/2025 13:15	WG2439788
Dibromomethane	U		0.122	1.00	1	01/25/2025 13:15	WG2439788
1,2-Dichlorobenzene	U		0.107	1.00	1	01/25/2025 13:15	WG2439788
1,3-Dichlorobenzene	U		0.110	1.00	1	01/25/2025 13:15	WG2439788
1,4-Dichlorobenzene	U		0.120	1.00	1	01/25/2025 13:15	WG2439788
Dichlorodifluoromethane	U		0.374	5.00	1	01/25/2025 13:15	WG2439788
1,1-Dichloroethane	U		0.100	1.00	1	01/25/2025 13:15	WG2439788
1,2-Dichloroethane	U		0.0819	1.00	1	01/25/2025 13:15	WG2439788
1,1-Dichloroethene	U		0.188	1.00	1	01/25/2025 13:15	WG2439788
cis-1,2-Dichloroethene	U		0.126	1.00	1	01/25/2025 13:15	WG2439788
trans-1,2-Dichloroethene	U		0.149	1.00	1	01/25/2025 13:15	WG2439788
1,2-Dichloropropane	U		0.149	1.00	1	01/25/2025 13:15	WG2439788
1,1-Dichloropropene	U		0.142	1.00	1	01/25/2025 13:15	WG2439788
1,3-Dichloropropane	U		0.110	1.00	1	01/25/2025 13:15	WG2439788
cis-1,3-Dichloropropene	U		0.111	1.00	1	01/25/2025 13:15	WG2439788
trans-1,3-Dichloropropene	U		0.118	1.00	1	01/25/2025 13:15	WG2439788
2,2-Dichloropropane	U		0.161	1.00	1	01/25/2025 13:15	WG2439788
Di-isopropyl ether	U		0.105	1.00	1	01/25/2025 13:15	WG2439788
Ethylbenzene	9.07		0.137	1.00	1	01/25/2025 13:15	WG2439788
Hexachloro-1,3-butadiene	U		0.337	1.00	1	01/25/2025 13:15	WG2439788
Isopropylbenzene	1.80		0.105	1.00	1	01/25/2025 13:15	WG2439788
p-Isopropyltoluene	0.120	J	0.120	1.00	1	01/25/2025 13:15	WG2439788
2-Butanone (MEK)	U		1.19	10.0	1	01/25/2025 13:15	WG2439788
Methylene Chloride	U		0.430	5.00	1	01/25/2025 13:15	WG2439788
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	01/25/2025 13:15	WG2439788
Methyl tert-butyl ether	12.1		0.101	1.00	1	01/25/2025 13:15	WG2439788
Naphthalene	1.83	C3 J	1.00	5.00	1	01/25/2025 13:15	WG2439788

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
n-Propylbenzene	2.12		0.0993	1.00	1	01/25/2025 13:15	WG2439788
Styrene	U		0.118	1.00	1	01/25/2025 13:15	WG2439788
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	01/25/2025 13:15	WG2439788
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	01/25/2025 13:15	WG2439788
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	01/25/2025 13:15	WG2439788
Tetrachloroethene	U		0.300	1.00	1	01/25/2025 13:15	WG2439788
Toluene	1.04		0.278	1.00	1	01/25/2025 13:15	WG2439788
1,2,3-Trichlorobenzene	U		0.230	1.00	1	01/25/2025 13:15	WG2439788
1,2,4-Trichlorobenzene	U		0.481	1.00	1	01/25/2025 13:15	WG2439788
1,1,1-Trichloroethane	U		0.149	1.00	1	01/25/2025 13:15	WG2439788
1,1,2-Trichloroethane	U		0.158	1.00	1	01/25/2025 13:15	WG2439788
Trichloroethene	U		0.190	1.00	1	01/25/2025 13:15	WG2439788
Trichlorofluoromethane	U		0.160	5.00	1	01/25/2025 13:15	WG2439788
1,2,3-Trichloropropane	U		0.237	2.50	1	01/25/2025 13:15	WG2439788
1,2,4-Trimethylbenzene	6.10		0.322	1.00	1	01/25/2025 13:15	WG2439788
1,2,3-Trimethylbenzene	5.92		0.104	1.00	1	01/25/2025 13:15	WG2439788
1,3,5-Trimethylbenzene	1.97		0.104	1.00	1	01/25/2025 13:15	WG2439788
Vinyl chloride	U		0.234	1.00	1	01/25/2025 13:15	WG2439788
Xylenes, Total	32.5		0.174	3.00	1	01/25/2025 13:15	WG2439788
(S) Toluene-d8	*92.6*			*80.0-120*		*01/25/2025 13:15*	WG2439788
(S) 4-Bromofluorobenzene	*112*			*77.0-126*		*01/25/2025 13:15*	WG2439788
(S) 1,2-Dichloroethane-d4	*90.1*			*70.0-130*		*01/25/2025 13:15*	WG2439788

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	43.2	B J	31.6	100	1	01/25/2025 06:48	WG2439626
(S) a,a,a-Trifluorotoluene(FID)	*103*			*78.0-120*		*01/25/2025 06:48*	WG2439626

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	01/25/2025 13:36	WG2439788
Acrolein	U		2.54	50.0	1	01/25/2025 13:36	WG2439788
Acrylonitrile	U		0.671	10.0	1	01/25/2025 13:36	WG2439788
Benzene	U		0.0941	1.00	1	01/25/2025 13:36	WG2439788
Bromobenzene	U		0.118	1.00	1	01/25/2025 13:36	WG2439788
Bromodichloromethane	U		0.136	1.00	1	01/25/2025 13:36	WG2439788
Bromoform	U		0.129	1.00	1	01/25/2025 13:36	WG2439788
Bromomethane	U	C3	0.605	5.00	1	01/25/2025 13:36	WG2439788
n-Butylbenzene	U	C3	0.157	1.00	1	01/25/2025 13:36	WG2439788
sec-Butylbenzene	U		0.125	1.00	1	01/25/2025 13:36	WG2439788
tert-Butylbenzene	U		0.127	1.00	1	01/25/2025 13:36	WG2439788
Carbon disulfide	U		0.0962	1.00	1	01/25/2025 13:36	WG2439788
Carbon tetrachloride	U		0.128	1.00	1	01/25/2025 13:36	WG2439788
Chlorobenzene	U		0.116	1.00	1	01/25/2025 13:36	WG2439788
Chlorodibromomethane	U		0.140	1.00	1	01/25/2025 13:36	WG2439788
Chloroethane	U		0.192	5.00	1	01/25/2025 13:36	WG2439788
Chloroform	U		0.111	5.00	1	01/25/2025 13:36	WG2439788
Chloromethane	U		0.960	2.50	1	01/25/2025 13:36	WG2439788
2-Chlorotoluene	U		0.106	1.00	1	01/25/2025 13:36	WG2439788
4-Chlorotoluene	U		0.114	1.00	1	01/25/2025 13:36	WG2439788
1,2-Dibromo-3-Chloropropane	U	C3	0.276	5.00	1	01/25/2025 13:36	WG2439788
1,2-Dibromoethane	U		0.126	1.00	1	01/25/2025 13:36	WG2439788
Dibromomethane	U		0.122	1.00	1	01/25/2025 13:36	WG2439788
1,2-Dichlorobenzene	U		0.107	1.00	1	01/25/2025 13:36	WG2439788
1,3-Dichlorobenzene	U		0.110	1.00	1	01/25/2025 13:36	WG2439788
1,4-Dichlorobenzene	U		0.120	1.00	1	01/25/2025 13:36	WG2439788
Dichlorodifluoromethane	U		0.374	5.00	1	01/25/2025 13:36	WG2439788
1,1-Dichloroethane	U		0.100	1.00	1	01/25/2025 13:36	WG2439788
1,2-Dichloroethane	U		0.0819	1.00	1	01/25/2025 13:36	WG2439788
1,1-Dichloroethene	U		0.188	1.00	1	01/25/2025 13:36	WG2439788
cis-1,2-Dichloroethene	U		0.126	1.00	1	01/25/2025 13:36	WG2439788
trans-1,2-Dichloroethene	U		0.149	1.00	1	01/25/2025 13:36	WG2439788
1,2-Dichloropropane	U		0.149	1.00	1	01/25/2025 13:36	WG2439788
1,1-Dichloropropene	U		0.142	1.00	1	01/25/2025 13:36	WG2439788
1,3-Dichloropropane	U		0.110	1.00	1	01/25/2025 13:36	WG2439788
cis-1,3-Dichloropropene	U		0.111	1.00	1	01/25/2025 13:36	WG2439788
trans-1,3-Dichloropropene	U		0.118	1.00	1	01/25/2025 13:36	WG2439788
2,2-Dichloropropane	U		0.161	1.00	1	01/25/2025 13:36	WG2439788
Di-isopropyl ether	U		0.105	1.00	1	01/25/2025 13:36	WG2439788
Ethylbenzene	0.160	J	0.137	1.00	1	01/25/2025 13:36	WG2439788
Hexachloro-1,3-butadiene	U		0.337	1.00	1	01/25/2025 13:36	WG2439788
Isopropylbenzene	U		0.105	1.00	1	01/25/2025 13:36	WG2439788
p-Isopropyltoluene	U		0.120	1.00	1	01/25/2025 13:36	WG2439788
2-Butanone (MEK)	U		1.19	10.0	1	01/25/2025 13:36	WG2439788
Methylene Chloride	U		0.430	5.00	1	01/25/2025 13:36	WG2439788
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	01/25/2025 13:36	WG2439788
Methyl tert-butyl ether	U		0.101	1.00	1	01/25/2025 13:36	WG2439788
Naphthalene	U	C3	1.00	5.00	1	01/25/2025 13:36	WG2439788

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
n-Propylbenzene	U		0.0993	1.00	1	01/25/2025 13:36	WG2439788
Styrene	U		0.118	1.00	1	01/25/2025 13:36	WG2439788
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	01/25/2025 13:36	WG2439788
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	01/25/2025 13:36	WG2439788
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	01/25/2025 13:36	WG2439788
Tetrachloroethene	U		0.300	1.00	1	01/25/2025 13:36	WG2439788
Toluene	U		0.278	1.00	1	01/25/2025 13:36	WG2439788
1,2,3-Trichlorobenzene	U		0.230	1.00	1	01/25/2025 13:36	WG2439788
1,2,4-Trichlorobenzene	U		0.481	1.00	1	01/25/2025 13:36	WG2439788
1,1,1-Trichloroethane	U		0.149	1.00	1	01/25/2025 13:36	WG2439788
1,1,2-Trichloroethane	U		0.158	1.00	1	01/25/2025 13:36	WG2439788
Trichloroethene	U		0.190	1.00	1	01/25/2025 13:36	WG2439788
Trichlorofluoromethane	U		0.160	5.00	1	01/25/2025 13:36	WG2439788
1,2,3-Trichloropropane	U		0.237	2.50	1	01/25/2025 13:36	WG2439788
1,2,4-Trimethylbenzene	U		0.322	1.00	1	01/25/2025 13:36	WG2439788
1,2,3-Trimethylbenzene	0.159	J	0.104	1.00	1	01/25/2025 13:36	WG2439788
1,3,5-Trimethylbenzene	0.117	J	0.104	1.00	1	01/25/2025 13:36	WG2439788
Vinyl chloride	U		0.234	1.00	1	01/25/2025 13:36	WG2439788
Xylenes, Total	0.847	J	0.174	3.00	1	01/25/2025 13:36	WG2439788
(S) Toluene-d8	*94.3*			*80.0-120*		*01/25/2025 13:36*	WG2439788
(S) 4-Bromofluorobenzene	*108*			*77.0-126*		*01/25/2025 13:36*	WG2439788
(S) 1,2-Dichloroethane-d4	*94.0*			*70.0-130*		*01/25/2025 13:36*	WG2439788

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	99500		1580	5000	50	01/26/2025 12:51	WG2439811
(S) a,a,a-Trifluorotoluene(FID)	*96.0*			*78.0-120*		*01/26/2025 12:51*	WG2439811

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		565	2500	50	01/25/2025 18:11	WG2439788
Acrolein	U		127	2500	50	01/25/2025 18:11	WG2439788
Acrylonitrile	U		33.6	500	50	01/25/2025 18:11	WG2439788
Benzene	1530		4.71	50.0	50	01/25/2025 18:11	WG2439788
Bromobenzene	U		5.90	50.0	50	01/25/2025 18:11	WG2439788
Bromodichloromethane	U		6.80	50.0	50	01/25/2025 18:11	WG2439788
Bromoform	U		6.45	50.0	50	01/25/2025 18:11	WG2439788
Bromomethane	U	C3	30.3	250	50	01/25/2025 18:11	WG2439788
n-Butylbenzene	14.0	C3 J	7.85	50.0	50	01/25/2025 18:11	WG2439788
sec-Butylbenzene	U		6.25	50.0	50	01/25/2025 18:11	WG2439788
tert-Butylbenzene	U		6.35	50.0	50	01/25/2025 18:11	WG2439788
Carbon disulfide	U		4.81	50.0	50	01/25/2025 18:11	WG2439788
Carbon tetrachloride	U		6.40	50.0	50	01/25/2025 18:11	WG2439788
Chlorobenzene	U		5.80	50.0	50	01/25/2025 18:11	WG2439788
Chlorodibromomethane	U		7.00	50.0	50	01/25/2025 18:11	WG2439788
Chloroethane	U		9.60	250	50	01/25/2025 18:11	WG2439788
Chloroform	U		5.55	250	50	01/25/2025 18:11	WG2439788
Chloromethane	U		48.0	125	50	01/25/2025 18:11	WG2439788
2-Chlorotoluene	U		5.30	50.0	50	01/25/2025 18:11	WG2439788
4-Chlorotoluene	U		5.70	50.0	50	01/25/2025 18:11	WG2439788
1,2-Dibromo-3-Chloropropane	U	C3	13.8	250	50	01/25/2025 18:11	WG2439788
1,2-Dibromoethane	U		6.30	50.0	50	01/25/2025 18:11	WG2439788
Dibromomethane	U		6.10	50.0	50	01/25/2025 18:11	WG2439788
1,2-Dichlorobenzene	U		5.35	50.0	50	01/25/2025 18:11	WG2439788
1,3-Dichlorobenzene	U		5.50	50.0	50	01/25/2025 18:11	WG2439788
1,4-Dichlorobenzene	U		6.00	50.0	50	01/25/2025 18:11	WG2439788
Dichlorodifluoromethane	U		18.7	250	50	01/25/2025 18:11	WG2439788
1,1-Dichloroethane	U		5.00	50.0	50	01/25/2025 18:11	WG2439788
1,2-Dichloroethane	U		4.09	50.0	50	01/25/2025 18:11	WG2439788
1,1-Dichloroethene	U		9.40	50.0	50	01/25/2025 18:11	WG2439788
cis-1,2-Dichloroethene	U		6.30	50.0	50	01/25/2025 18:11	WG2439788
trans-1,2-Dichloroethene	U		7.45	50.0	50	01/25/2025 18:11	WG2439788
1,2-Dichloropropane	U		7.45	50.0	50	01/25/2025 18:11	WG2439788
1,1-Dichloropropene	U		7.10	50.0	50	01/25/2025 18:11	WG2439788
1,3-Dichloropropane	U		5.50	50.0	50	01/25/2025 18:11	WG2439788
cis-1,3-Dichloropropene	U		5.55	50.0	50	01/25/2025 18:11	WG2439788
trans-1,3-Dichloropropene	U		5.90	50.0	50	01/25/2025 18:11	WG2439788
2,2-Dichloropropane	U		8.05	50.0	50	01/25/2025 18:11	WG2439788
Di-isopropyl ether	U		5.25	50.0	50	01/25/2025 18:11	WG2439788
Ethylbenzene	4450		6.85	50.0	50	01/25/2025 18:11	WG2439788
Hexachloro-1,3-butadiene	U		16.9	50.0	50	01/25/2025 18:11	WG2439788
Isopropylbenzene	110		5.25	50.0	50	01/25/2025 18:11	WG2439788
p-Isopropyltoluene	24.3	J	6.00	50.0	50	01/25/2025 18:11	WG2439788
2-Butanone (MEK)	U		59.5	500	50	01/25/2025 18:11	WG2439788
Methylene Chloride	U		21.5	250	50	01/25/2025 18:11	WG2439788
4-Methyl-2-pentanone (MIBK)	U		23.9	500	50	01/25/2025 18:11	WG2439788
Methyl tert-butyl ether	U		5.05	50.0	50	01/25/2025 18:11	WG2439788
Naphthalene	494	C3	50.0	250	50	01/25/2025 18:11	WG2439788

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
n-Propylbenzene	347		4.97	50.0	50	01/25/2025 18:11	WG2439788
Styrene	U		5.90	50.0	50	01/25/2025 18:11	WG2439788
1,1,1,2-Tetrachloroethane	U		7.35	50.0	50	01/25/2025 18:11	WG2439788
1,1,2,2-Tetrachloroethane	U		6.65	50.0	50	01/25/2025 18:11	WG2439788
1,1,2-Trichlorotrifluoroethane	U		9.00	50.0	50	01/25/2025 18:11	WG2439788
Tetrachloroethene	U		15.0	50.0	50	01/25/2025 18:11	WG2439788
Toluene	11600		139	500	500	01/28/2025 06:31	WG2440604
1,2,3-Trichlorobenzene	U		11.5	50.0	50	01/25/2025 18:11	WG2439788
1,2,4-Trichlorobenzene	U		24.1	50.0	50	01/25/2025 18:11	WG2439788
1,1,1-Trichloroethane	U		7.45	50.0	50	01/25/2025 18:11	WG2439788
1,1,2-Trichloroethane	U		7.90	50.0	50	01/25/2025 18:11	WG2439788
Trichloroethene	U		9.50	50.0	50	01/25/2025 18:11	WG2439788
Trichlorofluoromethane	U		8.00	250	50	01/25/2025 18:11	WG2439788
1,2,3-Trichloropropane	U		11.9	125	50	01/25/2025 18:11	WG2439788
1,2,4-Trimethylbenzene	2490		16.1	50.0	50	01/25/2025 18:11	WG2439788
1,2,3-Trimethylbenzene	590		5.20	50.0	50	01/25/2025 18:11	WG2439788
1,3,5-Trimethylbenzene	686		5.20	50.0	50	01/25/2025 18:11	WG2439788
Vinyl chloride	U		11.7	50.0	50	01/25/2025 18:11	WG2439788
Xylenes, Total	22800		8.70	150	50	01/25/2025 18:11	WG2439788
(S) Toluene-d8	*89.1*			*80.0-120*		*01/25/2025 18:11*	WG2439788
(S) Toluene-d8	*98.6*			*80.0-120*		*01/28/2025 06:31*	WG2440604
(S) 4-Bromofluorobenzene	*106*			*77.0-126*		*01/25/2025 18:11*	WG2439788
(S) 4-Bromofluorobenzene	*102*			*77.0-126*		*01/28/2025 06:31*	WG2440604
(S) 1,2-Dichloroethane-d4	*91.6*			*70.0-130*		*01/25/2025 18:11*	WG2439788
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*		*01/28/2025 06:31*	WG2440604

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	42.2	B J	31.6	100	1	01/25/2025 07:10	WG2439626
(S) a,a,a-Trifluorotoluene(FID)	*105*			*78.0-120*		*01/25/2025 07:10*	WG2439626

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	01/25/2025 13:57	WG2439788
Acrolein	U		2.54	50.0	1	01/25/2025 13:57	WG2439788
Acrylonitrile	U		0.671	10.0	1	01/25/2025 13:57	WG2439788
Benzene	1.68		0.0941	1.00	1	01/25/2025 13:57	WG2439788
Bromobenzene	U		0.118	1.00	1	01/25/2025 13:57	WG2439788
Bromodichloromethane	U		0.136	1.00	1	01/25/2025 13:57	WG2439788
Bromoform	U		0.129	1.00	1	01/25/2025 13:57	WG2439788
Bromomethane	U	C3	0.605	5.00	1	01/25/2025 13:57	WG2439788
n-Butylbenzene	U	C3	0.157	1.00	1	01/25/2025 13:57	WG2439788
sec-Butylbenzene	U		0.125	1.00	1	01/25/2025 13:57	WG2439788
tert-Butylbenzene	U		0.127	1.00	1	01/25/2025 13:57	WG2439788
Carbon disulfide	U		0.0962	1.00	1	01/25/2025 13:57	WG2439788
Carbon tetrachloride	U		0.128	1.00	1	01/25/2025 13:57	WG2439788
Chlorobenzene	U		0.116	1.00	1	01/25/2025 13:57	WG2439788
Chlorodibromomethane	U		0.140	1.00	1	01/25/2025 13:57	WG2439788
Chloroethane	U		0.192	5.00	1	01/25/2025 13:57	WG2439788
Chloroform	U		0.111	5.00	1	01/25/2025 13:57	WG2439788
Chloromethane	U		0.960	2.50	1	01/25/2025 13:57	WG2439788
2-Chlorotoluene	U		0.106	1.00	1	01/25/2025 13:57	WG2439788
4-Chlorotoluene	U		0.114	1.00	1	01/25/2025 13:57	WG2439788
1,2-Dibromo-3-Chloropropane	U	C3	0.276	5.00	1	01/25/2025 13:57	WG2439788
1,2-Dibromoethane	U		0.126	1.00	1	01/25/2025 13:57	WG2439788
Dibromomethane	U		0.122	1.00	1	01/25/2025 13:57	WG2439788
1,2-Dichlorobenzene	U		0.107	1.00	1	01/25/2025 13:57	WG2439788
1,3-Dichlorobenzene	U		0.110	1.00	1	01/25/2025 13:57	WG2439788
1,4-Dichlorobenzene	U		0.120	1.00	1	01/25/2025 13:57	WG2439788
Dichlorodifluoromethane	U		0.374	5.00	1	01/25/2025 13:57	WG2439788
1,1-Dichloroethane	U		0.100	1.00	1	01/25/2025 13:57	WG2439788
1,2-Dichloroethane	U		0.0819	1.00	1	01/25/2025 13:57	WG2439788
1,1-Dichloroethene	U		0.188	1.00	1	01/25/2025 13:57	WG2439788
cis-1,2-Dichloroethene	U		0.126	1.00	1	01/25/2025 13:57	WG2439788
trans-1,2-Dichloroethene	U		0.149	1.00	1	01/25/2025 13:57	WG2439788
1,2-Dichloropropane	U		0.149	1.00	1	01/25/2025 13:57	WG2439788
1,1-Dichloropropene	U		0.142	1.00	1	01/25/2025 13:57	WG2439788
1,3-Dichloropropane	U		0.110	1.00	1	01/25/2025 13:57	WG2439788
cis-1,3-Dichloropropene	U		0.111	1.00	1	01/25/2025 13:57	WG2439788
trans-1,3-Dichloropropene	U		0.118	1.00	1	01/25/2025 13:57	WG2439788
2,2-Dichloropropane	U		0.161	1.00	1	01/25/2025 13:57	WG2439788
Di-isopropyl ether	U		0.105	1.00	1	01/25/2025 13:57	WG2439788
Ethylbenzene	U		0.137	1.00	1	01/25/2025 13:57	WG2439788
Hexachloro-1,3-butadiene	U		0.337	1.00	1	01/25/2025 13:57	WG2439788
Isopropylbenzene	U		0.105	1.00	1	01/25/2025 13:57	WG2439788
p-Isopropyltoluene	U		0.120	1.00	1	01/25/2025 13:57	WG2439788
2-Butanone (MEK)	U		1.19	10.0	1	01/25/2025 13:57	WG2439788
Methylene Chloride	U		0.430	5.00	1	01/25/2025 13:57	WG2439788
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	01/25/2025 13:57	WG2439788
Methyl tert-butyl ether	U		0.101	1.00	1	01/25/2025 13:57	WG2439788
Naphthalene	U	C3	1.00	5.00	1	01/25/2025 13:57	WG2439788

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
n-Propylbenzene	U		0.0993	1.00	1	01/25/2025 13:57	WG2439788
Styrene	U		0.118	1.00	1	01/25/2025 13:57	WG2439788
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	01/25/2025 13:57	WG2439788
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	01/25/2025 13:57	WG2439788
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	01/25/2025 13:57	WG2439788
Tetrachloroethene	U		0.300	1.00	1	01/25/2025 13:57	WG2439788
Toluene	U		0.278	1.00	1	01/25/2025 13:57	WG2439788
1,2,3-Trichlorobenzene	U		0.230	1.00	1	01/25/2025 13:57	WG2439788
1,2,4-Trichlorobenzene	U		0.481	1.00	1	01/25/2025 13:57	WG2439788
1,1,1-Trichloroethane	U		0.149	1.00	1	01/25/2025 13:57	WG2439788
1,1,2-Trichloroethane	U		0.158	1.00	1	01/25/2025 13:57	WG2439788
Trichloroethene	U		0.190	1.00	1	01/25/2025 13:57	WG2439788
Trichlorofluoromethane	U		0.160	5.00	1	01/25/2025 13:57	WG2439788
1,2,3-Trichloropropane	U		0.237	2.50	1	01/25/2025 13:57	WG2439788
1,2,4-Trimethylbenzene	U		0.322	1.00	1	01/25/2025 13:57	WG2439788
1,2,3-Trimethylbenzene	U		0.104	1.00	1	01/25/2025 13:57	WG2439788
1,3,5-Trimethylbenzene	U		0.104	1.00	1	01/25/2025 13:57	WG2439788
Vinyl chloride	U		0.234	1.00	1	01/25/2025 13:57	WG2439788
Xylenes, Total	U		0.174	3.00	1	01/25/2025 13:57	WG2439788
(S) Toluene-d8	*94.5*			*80.0-120*		*01/25/2025 13:57*	WG2439788
(S) 4-Bromofluorobenzene	*110*			*77.0-126*		*01/25/2025 13:57*	WG2439788
(S) 1,2-Dichloroethane-d4	*95.8*			*70.0-130*		*01/25/2025 13:57*	WG2439788

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	6000		31.6	100	1	01/25/2025 07:32	WG2439626
(S) a,a,a-Trifluorotoluene(FID)	*107*			*78.0-120*		*01/25/2025 07:32*	WG2439626

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		282	1250	25	01/25/2025 18:32	WG2439788
Acrolein	U		63.5	1250	25	01/25/2025 18:32	WG2439788
Acrylonitrile	U		16.8	250	25	01/25/2025 18:32	WG2439788
Benzene	641		2.35	25.0	25	01/25/2025 18:32	WG2439788
Bromobenzene	U		2.95	25.0	25	01/25/2025 18:32	WG2439788
Bromodichloromethane	U		3.40	25.0	25	01/25/2025 18:32	WG2439788
Bromoform	U		3.22	25.0	25	01/25/2025 18:32	WG2439788
Bromomethane	U	C3	15.1	125	25	01/25/2025 18:32	WG2439788
n-Butylbenzene	4.89	C3 J	3.93	25.0	25	01/25/2025 18:32	WG2439788
sec-Butylbenzene	6.90	J	3.13	25.0	25	01/25/2025 18:32	WG2439788
tert-Butylbenzene	U		3.18	25.0	25	01/25/2025 18:32	WG2439788
Carbon disulfide	U		2.41	25.0	25	01/25/2025 18:32	WG2439788
Carbon tetrachloride	U		3.20	25.0	25	01/25/2025 18:32	WG2439788
Chlorobenzene	U		2.90	25.0	25	01/25/2025 18:32	WG2439788
Chlorodibromomethane	U		3.50	25.0	25	01/25/2025 18:32	WG2439788
Chloroethane	U		4.80	125	25	01/25/2025 18:32	WG2439788
Chloroform	U		2.78	125	25	01/25/2025 18:32	WG2439788
Chloromethane	U		24.0	62.5	25	01/25/2025 18:32	WG2439788
2-Chlorotoluene	U		2.65	25.0	25	01/25/2025 18:32	WG2439788
4-Chlorotoluene	U		2.85	25.0	25	01/25/2025 18:32	WG2439788
1,2-Dibromo-3-Chloropropane	U	C3	6.90	125	25	01/25/2025 18:32	WG2439788
1,2-Dibromoethane	U		3.15	25.0	25	01/25/2025 18:32	WG2439788
Dibromomethane	U		3.05	25.0	25	01/25/2025 18:32	WG2439788
1,2-Dichlorobenzene	U		2.68	25.0	25	01/25/2025 18:32	WG2439788
1,3-Dichlorobenzene	U		2.75	25.0	25	01/25/2025 18:32	WG2439788
1,4-Dichlorobenzene	U		3.00	25.0	25	01/25/2025 18:32	WG2439788
Dichlorodifluoromethane	U		9.35	125	25	01/25/2025 18:32	WG2439788
1,1-Dichloroethane	U		2.50	25.0	25	01/25/2025 18:32	WG2439788
1,2-Dichloroethane	U		2.05	25.0	25	01/25/2025 18:32	WG2439788
1,1-Dichloroethene	U		4.70	25.0	25	01/25/2025 18:32	WG2439788
cis-1,2-Dichloroethene	U		3.15	25.0	25	01/25/2025 18:32	WG2439788
trans-1,2-Dichloroethene	U		3.73	25.0	25	01/25/2025 18:32	WG2439788
1,2-Dichloropropane	U		3.73	25.0	25	01/25/2025 18:32	WG2439788
1,1-Dichloropropene	U		3.55	25.0	25	01/25/2025 18:32	WG2439788
1,3-Dichloropropane	U		2.75	25.0	25	01/25/2025 18:32	WG2439788
cis-1,3-Dichloropropene	U		2.78	25.0	25	01/25/2025 18:32	WG2439788
trans-1,3-Dichloropropene	U		2.95	25.0	25	01/25/2025 18:32	WG2439788
2,2-Dichloropropane	U		4.03	25.0	25	01/25/2025 18:32	WG2439788
Di-isopropyl ether	U		2.63	25.0	25	01/25/2025 18:32	WG2439788
Ethylbenzene	60.8		3.43	25.0	25	01/25/2025 18:32	WG2439788
Hexachloro-1,3-butadiene	U		8.43	25.0	25	01/25/2025 18:32	WG2439788
Isopropylbenzene	23.2	J	2.63	25.0	25	01/25/2025 18:32	WG2439788
p-Isopropyltoluene	U		3.00	25.0	25	01/25/2025 18:32	WG2439788
2-Butanone (MEK)	U		29.8	250	25	01/25/2025 18:32	WG2439788
Methylene Chloride	U		10.7	125	25	01/25/2025 18:32	WG2439788
4-Methyl-2-pentanone (MIBK)	U		12.0	250	25	01/25/2025 18:32	WG2439788
Methyl tert-butyl ether	U		2.53	25.0	25	01/25/2025 18:32	WG2439788
Naphthalene	U	C3	25.0	125	25	01/25/2025 18:32	WG2439788

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
n-Propylbenzene	83.7		2.48	25.0	25	01/25/2025 18:32	WG2439788
Styrene	U		2.95	25.0	25	01/25/2025 18:32	WG2439788
1,1,1,2-Tetrachloroethane	U		3.68	25.0	25	01/25/2025 18:32	WG2439788
1,1,2,2-Tetrachloroethane	U		3.33	25.0	25	01/25/2025 18:32	WG2439788
1,1,2-Trichlorotrifluoroethane	U		4.50	25.0	25	01/25/2025 18:32	WG2439788
Tetrachloroethene	U		7.50	25.0	25	01/25/2025 18:32	WG2439788
Toluene	U		6.95	25.0	25	01/28/2025 05:27	WG2440604
1,2,3-Trichlorobenzene	U		5.75	25.0	25	01/25/2025 18:32	WG2439788
1,2,4-Trichlorobenzene	U		12.0	25.0	25	01/25/2025 18:32	WG2439788
1,1,1-Trichloroethane	U		3.73	25.0	25	01/25/2025 18:32	WG2439788
1,1,2-Trichloroethane	U		3.95	25.0	25	01/25/2025 18:32	WG2439788
Trichloroethene	U		4.75	25.0	25	01/25/2025 18:32	WG2439788
Trichlorofluoromethane	U		4.00	125	25	01/25/2025 18:32	WG2439788
1,2,3-Trichloropropane	U		5.93	62.5	25	01/25/2025 18:32	WG2439788
1,2,4-Trimethylbenzene	15.4	J	8.05	25.0	25	01/25/2025 18:32	WG2439788
1,2,3-Trimethylbenzene	27.8		2.60	25.0	25	01/25/2025 18:32	WG2439788
1,3,5-Trimethylbenzene	7.25	J	2.60	25.0	25	01/25/2025 18:32	WG2439788
Vinyl chloride	U		5.85	25.0	25	01/25/2025 18:32	WG2439788
Xylenes, Total	103		4.35	75.0	25	01/25/2025 18:32	WG2439788
(S) Toluene-d8	*93.3*			*80.0-120*		*01/25/2025 18:32*	WG2439788
(S) Toluene-d8	*101*			*80.0-120*		*01/28/2025 05:27*	WG2440604
(S) 4-Bromofluorobenzene	*110*			*77.0-126*		*01/25/2025 18:32*	WG2439788
(S) 4-Bromofluorobenzene	*101*			*77.0-126*		*01/28/2025 05:27*	WG2440604
(S) 1,2-Dichloroethane-d4	*91.9*			*70.0-130*		*01/25/2025 18:32*	WG2439788
(S) 1,2-Dichloroethane-d4	*98.3*			*70.0-130*		*01/28/2025 05:27*	WG2440604

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	720		158	500	5	01/27/2025 20:26	WG2440662
(S) a,a,a-Trifluorotoluene(FID)	*99.4*			*78.0-120*		*01/27/2025 20:26*	WG2440662

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	01/25/2025 14:18	WG2439788
Acrolein	U		2.54	50.0	1	01/25/2025 14:18	WG2439788
Acrylonitrile	U		0.671	10.0	1	01/25/2025 14:18	WG2439788
Benzene	30.0		0.0941	1.00	1	01/25/2025 14:18	WG2439788
Bromobenzene	U		0.118	1.00	1	01/25/2025 14:18	WG2439788
Bromodichloromethane	U		0.136	1.00	1	01/25/2025 14:18	WG2439788
Bromoform	U		0.129	1.00	1	01/25/2025 14:18	WG2439788
Bromomethane	U	C3	0.605	5.00	1	01/25/2025 14:18	WG2439788
n-Butylbenzene	2.52	C3	0.157	1.00	1	01/25/2025 14:18	WG2439788
sec-Butylbenzene	4.34		0.125	1.00	1	01/25/2025 14:18	WG2439788
tert-Butylbenzene	U		0.127	1.00	1	01/25/2025 14:18	WG2439788
Carbon disulfide	U		0.0962	1.00	1	01/25/2025 14:18	WG2439788
Carbon tetrachloride	U		0.128	1.00	1	01/25/2025 14:18	WG2439788
Chlorobenzene	U		0.116	1.00	1	01/25/2025 14:18	WG2439788
Chlorodibromomethane	U		0.140	1.00	1	01/25/2025 14:18	WG2439788
Chloroethane	U		0.192	5.00	1	01/25/2025 14:18	WG2439788
Chloroform	U		0.111	5.00	1	01/25/2025 14:18	WG2439788
Chloromethane	U		0.960	2.50	1	01/25/2025 14:18	WG2439788
2-Chlorotoluene	U		0.106	1.00	1	01/25/2025 14:18	WG2439788
4-Chlorotoluene	U		0.114	1.00	1	01/25/2025 14:18	WG2439788
1,2-Dibromo-3-Chloropropane	U	C3	0.276	5.00	1	01/25/2025 14:18	WG2439788
1,2-Dibromoethane	U		0.126	1.00	1	01/25/2025 14:18	WG2439788
Dibromomethane	U		0.122	1.00	1	01/25/2025 14:18	WG2439788
1,2-Dichlorobenzene	U		0.107	1.00	1	01/25/2025 14:18	WG2439788
1,3-Dichlorobenzene	U		0.110	1.00	1	01/25/2025 14:18	WG2439788
1,4-Dichlorobenzene	U		0.120	1.00	1	01/25/2025 14:18	WG2439788
Dichlorodifluoromethane	U		0.374	5.00	1	01/25/2025 14:18	WG2439788
1,1-Dichloroethane	U		0.100	1.00	1	01/25/2025 14:18	WG2439788
1,2-Dichloroethane	U		0.0819	1.00	1	01/25/2025 14:18	WG2439788
1,1-Dichloroethene	U		0.188	1.00	1	01/25/2025 14:18	WG2439788
cis-1,2-Dichloroethene	U		0.126	1.00	1	01/25/2025 14:18	WG2439788
trans-1,2-Dichloroethene	U		0.149	1.00	1	01/25/2025 14:18	WG2439788
1,2-Dichloropropane	U		0.149	1.00	1	01/25/2025 14:18	WG2439788
1,1-Dichloropropene	U		0.142	1.00	1	01/25/2025 14:18	WG2439788
1,3-Dichloropropane	U		0.110	1.00	1	01/25/2025 14:18	WG2439788
cis-1,3-Dichloropropene	U		0.111	1.00	1	01/25/2025 14:18	WG2439788
trans-1,3-Dichloropropene	U		0.118	1.00	1	01/25/2025 14:18	WG2439788
2,2-Dichloropropane	U		0.161	1.00	1	01/25/2025 14:18	WG2439788
Di-isopropyl ether	U		0.105	1.00	1	01/25/2025 14:18	WG2439788
Ethylbenzene	2.37		0.137	1.00	1	01/25/2025 14:18	WG2439788
Hexachloro-1,3-butadiene	U		0.337	1.00	1	01/25/2025 14:18	WG2439788
Isopropylbenzene	12.9		0.105	1.00	1	01/25/2025 14:18	WG2439788
p-Isopropyltoluene	0.426	J	0.120	1.00	1	01/25/2025 14:18	WG2439788
2-Butanone (MEK)	U		1.19	10.0	1	01/25/2025 14:18	WG2439788
Methylene Chloride	U		0.430	5.00	1	01/25/2025 14:18	WG2439788
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	01/25/2025 14:18	WG2439788
Methyl tert-butyl ether	U		0.101	1.00	1	01/25/2025 14:18	WG2439788
Naphthalene	U	C3	1.00	5.00	1	01/25/2025 14:18	WG2439788

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
n-Propylbenzene	20.3		0.0993	1.00	1	01/25/2025 14:18	WG2439788
Styrene	U		0.118	1.00	1	01/25/2025 14:18	WG2439788
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	01/25/2025 14:18	WG2439788
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	01/25/2025 14:18	WG2439788
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	01/25/2025 14:18	WG2439788
Tetrachloroethene	U		0.300	1.00	1	01/25/2025 14:18	WG2439788
Toluene	0.438	J	0.278	1.00	1	01/25/2025 14:18	WG2439788
1,2,3-Trichlorobenzene	U		0.230	1.00	1	01/25/2025 14:18	WG2439788
1,2,4-Trichlorobenzene	U		0.481	1.00	1	01/25/2025 14:18	WG2439788
1,1,1-Trichloroethane	U		0.149	1.00	1	01/25/2025 14:18	WG2439788
1,1,2-Trichloroethane	U		0.158	1.00	1	01/25/2025 14:18	WG2439788
Trichloroethene	U		0.190	1.00	1	01/25/2025 14:18	WG2439788
Trichlorofluoromethane	U		0.160	5.00	1	01/25/2025 14:18	WG2439788
1,2,3-Trichloropropane	U		0.237	2.50	1	01/25/2025 14:18	WG2439788
1,2,4-Trimethylbenzene	U		0.322	1.00	1	01/25/2025 14:18	WG2439788
1,2,3-Trimethylbenzene	1.09		0.104	1.00	1	01/25/2025 14:18	WG2439788
1,3,5-Trimethylbenzene	U		0.104	1.00	1	01/25/2025 14:18	WG2439788
Vinyl chloride	U		0.234	1.00	1	01/25/2025 14:18	WG2439788
Xylenes, Total	0.575	J	0.174	3.00	1	01/25/2025 14:18	WG2439788
(S) Toluene-d8	*94.3*			*80.0-120*		*01/25/2025 14:18*	WG2439788
(S) 4-Bromofluorobenzene	*110*			*77.0-126*		*01/25/2025 14:18*	WG2439788
(S) 1,2-Dichloroethane-d4	*88.5*			*70.0-130*		*01/25/2025 14:18*	WG2439788

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	5280		31.6	100	1	01/25/2025 07:54	WG2439626
(S) a,a,a-Trifluorotoluene(FID)	*104*			*78.0-120*		*01/25/2025 07:54*	WG2439626

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	01/25/2025 14:39	WG2439788
Acrolein	U		2.54	50.0	1	01/25/2025 14:39	WG2439788
Acrylonitrile	U		0.671	10.0	1	01/25/2025 14:39	WG2439788
Benzene	543		2.35	25.0	25	01/28/2025 05:49	WG2440604
Bromobenzene	U		0.118	1.00	1	01/25/2025 14:39	WG2439788
Bromodichloromethane	U		0.136	1.00	1	01/25/2025 14:39	WG2439788
Bromoform	U		0.129	1.00	1	01/25/2025 14:39	WG2439788
Bromomethane	U	C3	0.605	5.00	1	01/25/2025 14:39	WG2439788
n-Butylbenzene	12.2	C3	0.157	1.00	1	01/25/2025 14:39	WG2439788
sec-Butylbenzene	9.01		0.125	1.00	1	01/25/2025 14:39	WG2439788
tert-Butylbenzene	U		0.127	1.00	1	01/25/2025 14:39	WG2439788
Carbon disulfide	U		0.0962	1.00	1	01/25/2025 14:39	WG2439788
Carbon tetrachloride	U		0.128	1.00	1	01/25/2025 14:39	WG2439788
Chlorobenzene	U		0.116	1.00	1	01/25/2025 14:39	WG2439788
Chlorodibromomethane	U		0.140	1.00	1	01/25/2025 14:39	WG2439788
Chloroethane	U		0.192	5.00	1	01/25/2025 14:39	WG2439788
Chloroform	U		0.111	5.00	1	01/25/2025 14:39	WG2439788
Chloromethane	U		0.960	2.50	1	01/25/2025 14:39	WG2439788
2-Chlorotoluene	U		0.106	1.00	1	01/25/2025 14:39	WG2439788
4-Chlorotoluene	U		0.114	1.00	1	01/25/2025 14:39	WG2439788
1,2-Dibromo-3-Chloropropane	U	C3	0.276	5.00	1	01/25/2025 14:39	WG2439788
1,2-Dibromoethane	U		0.126	1.00	1	01/25/2025 14:39	WG2439788
Dibromomethane	U		0.122	1.00	1	01/25/2025 14:39	WG2439788
1,2-Dichlorobenzene	U		0.107	1.00	1	01/25/2025 14:39	WG2439788
1,3-Dichlorobenzene	U		0.110	1.00	1	01/25/2025 14:39	WG2439788
1,4-Dichlorobenzene	U		0.120	1.00	1	01/25/2025 14:39	WG2439788
Dichlorodifluoromethane	U		0.374	5.00	1	01/25/2025 14:39	WG2439788
1,1-Dichloroethane	U		0.100	1.00	1	01/25/2025 14:39	WG2439788
1,2-Dichloroethane	U		0.0819	1.00	1	01/25/2025 14:39	WG2439788
1,1-Dichloroethene	U		0.188	1.00	1	01/25/2025 14:39	WG2439788
cis-1,2-Dichloroethene	U		0.126	1.00	1	01/25/2025 14:39	WG2439788
trans-1,2-Dichloroethene	U		0.149	1.00	1	01/25/2025 14:39	WG2439788
1,2-Dichloropropane	U		0.149	1.00	1	01/25/2025 14:39	WG2439788
1,1-Dichloropropene	U		0.142	1.00	1	01/25/2025 14:39	WG2439788
1,3-Dichloropropane	U		0.110	1.00	1	01/25/2025 14:39	WG2439788
cis-1,3-Dichloropropene	U		0.111	1.00	1	01/25/2025 14:39	WG2439788
trans-1,3-Dichloropropene	U		0.118	1.00	1	01/25/2025 14:39	WG2439788
2,2-Dichloropropane	U		0.161	1.00	1	01/25/2025 14:39	WG2439788
Di-isopropyl ether	U		0.105	1.00	1	01/25/2025 14:39	WG2439788
Ethylbenzene	69.2		0.137	1.00	1	01/25/2025 14:39	WG2439788
Hexachloro-1,3-butadiene	U		0.337	1.00	1	01/25/2025 14:39	WG2439788
Isopropylbenzene	32.5		0.105	1.00	1	01/25/2025 14:39	WG2439788
p-Isopropyltoluene	2.22		0.120	1.00	1	01/25/2025 14:39	WG2439788
2-Butanone (MEK)	U		1.19	10.0	1	01/25/2025 14:39	WG2439788
Methylene Chloride	U		0.430	5.00	1	01/25/2025 14:39	WG2439788
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	01/25/2025 14:39	WG2439788
Methyl tert-butyl ether	U		0.101	1.00	1	01/25/2025 14:39	WG2439788
Naphthalene	6.78	C3	1.00	5.00	1	01/25/2025 14:39	WG2439788

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
n-Propylbenzene	123		0.0993	1.00	1	01/25/2025 14:39	WG2439788
Styrene	U		0.118	1.00	1	01/25/2025 14:39	WG2439788
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	01/25/2025 14:39	WG2439788
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	01/25/2025 14:39	WG2439788
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	01/25/2025 14:39	WG2439788
Tetrachloroethene	U		0.300	1.00	1	01/25/2025 14:39	WG2439788
Toluene	5.59		0.278	1.00	1	01/25/2025 14:39	WG2439788
1,2,3-Trichlorobenzene	U		0.230	1.00	1	01/25/2025 14:39	WG2439788
1,2,4-Trichlorobenzene	U		0.481	1.00	1	01/25/2025 14:39	WG2439788
1,1,1-Trichloroethane	U		0.149	1.00	1	01/25/2025 14:39	WG2439788
1,1,2-Trichloroethane	U		0.158	1.00	1	01/25/2025 14:39	WG2439788
Trichloroethene	U		0.190	1.00	1	01/25/2025 14:39	WG2439788
Trichlorofluoromethane	U		0.160	5.00	1	01/25/2025 14:39	WG2439788
1,2,3-Trichloropropane	U		0.237	2.50	1	01/25/2025 14:39	WG2439788
1,2,4-Trimethylbenzene	3.15		0.322	1.00	1	01/25/2025 14:39	WG2439788
1,2,3-Trimethylbenzene	36.2		0.104	1.00	1	01/25/2025 14:39	WG2439788
1,3,5-Trimethylbenzene	3.47		0.104	1.00	1	01/25/2025 14:39	WG2439788
Vinyl chloride	U		0.234	1.00	1	01/25/2025 14:39	WG2439788
Xylenes, Total	19.5		0.174	3.00	1	01/25/2025 14:39	WG2439788
(S) Toluene-d8	*90.0*			*80.0-120*		*01/25/2025 14:39*	WG2439788
(S) Toluene-d8	*98.4*			*80.0-120*		*01/28/2025 05:49*	WG2440604
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*01/25/2025 14:39*	WG2439788
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*01/28/2025 05:49*	WG2440604
(S) 1,2-Dichloroethane-d4	*91.8*			*70.0-130*		*01/25/2025 14:39*	WG2439788
(S) 1,2-Dichloroethane-d4	*99.5*			*70.0-130*		*01/28/2025 05:49*	WG2440604

Method Blank (MB)

(MB) R4170301-3 01/25/25 01:41

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	53.9	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*103*			*78.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4170301-1 01/25/25 00:26 • (LCSD) R4170301-2 01/25/25 00:57

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	5500	5690	5660	103	103	70.0-124			0.529	20
(S) a,a,a-Trifluorotoluene(FID)				*108*	*109*	*78.0-120*				

Method Blank (MB)

(MB) R4170763-2 01/26/25 11:31

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	65.5	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*96.5*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R4170763-1 01/26/25 10:48

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5000	5570	111	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*108*	*78.0-120*	

Method Blank (MB)

(MB) R4171477-2 01/27/25 19:46

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*105*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R4171477-1 01/27/25 18:19

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5000	4740	94.8	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*103*	*78.0-120*	

Method Blank (MB)

(MB) R4170411-4 01/25/25 09:50

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	50.0
Acrolein	U		2.54	50.0
Acrylonitrile	U		0.671	10.0
Benzene	U		0.0941	1.00
Bromobenzene	U		0.118	1.00
Bromodichloromethane	U		0.136	1.00
Bromoform	U		0.129	1.00
Bromomethane	U		0.605	5.00
n-Butylbenzene	U		0.157	1.00
sec-Butylbenzene	U		0.125	1.00
tert-Butylbenzene	U		0.127	1.00
Carbon disulfide	0.112	J	0.0962	1.00
Carbon tetrachloride	U		0.128	1.00
Chlorobenzene	U		0.116	1.00
Chlorodibromomethane	U		0.140	1.00
Chloroethane	U		0.192	5.00
Chloroform	U		0.111	5.00
Chloromethane	U		0.960	2.50
2-Chlorotoluene	U		0.106	1.00
4-Chlorotoluene	U		0.114	1.00
1,2-Dibromo-3-Chloropropane	U		0.276	5.00
1,2-Dibromoethane	U		0.126	1.00
Dibromomethane	U		0.122	1.00
1,2-Dichlorobenzene	U		0.107	1.00
1,3-Dichlorobenzene	U		0.110	1.00
1,4-Dichlorobenzene	U		0.120	1.00
Dichlorodifluoromethane	U		0.374	5.00
1,1-Dichloroethane	U		0.100	1.00
1,2-Dichloroethane	U		0.0819	1.00
1,1-Dichloroethene	U		0.188	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
1,2-Dichloropropane	U		0.149	1.00
1,1-Dichloropropene	U		0.142	1.00
1,3-Dichloropropane	U		0.110	1.00
cis-1,3-Dichloropropene	U		0.111	1.00
trans-1,3-Dichloropropene	U		0.118	1.00
2,2-Dichloropropane	U		0.161	1.00
Di-isopropyl ether	U		0.105	1.00
Ethylbenzene	U		0.137	1.00

Method Blank (MB)

(MB) R4170411-4 01/25/25 09:50

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	U		0.337	1.00
Isopropylbenzene	U		0.105	1.00
p-Isopropyltoluene	U		0.120	1.00
2-Butanone (MEK)	U		1.19	10.0
Methylene Chloride	U		0.430	5.00
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0
Methyl tert-butyl ether	U		0.101	1.00
Naphthalene	U		1.00	5.00
n-Propylbenzene	U		0.0993	1.00
Styrene	U		0.118	1.00
1,1,1,2-Tetrachloroethane	U		0.147	1.00
1,1,2,2-Tetrachloroethane	U		0.133	1.00
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00
Tetrachloroethene	U		0.300	1.00
Toluene	U		0.278	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.481	1.00
1,1,1-Trichloroethane	U		0.149	1.00
1,1,2-Trichloroethane	U		0.158	1.00
Trichloroethene	U		0.190	1.00
Trichlorofluoromethane	U		0.160	5.00
1,2,3-Trichloropropane	U		0.237	2.50
1,2,4-Trimethylbenzene	U		0.322	1.00
1,2,3-Trimethylbenzene	U		0.104	1.00
1,3,5-Trimethylbenzene	U		0.104	1.00
Vinyl chloride	U		0.234	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*104*			*80.0-120*
(S) 4-Bromofluorobenzene	*106*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*91.7*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4170411-1 01/25/25 08:00 • (LCSD) R4170411-2 01/25/25 08:22

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	24.5	25.7	98.0	103	19.0-160	J	J	4.78	27
Acrolein	25.0	25.0	24.6	100	98.4	10.0-160	J	J	1.61	26
Acrylonitrile	25.0	27.7	28.3	111	113	55.0-149			2.14	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4170411-1 01/25/25 08:00 • (LCSD) R4170411-2 01/25/25 08:22

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	5.00	5.68	5.76	114	115	70.0-123			1.40	20
Bromobenzene	5.00	4.71	4.78	94.2	95.6	73.0-121			1.48	20
Bromodichloromethane	5.00	5.14	5.29	103	106	75.0-120			2.88	20
Bromoform	5.00	4.08	4.17	81.6	83.4	68.0-132			2.18	20
Bromomethane	5.00	5.03	4.55	101	91.0	10.0-160		J	10.0	25
n-Butylbenzene	5.00	4.74	4.63	94.8	92.6	73.0-125			2.35	20
sec-Butylbenzene	5.00	4.91	5.05	98.2	101	75.0-125			2.81	20
tert-Butylbenzene	5.00	4.82	4.95	96.4	99.0	76.0-124			2.66	20
Carbon disulfide	5.00	5.65	5.46	113	109	61.0-128			3.42	20
Carbon tetrachloride	5.00	5.49	5.55	110	111	68.0-126			1.09	20
Chlorobenzene	5.00	5.16	5.16	103	103	80.0-121			0.000	20
Chlorodibromomethane	5.00	4.79	4.84	95.8	96.8	77.0-125			1.04	20
Chloroethane	5.00	5.89	5.77	118	115	47.0-150			2.06	20
Chloroform	5.00	5.54	5.63	111	113	73.0-120			1.61	20
Chloromethane	5.00	5.23	5.55	105	111	41.0-142			5.94	20
2-Chlorotoluene	5.00	4.71	4.75	94.2	95.0	76.0-123			0.846	20
4-Chlorotoluene	5.00	4.51	4.58	90.2	91.6	75.0-122			1.54	20
1,2-Dibromo-3-Chloropropane	5.00	4.53	4.31	90.6	86.2	58.0-134	J	J	4.98	20
1,2-Dibromoethane	5.00	4.97	5.02	99.4	100	80.0-122			1.00	20
Dibromomethane	5.00	5.67	5.99	113	120	80.0-120			5.49	20
1,2-Dichlorobenzene	5.00	4.72	4.87	94.4	97.4	79.0-121			3.13	20
1,3-Dichlorobenzene	5.00	4.62	4.91	92.4	98.2	79.0-120			6.09	20
1,4-Dichlorobenzene	5.00	4.65	4.76	93.0	95.2	79.0-120			2.34	20
Dichlorodifluoromethane	5.00	7.17	7.46	143	149	51.0-149			3.96	20
1,1-Dichloroethane	5.00	5.56	5.66	111	113	70.0-126			1.78	20
1,2-Dichloroethane	5.00	5.43	5.65	109	113	70.0-128			3.97	20
1,1-Dichloroethene	5.00	6.18	6.03	124	121	71.0-124			2.46	20
cis-1,2-Dichloroethene	5.00	5.77	5.75	115	115	73.0-120			0.347	20
trans-1,2-Dichloroethene	5.00	6.07	5.50	121	110	73.0-120	J4		9.85	20
1,2-Dichloropropane	5.00	5.64	5.63	113	113	77.0-125			0.177	20
1,1-Dichloropropene	5.00	5.73	5.98	115	120	74.0-126			4.27	20
1,3-Dichloropropane	5.00	5.24	5.09	105	102	80.0-120			2.90	20
cis-1,3-Dichloropropene	5.00	5.41	5.50	108	110	80.0-123			1.65	20
trans-1,3-Dichloropropene	5.00	4.96	4.96	99.2	99.2	78.0-124			0.000	20
2,2-Dichloropropane	5.00	5.83	6.02	117	120	58.0-130			3.21	20
Di-isopropyl ether	5.00	5.49	5.42	110	108	58.0-138			1.28	20
Ethylbenzene	5.00	5.03	5.10	101	102	79.0-123			1.38	20
Hexachloro-1,3-butadiene	5.00	4.77	4.92	95.4	98.4	54.0-138			3.10	20
Isopropylbenzene	5.00	4.79	5.09	95.8	102	76.0-127			6.07	20
p-Isopropyltoluene	5.00	4.89	5.00	97.8	100	76.0-125			2.22	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4170411-1 01/25/25 08:00 • (LCSD) R4170411-2 01/25/25 08:22

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2-Butanone (MEK)	25.0	30.5	31.3	122	125	44.0-160			2.59	20
Methylene Chloride	5.00	5.89	5.59	118	112	67.0-120			5.23	20
4-Methyl-2-pentanone (MIBK)	25.0	24.9	25.3	99.6	101	68.0-142			1.59	20
Methyl tert-butyl ether	5.00	5.83	5.48	117	110	68.0-125			6.19	20
Naphthalene	5.00	4.63	4.46	92.6	89.2	54.0-135	J	J	3.74	20
n-Propylbenzene	5.00	4.86	4.97	97.2	99.4	77.0-124			2.24	20
Styrene	5.00	4.33	4.39	86.6	87.8	73.0-130			1.38	20
1,1,1,2-Tetrachloroethane	5.00	4.89	4.98	97.8	99.6	75.0-125			1.82	20
1,1,2,2-Tetrachloroethane	5.00	4.80	5.04	96.0	101	65.0-130			4.88	20
1,1,2-Trichlorotrifluoroethane	5.00	6.42	6.08	128	122	69.0-132			5.44	20
Tetrachloroethene	5.00	5.11	5.37	102	107	72.0-132			4.96	20
Toluene	5.00	4.98	5.02	99.6	100	79.0-120			0.800	20
1,2,3-Trichlorobenzene	5.00	4.26	4.53	85.2	90.6	50.0-138			6.14	20
1,2,4-Trichlorobenzene	5.00	4.25	4.51	85.0	90.2	57.0-137			5.94	20
1,1,1-Trichloroethane	5.00	5.70	5.89	114	118	73.0-124			3.28	20
1,1,2-Trichloroethane	5.00	5.05	4.98	101	99.6	80.0-120			1.40	20
Trichloroethene	5.00	5.45	5.76	109	115	78.0-124			5.53	20
Trichlorofluoromethane	5.00	5.94	6.22	119	124	59.0-147			4.61	20
1,2,3-Trichloropropane	5.00	4.92	5.14	98.4	103	73.0-130			4.37	20
1,2,4-Trimethylbenzene	5.00	4.75	4.92	95.0	98.4	76.0-121			3.52	20
1,2,3-Trimethylbenzene	5.00	4.79	4.92	95.8	98.4	77.0-120			2.68	20
1,3,5-Trimethylbenzene	5.00	4.68	4.80	93.6	96.0	76.0-122			2.53	20
Vinyl chloride	5.00	5.58	6.05	112	121	67.0-131			8.08	20
Xylenes, Total	15.0	14.6	14.7	97.3	98.0	79.0-123			0.683	20
(S) Toluene-d8				*96.3*	*97.1*	*80.0-120*				
(S) 4-Bromofluorobenzene				*98.4*	*99.1*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*93.4*	*93.1*	*70.0-130*				

L1819918-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1819918-01 01/25/25 13:46 • (MS) R4170411-5 01/25/25 19:34 • (MSD) R4170411-6 01/25/25 19:55

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	U	23.7	26.9	94.8	108	1	10.0-160			12.6	35
Acrolein	25.0	U	25.3	24.7	101	98.8	1	10.0-160	J	J	2.40	39
Acrylonitrile	25.0	U	26.2	26.1	105	104	1	21.0-160			0.382	32
Benzene	5.00	U	5.58	5.33	112	107	1	17.0-158			4.58	27
Bromobenzene	5.00	U	4.74	4.80	94.8	96.0	1	30.0-149			1.26	28
Bromodichloromethane	5.00	U	5.45	5.29	109	106	1	31.0-150			2.98	27

L1819918-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1819918-01 01/25/25 13:46 • (MS) R4170411-5 01/25/25 19:34 • (MSD) R4170411-6 01/25/25 19:55

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromoform	5.00	U	4.44	4.32	88.8	86.4	1	29.0-150			2.74	29
Bromomethane	5.00	U	5.06	4.55	101	91.0	1	10.0-160			10.6	38
n-Butylbenzene	5.00	U	4.20	4.44	84.0	88.8	1	31.0-150			5.56	30
sec-Butylbenzene	5.00	U	4.76	5.02	95.2	100	1	33.0-155			5.32	29
tert-Butylbenzene	5.00	U	4.80	5.03	96.0	101	1	34.0-153			4.68	28
Carbon disulfide	5.00	U	6.54	6.23	131	125	1	10.0-156			4.86	28
Carbon tetrachloride	5.00	U	5.71	5.73	114	115	1	23.0-159			0.350	28
Chlorobenzene	5.00	U	5.02	4.90	100	98.0	1	33.0-152			2.42	27
Chlorodibromomethane	5.00	U	4.97	5.04	99.4	101	1	37.0-149			1.40	27
Chloroethane	5.00	U	5.32	5.20	106	104	1	10.0-160			2.28	30
Chloroform	5.00	U	5.44	5.43	109	109	1	29.0-154			0.184	28
Chloromethane	5.00	U	4.75	4.75	95.0	95.0	1	10.0-160			0.000	29
2-Chlorotoluene	5.00	U	4.69	4.82	93.8	96.4	1	32.0-153			2.73	28
4-Chlorotoluene	5.00	U	4.56	4.66	91.2	93.2	1	32.0-150			2.17	28
1,2-Dibromo-3-Chloropropane	5.00	U	4.34	4.62	86.8	92.4	1	22.0-151	J	J	6.25	34
1,2-Dibromoethane	5.00	U	5.01	4.90	100	98.0	1	34.0-147			2.22	27
Dibromomethane	5.00	U	5.63	5.57	113	111	1	30.0-151			1.07	27
1,2-Dichlorobenzene	5.00	U	4.82	4.80	96.4	96.0	1	34.0-149			0.416	28
1,3-Dichlorobenzene	5.00	U	4.58	4.71	91.6	94.2	1	36.0-146			2.80	27
1,4-Dichlorobenzene	5.00	U	4.82	4.82	96.4	96.4	1	35.0-142			0.000	27
Dichlorodifluoromethane	5.00	U	7.38	7.19	148	144	1	10.0-160			2.61	29
1,1-Dichloroethane	5.00	U	5.72	5.32	114	106	1	25.0-158			7.25	27
1,2-Dichloroethane	5.00	U	5.24	5.14	105	103	1	29.0-151			1.93	27
1,1-Dichloroethene	5.00	U	6.29	5.85	126	117	1	11.0-160			7.25	29
cis-1,2-Dichloroethene	5.00	U	5.63	5.29	113	106	1	10.0-160			6.23	27
trans-1,2-Dichloroethene	5.00	U	5.56	5.57	111	111	1	17.0-153			0.180	27
1,2-Dichloropropane	5.00	U	5.71	5.81	114	116	1	30.0-156			1.74	27
1,1-Dichloropropene	5.00	U	5.79	5.65	116	113	1	25.0-158			2.45	27
1,3-Dichloropropane	5.00	U	5.18	4.99	104	99.8	1	38.0-147			3.74	27
cis-1,3-Dichloropropene	5.00	U	5.36	5.18	107	104	1	34.0-149			3.42	28
trans-1,3-Dichloropropene	5.00	U	5.19	4.86	104	97.2	1	32.0-149			6.57	28
2,2-Dichloropropane	5.00	U	5.68	5.49	114	110	1	24.0-152			3.40	29
Di-isopropyl ether	5.00	U	5.32	5.18	106	104	1	21.0-160			2.67	28
Ethylbenzene	5.00	U	5.18	5.01	104	100	1	30.0-155			3.34	27
Hexachloro-1,3-butadiene	5.00	U	3.73	4.21	74.6	84.2	1	20.0-154			12.1	34
Isopropylbenzene	5.00	U	5.07	4.89	101	97.8	1	28.0-157			3.61	27
p-Isopropyltoluene	5.00	U	4.73	4.75	94.6	95.0	1	30.0-154			0.422	29
2-Butanone (MEK)	25.0	U	28.0	28.5	112	114	1	10.0-160			1.77	32
Methylene Chloride	5.00	U	5.59	5.32	112	106	1	23.0-144			4.95	28
4-Methyl-2-pentanone (MIBK)	25.0	U	23.8	23.7	95.2	94.8	1	29.0-160			0.421	29

L1819918-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1819918-01 01/25/25 13:46 • (MS) R4170411-5 01/25/25 19:34 • (MSD) R4170411-6 01/25/25 19:55

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Methyl tert-butyl ether	5.00	U	5.60	5.53	112	111	1	28.0-150			1.26	29
Naphthalene	5.00	U	4.29	4.35	85.8	87.0	1	12.0-156	J	J	1.39	35
n-Propylbenzene	5.00	U	5.03	4.91	101	98.2	1	31.0-154			2.41	28
Styrene	5.00	U	4.46	4.25	89.2	85.0	1	33.0-155			4.82	28
1,1,1,2-Tetrachloroethane	5.00	U	5.05	4.82	101	96.4	1	36.0-151			4.66	29
1,1,2,2-Tetrachloroethane	5.00	U	5.08	5.02	102	100	1	33.0-150			1.19	28
1,1,2-Trichlorotrifluoroethane	5.00	U	6.49	6.63	130	133	1	23.0-160			2.13	30
Tetrachloroethene	5.00	U	4.97	5.01	99.4	100	1	10.0-160			0.802	27
Toluene	5.00	U	5.14	4.89	103	97.8	1	26.0-154			4.99	28
1,2,3-Trichlorobenzene	5.00	U	3.62	3.89	72.4	77.8	1	17.0-150			7.19	36
1,2,4-Trichlorobenzene	5.00	U	3.68	3.90	73.6	78.0	1	24.0-150			5.80	33
1,1,1-Trichloroethane	5.00	U	5.74	5.76	115	115	1	23.0-160			0.348	28
1,1,2-Trichloroethane	5.00	U	4.99	4.91	99.8	98.2	1	35.0-147			1.62	27
Trichloroethene	5.00	U	5.49	5.43	110	109	1	10.0-160			1.10	25
Trichlorofluoromethane	5.00	U	6.21	6.08	124	122	1	17.0-160			2.12	31
1,2,3-Trichloropropane	5.00	U	5.16	5.11	103	102	1	34.0-151			0.974	29
1,2,4-Trimethylbenzene	5.00	U	4.70	4.79	94.0	95.8	1	26.0-154			1.90	27
1,2,3-Trimethylbenzene	5.00	U	4.68	4.79	93.6	95.8	1	32.0-149			2.32	28
1,3,5-Trimethylbenzene	5.00	U	4.39	4.34	87.8	86.8	1	28.0-153			1.15	27
Vinyl chloride	5.00	U	5.61	5.41	112	108	1	10.0-160			3.63	27
Xylenes, Total	15.0	U	14.9	14.6	99.3	97.3	1	29.0-154			2.03	28
(S) Toluene-d8					*96.8*	*95.8*		*80.0-120*				
(S) 4-Bromofluorobenzene					*99.7*	*96.4*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*87.1*	*88.1*		*70.0-130*				

Method Blank (MB)

(MB) R4170718-3 01/25/25 09:20

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	50.0
Acrolein	U		2.54	50.0
Acrylonitrile	U		0.671	10.0
Benzene	U		0.0941	1.00
Bromobenzene	U		0.118	1.00
Bromodichloromethane	U		0.136	1.00
Bromoform	U		0.129	1.00
Bromomethane	U		0.605	5.00
n-Butylbenzene	U		0.157	1.00
sec-Butylbenzene	U		0.125	1.00
tert-Butylbenzene	U		0.127	1.00
Carbon disulfide	U		0.0962	1.00
Carbon tetrachloride	U		0.128	1.00
Chlorobenzene	U		0.116	1.00
Chlorodibromomethane	U		0.140	1.00
Chloroethane	U		0.192	5.00
Chloroform	U		0.111	5.00
Chloromethane	U		0.960	2.50
2-Chlorotoluene	U		0.106	1.00
4-Chlorotoluene	U		0.114	1.00
1,2-Dibromo-3-Chloropropane	U		0.276	5.00
1,2-Dibromoethane	U		0.126	1.00
Dibromomethane	U		0.122	1.00
1,2-Dichlorobenzene	U		0.107	1.00
1,3-Dichlorobenzene	U		0.110	1.00
1,4-Dichlorobenzene	U		0.120	1.00
Dichlorodifluoromethane	U		0.374	5.00
1,1-Dichloroethane	U		0.100	1.00
1,2-Dichloroethane	U		0.0819	1.00
1,1-Dichloroethene	U		0.188	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
1,2-Dichloropropane	U		0.149	1.00
1,1-Dichloropropene	U		0.142	1.00
1,3-Dichloropropane	U		0.110	1.00
cis-1,3-Dichloropropene	U		0.111	1.00
trans-1,3-Dichloropropene	U		0.118	1.00
2,2-Dichloropropane	U		0.161	1.00
Di-isopropyl ether	U		0.105	1.00
Ethylbenzene	U		0.137	1.00

Method Blank (MB)

(MB) R4170718-3 01/25/25 09:20

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	U		0.337	1.00
Isopropylbenzene	U		0.105	1.00
p-Isopropyltoluene	U		0.120	1.00
2-Butanone (MEK)	U		1.19	10.0
Methylene Chloride	U		0.430	5.00
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0
Methyl tert-butyl ether	U		0.101	1.00
Naphthalene	U		1.00	5.00
n-Propylbenzene	U		0.0993	1.00
Styrene	U		0.118	1.00
1,1,1,2-Tetrachloroethane	U		0.147	1.00
1,1,2,2-Tetrachloroethane	U		0.133	1.00
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00
Tetrachloroethene	U		0.300	1.00
Toluene	U		0.278	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.481	1.00
1,1,1-Trichloroethane	U		0.149	1.00
1,1,2-Trichloroethane	U		0.158	1.00
Trichloroethene	U		0.190	1.00
Trichlorofluoromethane	U		0.160	5.00
1,2,3-Trichloropropane	U		0.237	2.50
1,2,4-Trimethylbenzene	U		0.322	1.00
1,2,3-Trimethylbenzene	U		0.104	1.00
1,3,5-Trimethylbenzene	U		0.104	1.00
Vinyl chloride	U		0.234	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*94.7*			*80.0-120*
(S) 4-Bromofluorobenzene	*112*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*95.9*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R4170718-1 01/25/25 08:16

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	25.0	31.2	125	19.0-160	J
Acrolein	25.0	20.8	83.2	10.0-160	J
Acrylonitrile	25.0	30.0	120	55.0-149	

Laboratory Control Sample (LCS)

(LCS) R4170718-1 01/25/25 08:16

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	5.00	5.22	104	70.0-123	
Bromobenzene	5.00	4.11	82.2	73.0-121	
Bromodichloromethane	5.00	5.35	107	75.0-120	
Bromoform	5.00	4.47	89.4	68.0-132	
Bromomethane	5.00	3.14	62.8	10.0-160	J
n-Butylbenzene	5.00	3.96	79.2	73.0-125	
sec-Butylbenzene	5.00	4.20	84.0	75.0-125	
tert-Butylbenzene	5.00	4.03	80.6	76.0-124	
Carbon disulfide	5.00	4.20	84.0	61.0-128	
Carbon tetrachloride	5.00	5.32	106	68.0-126	
Chlorobenzene	5.00	4.85	97.0	80.0-121	
Chlorodibromomethane	5.00	4.25	85.0	77.0-125	
Chloroethane	5.00	4.54	90.8	47.0-150	J
Chloroform	5.00	5.37	107	73.0-120	
Chloromethane	5.00	4.39	87.8	41.0-142	
2-Chlorotoluene	5.00	4.46	89.2	76.0-123	
4-Chlorotoluene	5.00	4.38	87.6	75.0-122	
1,2-Dibromo-3-Chloropropane	5.00	3.85	77.0	58.0-134	J
1,2-Dibromoethane	5.00	4.74	94.8	80.0-122	
Dibromomethane	5.00	5.73	115	80.0-120	
1,2-Dichlorobenzene	5.00	4.47	89.4	79.0-121	
1,3-Dichlorobenzene	5.00	4.52	90.4	79.0-120	
1,4-Dichlorobenzene	5.00	4.63	92.6	79.0-120	
Dichlorodifluoromethane	5.00	5.18	104	51.0-149	
1,1-Dichloroethane	5.00	5.27	105	70.0-126	
1,2-Dichloroethane	5.00	5.71	114	70.0-128	
1,1-Dichloroethene	5.00	4.85	97.0	71.0-124	
cis-1,2-Dichloroethene	5.00	4.90	98.0	73.0-120	
trans-1,2-Dichloroethene	5.00	4.73	94.6	73.0-120	
1,2-Dichloropropane	5.00	5.53	111	77.0-125	
1,1-Dichloropropene	5.00	5.04	101	74.0-126	
1,3-Dichloropropane	5.00	4.80	96.0	80.0-120	
cis-1,3-Dichloropropene	5.00	5.00	100	80.0-123	
trans-1,3-Dichloropropene	5.00	4.54	90.8	78.0-124	
2,2-Dichloropropane	5.00	4.52	90.4	58.0-130	
Di-isopropyl ether	5.00	5.01	100	58.0-138	
Ethylbenzene	5.00	4.56	91.2	79.0-123	
Hexachloro-1,3-butadiene	5.00	4.38	87.6	54.0-138	
Isopropylbenzene	5.00	4.36	87.2	76.0-127	
p-Isopropyltoluene	5.00	4.10	82.0	76.0-125	

Laboratory Control Sample (LCS)

(LCS) R4170718-1 01/25/25 08:16

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2-Butanone (MEK)	25.0	30.7	123	44.0-160	
Methylene Chloride	5.00	4.78	95.6	67.0-120	J
4-Methyl-2-pentanone (MIBK)	25.0	24.8	99.2	68.0-142	
Methyl tert-butyl ether	5.00	5.48	110	68.0-125	
Naphthalene	5.00	3.74	74.8	54.0-135	J
n-Propylbenzene	5.00	4.19	83.8	77.0-124	
Styrene	5.00	4.51	90.2	73.0-130	
1,1,1,2-Tetrachloroethane	5.00	4.59	91.8	75.0-125	
1,1,2,2-Tetrachloroethane	5.00	4.22	84.4	65.0-130	
1,1,2-Trichlorotrifluoroethane	5.00	5.23	105	69.0-132	
Tetrachloroethene	5.00	4.39	87.8	72.0-132	
Toluene	5.00	4.46	89.2	79.0-120	
1,2,3-Trichlorobenzene	5.00	4.33	86.6	50.0-138	
1,2,4-Trichlorobenzene	5.00	4.35	87.0	57.0-137	
1,1,1-Trichloroethane	5.00	5.41	108	73.0-124	
1,1,2-Trichloroethane	5.00	4.54	90.8	80.0-120	
Trichloroethene	5.00	5.29	106	78.0-124	
Trichlorofluoromethane	5.00	4.74	94.8	59.0-147	J
1,2,3-Trichloropropane	5.00	4.40	88.0	73.0-130	
1,2,4-Trimethylbenzene	5.00	4.04	80.8	76.0-121	
1,2,3-Trimethylbenzene	5.00	4.27	85.4	77.0-120	
1,3,5-Trimethylbenzene	5.00	4.39	87.8	76.0-122	
Vinyl chloride	5.00	4.08	81.6	67.0-131	
Xylenes, Total	15.0	13.2	88.0	79.0-123	
(S) Toluene-d8			*91.4*	*80.0-120*	
(S) 4-Bromofluorobenzene			*109*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*95.1*	*70.0-130*	

L1819906-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1819906-03 01/25/25 15:43 • (MS) R4170718-4 01/25/25 19:36 • (MSD) R4170718-5 01/25/25 19:57

Analyte	Spike Amount ug/l	Original Result	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	25.0		26.1	26.6	104	106	1	10.0-160			1.90	35
Acrolein	25.0		23.3	23.6	93.2	94.4	1	10.0-160	J	J	1.28	39
Acrylonitrile	25.0		28.3	27.1	113	108	1	21.0-160			4.33	32
Benzene	5.00	U	5.58	5.43	112	109	1	17.0-158			2.72	27
Bromobenzene	5.00		4.07	4.38	81.4	87.6	1	30.0-149			7.34	28
Bromodichloromethane	5.00	U	5.51	5.66	110	113	1	31.0-150			2.69	27

L1819906-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1819906-03 01/25/25 15:43 • (MS) R4170718-4 01/25/25 19:36 • (MSD) R4170718-5 01/25/25 19:57

Analyte	Spike Amount ug/l	Original Result	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromoform	5.00	U	4.12	4.40	82.4	88.0	1	29.0-150			6.57	29
Bromomethane	5.00	U	1.86	2.53	37.2	50.6	1	10.0-160			30.5	38
n-Butylbenzene	5.00		4.13	4.51	82.6	90.2	1	31.0-150			8.80	30
sec-Butylbenzene	5.00		4.79	4.92	95.8	98.4	1	33.0-155			2.68	29
tert-Butylbenzene	5.00		4.28	4.61	85.6	92.2	1	34.0-153			7.42	28
Carbon disulfide	5.00		4.82	4.86	96.4	97.2	1	10.0-156			0.826	28
Carbon tetrachloride	5.00	U	6.00	6.20	120	124	1	23.0-159			3.28	28
Chlorobenzene	5.00	U	4.95	4.99	99.0	99.8	1	33.0-152			0.805	27
Chlorodibromomethane	5.00	U	4.38	4.56	87.6	91.2	1	37.0-149			4.03	27
Chloroethane	5.00	U	4.85	5.14	97.0	103	1	10.0-160			5.81	30
Chloroform	5.00	U	5.50	5.72	110	114	1	29.0-154			3.92	28
Chloromethane	5.00	U	4.92	4.61	98.4	92.2	1	10.0-160			6.51	29
2-Chlorotoluene	5.00		4.78	4.83	95.6	96.6	1	32.0-153			1.04	28
4-Chlorotoluene	5.00		4.51	4.64	90.2	92.8	1	32.0-150			2.84	28
1,2-Dibromo-3-Chloropropane	5.00		3.63	3.79	72.6	75.8	1	22.0-151	J	J	4.31	34
1,2-Dibromoethane	5.00		4.67	4.64	93.4	92.8	1	34.0-147			0.644	27
Dibromomethane	5.00		5.52	5.50	110	110	1	30.0-151			0.363	27
1,2-Dichlorobenzene	5.00	U	4.34	4.40	86.8	88.0	1	34.0-149			1.37	28
1,3-Dichlorobenzene	5.00	U	4.36	4.57	87.2	91.4	1	36.0-146			4.70	27
1,4-Dichlorobenzene	5.00	U	4.18	4.42	83.6	88.4	1	35.0-142			5.58	27
Dichlorodifluoromethane	5.00	U	6.44	6.27	129	125	1	10.0-160			2.68	29
1,1-Dichloroethane	5.00	U	5.81	5.63	116	113	1	25.0-158			3.15	27
1,2-Dichloroethane	5.00	U	5.60	5.75	112	115	1	29.0-151			2.64	27
1,1-Dichloroethene	5.00	U	5.54	5.59	111	112	1	11.0-160			0.898	29
cis-1,2-Dichloroethene	5.00		4.99	5.36	99.8	107	1	10.0-160			7.15	27
trans-1,2-Dichloroethene	5.00	U	5.41	5.30	108	106	1	17.0-153			2.05	27
1,2-Dichloropropane	5.00	U	5.64	5.69	113	114	1	30.0-156			0.883	27
1,1-Dichloropropene	5.00		5.76	6.20	115	124	1	25.0-158			7.36	27
1,3-Dichloropropane	5.00		4.70	4.91	94.0	98.2	1	38.0-147			4.37	27
cis-1,3-Dichloropropene	5.00	U	4.97	4.95	99.4	99.0	1	34.0-149			0.403	28
trans-1,3-Dichloropropene	5.00	U	4.52	4.52	90.4	90.4	1	32.0-149			0.000	28
2,2-Dichloropropane	5.00		5.80	6.14	116	123	1	24.0-152			5.70	29
Di-isopropyl ether	5.00		5.37	5.40	107	108	1	21.0-160			0.557	28
Ethylbenzene	5.00	U	5.03	5.15	101	103	1	30.0-155			2.36	27
Hexachloro-1,3-butadiene	5.00		4.65	4.95	93.0	99.0	1	20.0-154			6.25	34
Isopropylbenzene	5.00	0.214	4.91	5.02	93.9	96.1	1	28.0-157			2.22	27
p-Isopropyltoluene	5.00		4.54	4.71	90.8	94.2	1	30.0-154			3.68	29
2-Butanone (MEK)	25.0		26.6	26.1	106	104	1	10.0-160			1.90	32
Methylene Chloride	5.00	U	5.38	5.13	108	103	1	23.0-144			4.76	28
4-Methyl-2-pentanone (MIBK)	25.0		22.4	23.3	89.6	93.2	1	29.0-160			3.94	29

L1819906-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1819906-03 01/25/25 15:43 • (MS) R4170718-4 01/25/25 19:36 • (MSD) R4170718-5 01/25/25 19:57

Analyte	Spike Amount ug/l	Original Result	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Methyl tert-butyl ether	5.00	U	5.55	5.65	111	113	1	28.0-150			1.79	29
Naphthalene	5.00	1.01	3.31	3.53	46.0	50.4	1	12.0-156	J	J	6.43	35
n-Propylbenzene	5.00	0.483	4.64	4.63	83.1	82.9	1	31.0-154			0.216	28
Styrene	5.00		4.34	4.65	86.8	93.0	1	33.0-155			6.90	28
1,1,1,2-Tetrachloroethane	5.00		4.72	4.89	94.4	97.8	1	36.0-151			3.54	29
1,1,2,2-Tetrachloroethane	5.00	U	4.03	4.13	80.6	82.6	1	33.0-150			2.45	28
1,1,2-Trichlorotrifluoroethane	5.00		6.39	6.16	128	123	1	23.0-160			3.67	30
Tetrachloroethene	5.00	0.889	5.81	6.03	98.4	103	1	10.0-160			3.72	27
Toluene	5.00	U	4.58	4.88	91.6	97.6	1	26.0-154			6.34	28
1,2,3-Trichlorobenzene	5.00		4.26	4.37	85.2	87.4	1	17.0-150			2.55	36
1,2,4-Trichlorobenzene	5.00		4.14	4.16	82.8	83.2	1	24.0-150			0.482	33
1,1,1-Trichloroethane	5.00	U	5.86	6.24	117	125	1	23.0-160			6.28	28
1,1,2-Trichloroethane	5.00	U	4.75	4.89	95.0	97.8	1	35.0-147			2.90	27
Trichloroethene	5.00	U	5.92	5.85	118	117	1	10.0-160			1.19	25
Trichlorofluoromethane	5.00	U	5.37	5.42	107	108	1	17.0-160			0.927	31
1,2,3-Trichloropropane	5.00		4.46	4.57	89.2	91.4	1	34.0-151			2.44	29
1,2,4-Trimethylbenzene	5.00	U	5.06	4.59	101	91.8	1	26.0-154			9.74	27
1,2,3-Trimethylbenzene	5.00	U	4.38	4.38	87.6	87.6	1	32.0-149			0.000	28
1,3,5-Trimethylbenzene	5.00	U	4.76	4.61	95.2	92.2	1	28.0-153			3.20	27
Vinyl chloride	5.00	U	4.90	4.73	98.0	94.6	1	10.0-160			3.53	27
Xylenes, Total	15.0	U	14.4	14.8	96.0	98.7	1	29.0-154			2.74	28
(S) Toluene-d8					*91.9*	*91.4*		*80.0-120*				
(S) 4-Bromofluorobenzene					*108*	*107*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*94.2*	*89.9*		*70.0-130*				

Method Blank (MB)

(MB) R4170635-4 01/26/25 22:00

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylbenzene	U		0.137	1.00
Toluene	U		0.278	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*99.4*			*80.0-120*
(S) 4-Bromofluorobenzene	*102*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4170635-1 01/26/25 18:43 • (LCSD) R4170635-2 01/26/25 19:03

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	5.00	5.35	5.59	107	112	79.0-123			4.39	20
Toluene	5.00	5.28	5.06	106	101	79.0-120			4.26	20
Xylenes, Total	15.0	16.6	16.5	111	110	79.0-123			0.604	20
(S) Toluene-d8				*100*	*99.6*	*80.0-120*				
(S) 4-Bromofluorobenzene				*103*	*104*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*112*	*115*	*70.0-130*				

Method Blank (MB)

(MB) R4171020-3 01/27/25 22:16

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.0941	1.00
Toluene	U		0.278	1.00
(S) Toluene-d8	*97.9*			*80.0-120*
(S) 4-Bromofluorobenzene	*104*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4171020-1 01/27/25 21:12 • (LCSD) R4171020-2 01/27/25 21:33

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	5.00	5.11	5.23	102	105	70.0-123			2.32	20
Toluene	5.00	4.62	4.82	92.4	96.4	79.0-120			4.24	20
(S) Toluene-d8				*97.1*	*98.6*	*80.0-120*				
(S) 4-Bromofluorobenzene				*101*	*102*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*99.1*	*99.0*	*70.0-130*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J4	The associated batch QC was outside the established quality control range for accuracy.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Agency, Authorized Purchaser or Agent: Oregon DEQ	**Contract Laboratory Name:** Pace National Lab Batch #:	**Lab Selection Criteria:** ☐ Proximity (if TAT < 48 hrs) ☐ Prior work on same project ☒ Cost (for anticipated analyses) ☐ Other labs disqualified or unable to perform requested services ☐ Emergency work	**Turn Around Time:** ☒ 10 days (std.) ☐ 5 days ☐ 72 hours ☐ 48 hours ☐ 24 hours ☐ Other
Send Lab Report To: Kara Master Address: Department of Environmental Quality, 700 NE Multnomah St, Suite 600, Portland, OR 97232 E-mail: Kara.E.MASTER@deq.oregon.gov	**Invoice To:** ODEQ/Business Office Address: 700 NE Multnomah Street, Suite 600, Portland, OR. 97232 Tel. #: (800) 452-4011		

Project Name: **Johnson Oil**
Project #: **24008422**

B134

Sample ID#	Collected 1/22/2025 Time:	Matrix	Number of Containers	Sample Preservative: HCl	HCl								Requested Analyses: NWTPH-Gx	VOCs – EPA 8260B								Comments
																						L819896
MW-4	15:25	GW	6										X	X								-01
MW-5	12:32	GW	6										X	X								-02
MW-6	14:02	GW	6										X	X								-03
MW-7	14:37	GW	6										X	X								-04
MW-9	10:21	GW	6										X	X								-05
MW-12	16:05	GW	6										X	X								-06
MW-13	11:45	GW	6										X	X								-07
MW-14	13:21	GW	6										X	X								-08
MW-15	11:01	GW	6										X	X								-09
Dup	13:29	GW	6										X	X								-10
																						MW-8 was not sampled due to parking lot being paved over.

Notes: Report Results to: Michael.Stevens@apexcos.com;Carmen.Owens@apexcos.com; Kara.E.Master@deq.oregon.gov

Relinquished By: Chris Weer	Agency/Agent: Apex Companies	Received By:	Agency:
Signature: Chris Weer	Time & Date: 1/23/2025, 13:00	Signature:	Time & Date:
Relinquished By:	Agency/Agent:	Received By:	Agency/Agent:
Signature:	Time & Date:	Signature: Christopher L Gallina	Time & Date: 1/24/25 0830

THIS PURCHASE IS SUBMITTED PURSUANT TO STATE OF OREGON SOLICITATION #**102-1098-07** AND PRICE AGREEMENT # **8903**. THE PRICE AGREEMENT INCLUDING CONTRACT TERMS AND CONDITIONS A[illegible] THE PRICE AGREEMENT ARE HEREBY INCORPORATED BY REFERENCE AND SHALL APPLY TO THIS PURCHASE [illegible]'S, EXPRESS OR IMPLIED.

4.7-10.4=5.1

Sample Receipt Checklist

COC Seal Present/Intact:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres. Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RA Screen <0.5 mR/hr:	Y N		

60 TOTAL

Appendix D

Statistical Evaluation

Table D-1
Statistical Evaluation - TPH in Groundwater
Former Johnson Oil
Clatskanie, Oregon

		Two-Year Statistics (2023-2024)												
Monitoring Well Number	Jan-25 Concentration [µg/L]	Detections	Jan-25 Historical Ranking	Minimum Concentration [µg/L]	Maximum Concentration [µg/L]	Mean Concentration [µg/L]	Standard Deviation	Coefficient of Variation	Jan-25 Relative to Mean	Mann Kendall			Linear Regression [mg/L/yr]	Data Tendency
										S-Statistic	Confidence	Trend		
MW-4	6,130	9 of 9	6	3,120	6,130	4,526	1,048	0.23	135%	-6	0.398	No Trend	-352	Downward
MW-5	3,220	9 of 9	3	3,220	8,250	5,791	1,811	0.31	56%	6	0.398	No Trend	642	Upward
MW-6	3,790	9 of 9	1	1,490	7,530	4,910	2,144	0.44	77%	19	0.939	Increasing	2,142	Upward
MW-7	1,520	9 of 9	7	43	4,910	1,693	1,363	0.81	90%	1	0.000	No Trend	-419	Downward
MW-9	0.221	3 of 7	5	ND	55.7	32.9	22.3	0.68	1%	--	--	--	4	Flat
MW-12	24,500	9 of 9	4	24,500	125,000	79,844	37,079	0.46	31%	5	0.323	No Trend	-1,202	Downward
MW-13	299	9 of 9	9	42	3,170	1,025	1,259	1.23	29%	-16	0.882	No Trend	-1,577	Downward
MW-14	6,260	9 of 9	3	3,300	6,260	4,588	1,207	0.26	136%	5	0.323	No Trend	503	Flat to Upward
MW-15	1,550	9 of 9	7	344	2,590	1,374	815	0.59	113%	-13	0.789	No Trend	-865	Downward

Notes:

1. Statistical analysis performed on monitoring results from March 2023 to October 2024 on wells with at least seven detections out of nine events.
2. Data Ranking shows position of January results relative to range of previously observed data.
3. Coefficient of Variation is the ratio between the standard deviation and the mean.
4. Historical Ranking is defined as the relative ranking of the most recent sampling result relative to historical results (1 = highest result observed, 5 = fifth highest result observed, etc).
5. Mann Kendall Statistics:
   Mann-Kendall analysis done in accordance with procedure presented in Statistical Methods for Environmental Pollution Monitoring (Gilbert, 1987).
   The S statistic is based on a simple comparison of all the concentrations for a given well to each other. For each pair of concentrations, if the later one is bigger, a value of 1 is assigned to that pair.
   If the pair are equal, a value of 0 is assigned. If the later one is smaller, a value of -1 is assigned. All of the assigned values are summed to give the S statistic.
   Probability values taken from Table A18 (Probabilities for the Mann-Kendall Nonparametric Test for Trend) of Statistical Methods reference (Gilbert, 1987). For 90% confidence, $p < 0.100$.
   Trends are indicated in wells with probabilities greater than 90% confidence. Direction of trend (increasing/decreasing) is identified by sign of S-Statistic (positive/negative).
6. Regression slopes calculated for 2-year data sets used to qualatiatively assess tendencies in data sets, presented in change in mg/L per year defined by regression slope.