# *Second 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**

**July 2, 2025**
**32-24008422/Task 3**

APEX

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# 1.0 Introduction

This *Second Quarter 2025 Monitoring Report* describes the field activities and presents the results of a groundwater monitoring event completed in April 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.

## 1.2 Deviations from Scope of Work

Monitoring well MW-8 was not accessible during this monitoring event and was not sampled (consistent with the prior two monitoring events). The asphalt concrete parking lot where the well is located has been refinished and the well was paved over. The location of MW-8 was previously 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, as well as 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 a sand unit.

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 from 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 the former Johnson Oil dispensers, piping, and USTs (by removal, except for one tank decommissioned in place), as well as 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 April 21, 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 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.

# 4.0 Results

## 4.1 Groundwater Levels

The groundwater elevations and elevation contours are presented in Figure 3. In general, the April 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 (in the vicinity of the historical soil removal) and radially outward flow (to the north, east, and south). Hydraulic gradients range from 0.04 feet per foot (ft/ft) toward the south to 0.21 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 April 2025 monitoring event are consistent with previous events.

## 4.2 Field Parameters

Field parameters observed in the April 2025 event show generally increasing ORP and DO. With the exception of MW-9, the ORP values have risen 40 to 100 millivolts over the previous four monitoring events. DO concentrations also appear to be increasing across the Site. The Site may be shifting to a more oxidative environment; however, there is insufficient data to determine whether this shift is due to local or regional geochemical changes or a change in microbial activity utilizing less of the available DO.

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 samples collected in April 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 ($RBC_{wi}$); and
- Groundwater in excavations for the construction and excavation worker receptor ($RBC_{we}$);

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*

For the April 2025 monitoring event, groundwater analytical results for site specific chemicals of concern are presented in Table 2, and results for benzene, toluene, ethylbenzene, and xylenes (BTEX) and TPH-G are summarized in Figures 4 and 5, respectively. Historical groundwater analytical results are presented in Appendix B.

**Total Petroleum Hydrocarbons.** TPH-G was detected in eight of the nine groundwater samples collected during the April 2025 monitoring event (excepting MW-9). Detected TPH-G concentrations ranged from 80.1 micrograms per liter (µg/L; MW-13) to 99,400 µg/L (MW-12). TPH-G detections exceeded the acute RBC of 520 µg/L for groundwater to indoor air intrusion in six of the nine samples. The 99,400 µg/L TPH-G concentration in the sample collected from MW-12 was also more than seven times greater than the 14,000 µg/L RBC for groundwater in excavations for construction and excavation workers.

Generally, the TPH-G concentrations observed across the Site were consistent with concentrations observed in the first quarter 2025 monitoring event. Concentrations observed in monitoring wells MW-4, MW-5, MW-6, MW-12, and MW-14 were within 5 percent of the same concentration in both periods. The TPH-G concentration in MW-7 (1,410 µg/L) increased by approximately 40 percent from the first quarter 2025 monitoring event; however, the concentration is consistent with previous sampling events. The only significant reduction in TPH-G concentrations was observed in MW-15 (180 µg/L). This represents a 75 percent reduction in concentration relative to the first quarter 2025 monitoring event, and is the relatively lowest concentration that has been observed in this monitoring well.

TPH-G concentration data collected from most wells except MW-6, MW-13, and MW-15 show no statistically significant trend due to variability in the data, as presented in Table D-1. Concentrations in MW-13 and MW-15 have generally been low relative to other wells and have shown a statistically significant decreasing trend, while MW-6 is showing a statistically significant upward trend. Linear regression of the data in the remaining wells suggests an overall tendency for concentrations to be decreasing in wells MW-4, MW-7, and MW-12, while concentrations tend to be flat in MW-9 and increasing in MW-5 and MW-14.

**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 six of the nine groundwater samples collected in April 2025 (excepting MW-9, MW-13, and MW-15). The significant findings are as follows:

- The benzene RBC for the chronic groundwater to indoor air pathway (12 µg/L) was exceeded in six groundwater samples and the acute pathway (650 µg/L) was exceeded in two samples (MW-12 and MW-14);
- The benzene RBC for groundwater in excavations (1,800 µg/L) was not exceeded in any samples during the April 2025 monitoring event, making this the second 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 six 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 three 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).

### *4.3.2 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 soil vapor or ambient air concentrations observed during semi-annual monitoring events of these media. Further, the former Johnson Oil building is not occupied. 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 | 6 | 1 | N/A | N/A |
| Benzene | 6 | -- | N/A | N/A |
| Ethylbenzene | 6 | 1 | N/A | N/A |
| Xylenes | 1 | 1 | N/A | N/A |
| Naphthalene | 3 | 1 | N/A | N/A |
| 1,2,4-Trimethylbenzene | 1 | -- | N/A | N/A |

***Notes:*** -- = No exceedances of RBCs
N/A = not sampled during this monitoring event

# 5.0 Conclusions

Based on the second 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.

Groundwater concentrations of TPH-G and VOCs (benzene, ethylbenzene, xylenes, and naphthalene) that were detected 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).

The overall groundwater concentrations appear to be relatively stable over the previous year of monitoring, likely due to the historically low DO, and reducing conditions are limiting the attenuation rate of petroleum concentrations in groundwater. However, measurements of ORP and DO over the previous year indicate an increasing trend, and it is possible that the Site may be shifting to a more oxidative environment (though this shift does not appear to be having a notable effect on contaminant concentrations). A statistical evaluation of the data sets from the Site monitoring wells shows statistically significant downward trends in two of the monitoring wells (MW-13 and MW-15) as well as a less significant tendency for decreasing concentrations in MW-4 and MW-7. A statistically significant upward concentration trend has been identified in MW-6, and a tendency for increasing concentrations in MW-5 and MW-14. The data is highly variable, and tendencies may be influenced by a few data points. There is insufficient data to identify the potential causes for these shifts, but they may be consistent with a general movement of concentrations radially outward from the historical soil removal area.

The mobility of petroleum in the subsurface may be influenced by impacts to the local hydrogeology from the UST removals and subsequent soil removal 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.

# 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 | 7/22/2024 | 94.43 | 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 |
| | 4/21/2025 | | 1.39 | -- | -- | 93.04 | 6.55 | 13.59 | 732 | 1.12 | 16.8 |
| MW-5 | 7/22/2024 | 94.30 | 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 |
| | 4/21/2025 | | 3.07 | -- | -- | 91.23 | 6.30 | 13.27 | 554 | 1.16 | 6.5 |
| MW-6 | 7/22/2024 | 95.57 | 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 |
| | 4/21/2025 | | 4.66 | | | 90.91 | 6.41 | 14.60 | 560 | 1.12 | 6.8 |
| MW-7 | 7/22/2024 | 95.04 | 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 |
| | 4/21/2025 | | 8.29 | -- | -- | 86.75 | 6.13 | 15.01 | 589 | 1.55 | 15.8 |
| MW-8 | 7/22/2024 | 96.22 | 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 | | | | | | | | | |
| | 4/21/2025 | Well Inaccessible; Covered by Asphalt Concrete | | | | | | | | | |
| MW-9 | 7/22/2024 | 94.54 | 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 |
| | 4/21/2025 | | 7.67 | -- | -- | 86.87 | 3.87 | 11.04 | 70 | 5.62 | 71.6 |
| MW-12 | 7/22/2024 | 99.06 | 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 |
| | 4/21/2025 | | 4.99 | -- | -- | 94.07 | 6.09 | 12.81 | 328 | 1.19 | 22.6 |
| MW-13 | 7/22/2024 | 98.28 | 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 |
| | 4/21/2025 | | 3.17 | -- | -- | 95.11 | 6.78 | 11.53 | 386 | 1.33 | 46.3 |
| MW-14 | 7/22/2024 | 99.28 | 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 |
| | 4/21/2025 | | 8.80 | -- | -- | 90.48 | 6.26 | 12.31 | 584 | 1.25 | 15.1 |
| MW-15 | 7/22/2024 | 100.32 | 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 |
| | 4/21/2025 | | 8.18 | -- | -- | 92.14 | 5.50 | 11.79 | 385 | 1.25 | 39.5 |

***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 | 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 |
| | 4/21/2025 | 4,740 | 77.8 | 3.52 J | 46.5 | 3.58 J | <5.00 | 178 | <5.00 | <5.00 | 124 |
| MW-5 | 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 |
| | 4/21/2025 | 7,050 | 129 | 9.93 J | 1,070 | 36.8 J | <25.0 | 406 | <25.0 | <25.0 | 1,199 |
| MW-6 | 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 |
| | 4/21/2025 | 7,180 | 580 | 9.07 J | 150 | 29.5 J | <20.0 | <100.0 J- | <20.0 | 3.53 J | 730 |
| MW-7 | 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 |
| | 4/21/2025 | 1,410 | 59.6 | 1.56 | 42.9 | 80.9 | 13.1 | 3.78 J- | 15.00 | 13.1 | 185.0 |
| MW-8 | 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 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | 4/21/2025 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MW-9 | 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 J- | <1.00 | 0.117 J | 2.01 |
| | 4/21/2025 | <100.0 | <1.00 | <1.00 | <1.00 | <3.00 | <1.00 | <5.00 J- | <1.00 | <1.00 | 3.00 |
| MW-12 | 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 |
| | 4/21/2025 | 99,400 | 1,190 | 14,900 | 4,770 | 24,200 | <50.0 | 516 J- | 2,570 | 684 | 45,060 |
| MW-13 | 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 | 21.6 | <1.00 | 20.6 | 4.9 | <1.00 | 2.79 J | 2.90 J | 0.288 J | 47.6 |
| | 1/22/2025 | 42.2 B J | <1.00 | <1.00 | <1.00 | <3.00 | <1.00 | <5.00 | <1.00 | <1.00 | 2.6 |
| | 4/21/2025 | 80.1 J | 1.40 | <1.00 | <1.00 | <3.00 | <1.00 | <5.00 J- | <1.00 | <1.00 | 4,740.0 |

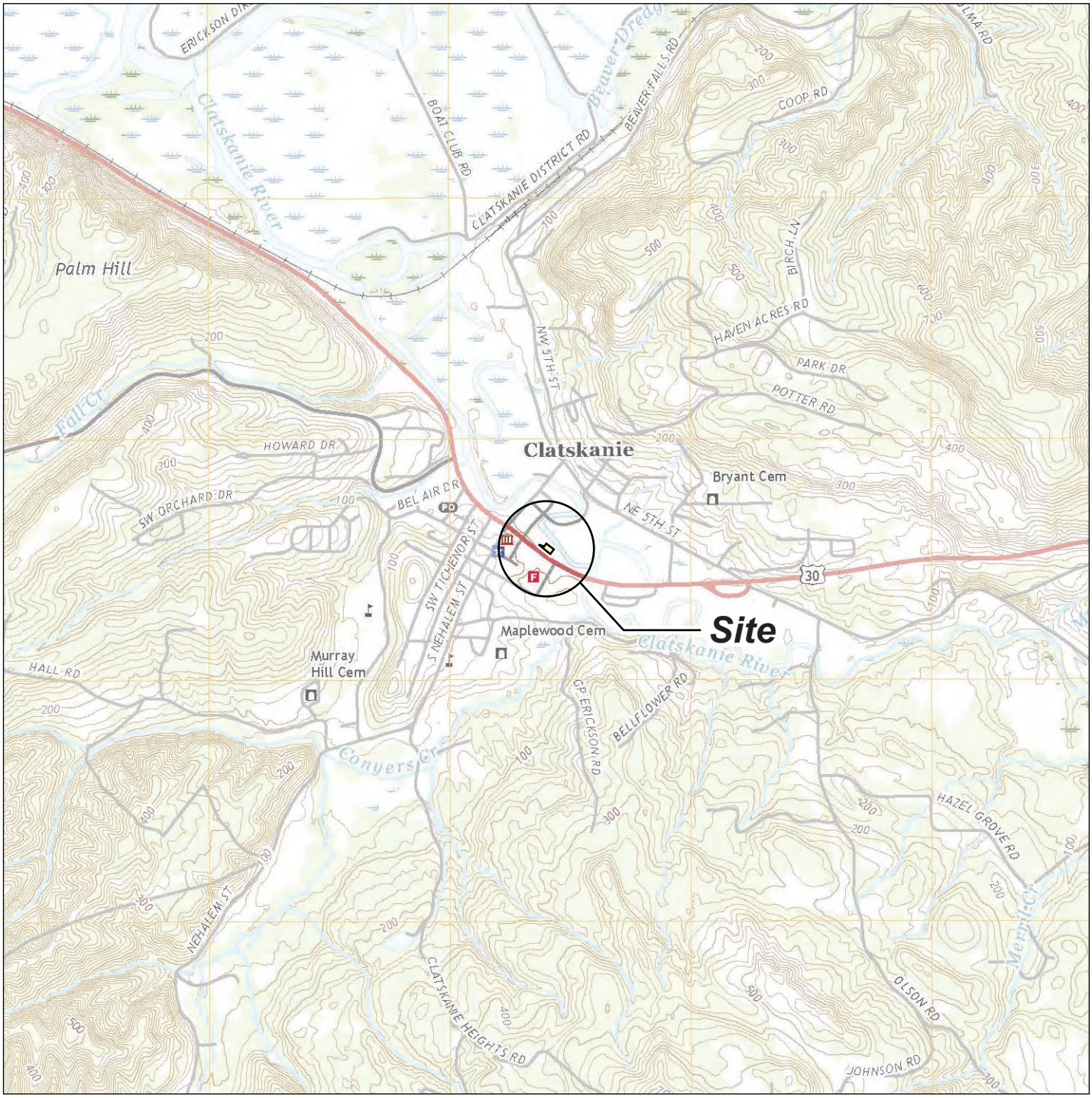
***Please see notes at end of table.***

**Table 2**
**Groundwater Analytical Results**
**Former Johnson Oil**
**Clatskanie, Oregon**

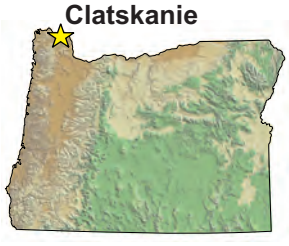
| Monitoring Well Number | Sample Date | Concentrations in µg/L | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TPH-G | Benzene | Toluene | Ethylbenzene | Total Xylenes | Methyl Tert-Butyl Ether | Naphthalene | 1,2,4-Trimethyl-benzene | 1,3,5-Trimethyl-benzene | BTEX |
| MW-14 | 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 J- | **15.4 J** | **7.25 J** | **817** |
| | 4/21/2025 | **5,740** | **773** | <25.0 | **64.7** | **32.5 J** | <25.0 | <125.0 J- | <25.0 | <25.0 | **850** |
| MW-15 | 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 J- | <1.00 | <1.00 | **33.4** |
| | 4/21/2025 | **180 B** | **4.15** | <1.00 | <1.00 | <3.00 | <1.00 | <5.00 J- | <1.00 | <1.00 | **6.7** |
| 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. 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).
11. Shaded values represent exceedances of applicable RBCs.




***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

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

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

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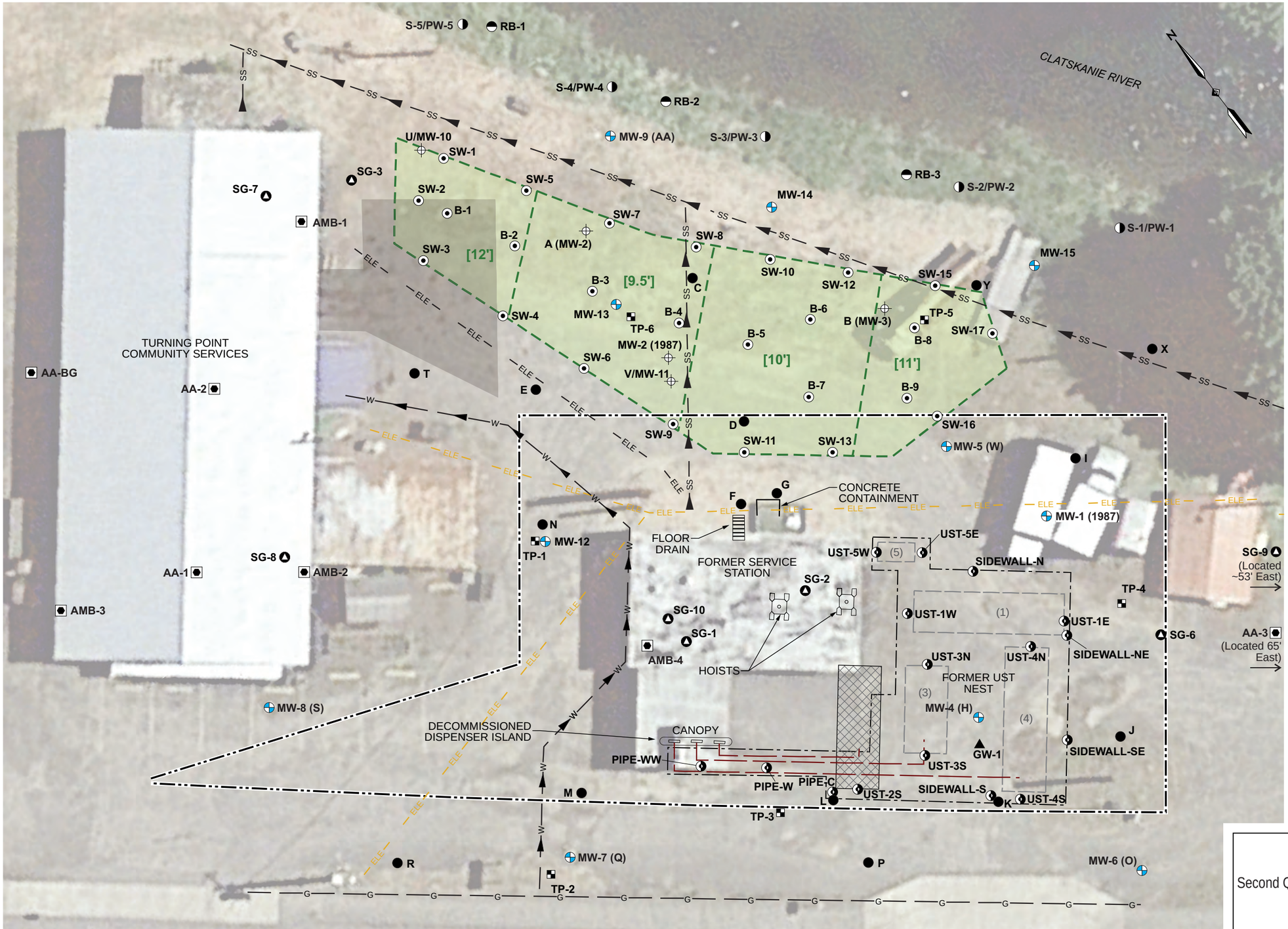


**NOTE:** Base map prepared from Haley Aldrich *Extent of Groundwater Contamination Exceeding Groundwater in Excavation RBCs* (August 2022) and Google Earth Pro Imagery. Aerial dated June 18, 2021.

## *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

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

| | | | | |
|---|---|---|---|---|
| Apex Companies, LLC<br>15618 SW 72nd Avenue<br>Tigard, Oregon 97224 | Project Number:<br>32-24008422 | Drawn:<br>-- | Approved:<br>TC/CW | Figure<br>2 |
| | July 2025 | | | |

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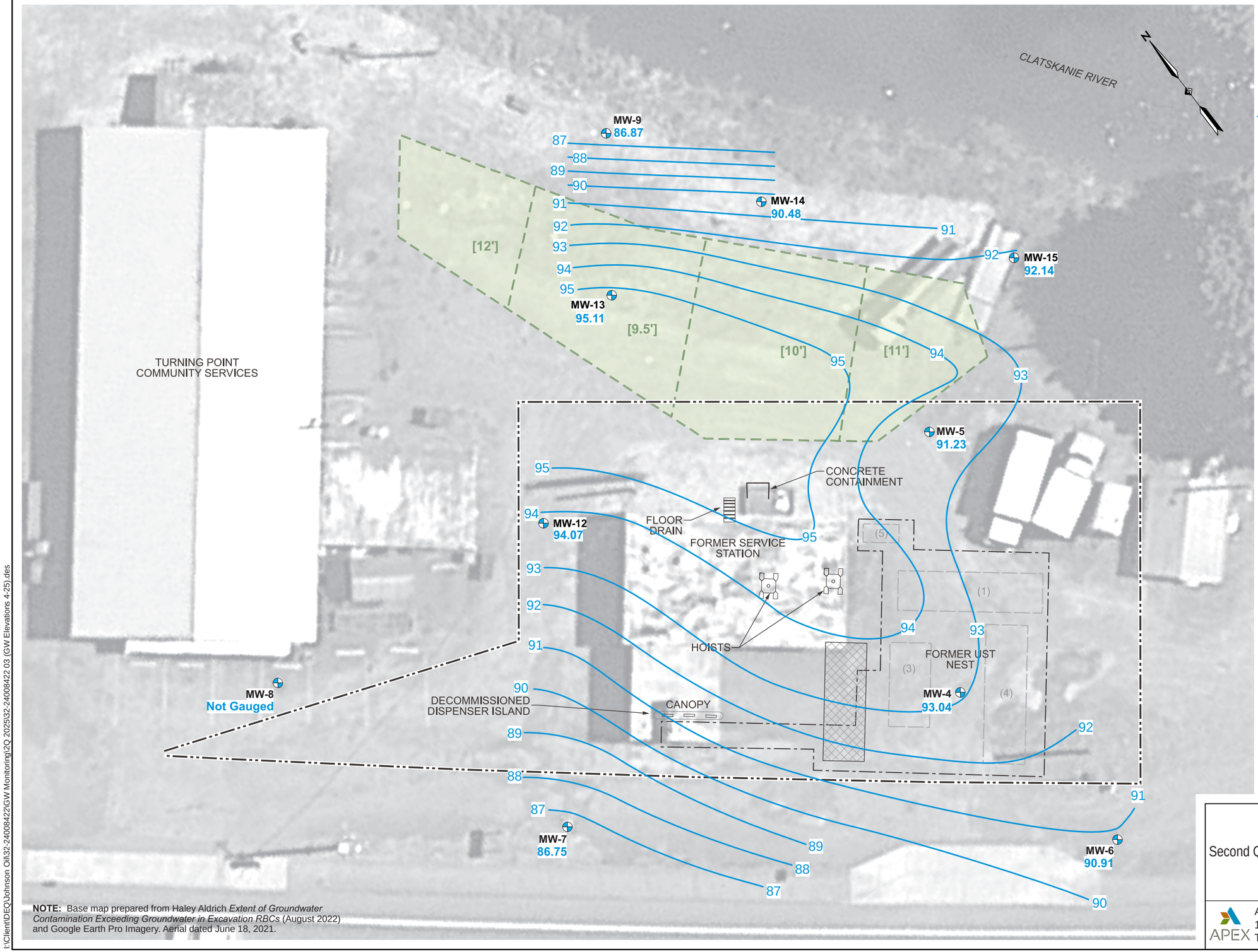


**Legend:**

- Monitoring Well
- 86.87 — Groundwater Elevation in Feet Relative to Mean Sea Level
- 87 — 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

**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.

# Groundwater Elevations (April 2025)

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

| | | | | |
|---|---|---|---|---|
| Apex Companies, LLC<br>15618 SW 72nd Avenue<br>Tigard, Oregon 97224 | Project Number: 32-24008422 | Drawn: -- | Approved: TC/CW | Figure 3 |
| | July 2025 | | | |

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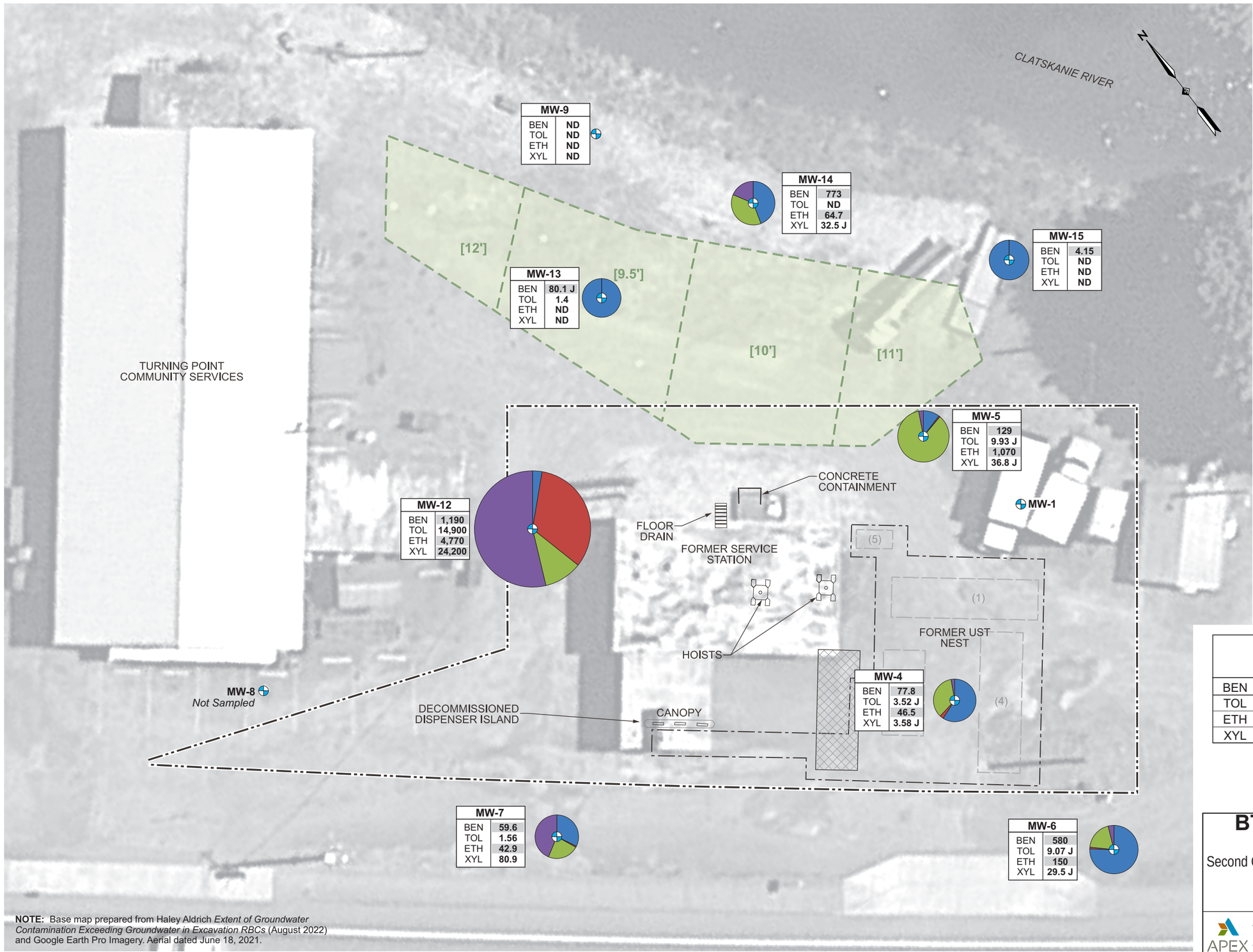


**NOTE:** Base map prepared from Haley Aldrich *Extent of Groundwater Contamination Exceeding Groundwater in Excavation RBCs* (August 2022) and Google Earth Pro Imagery. Aerial dated June 18, 2021.

## *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 | 4.15 |
| TOL | ND |
| ETH | ND |
| XYL | ND |

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 (April 2025)

Second 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 |

July 2025

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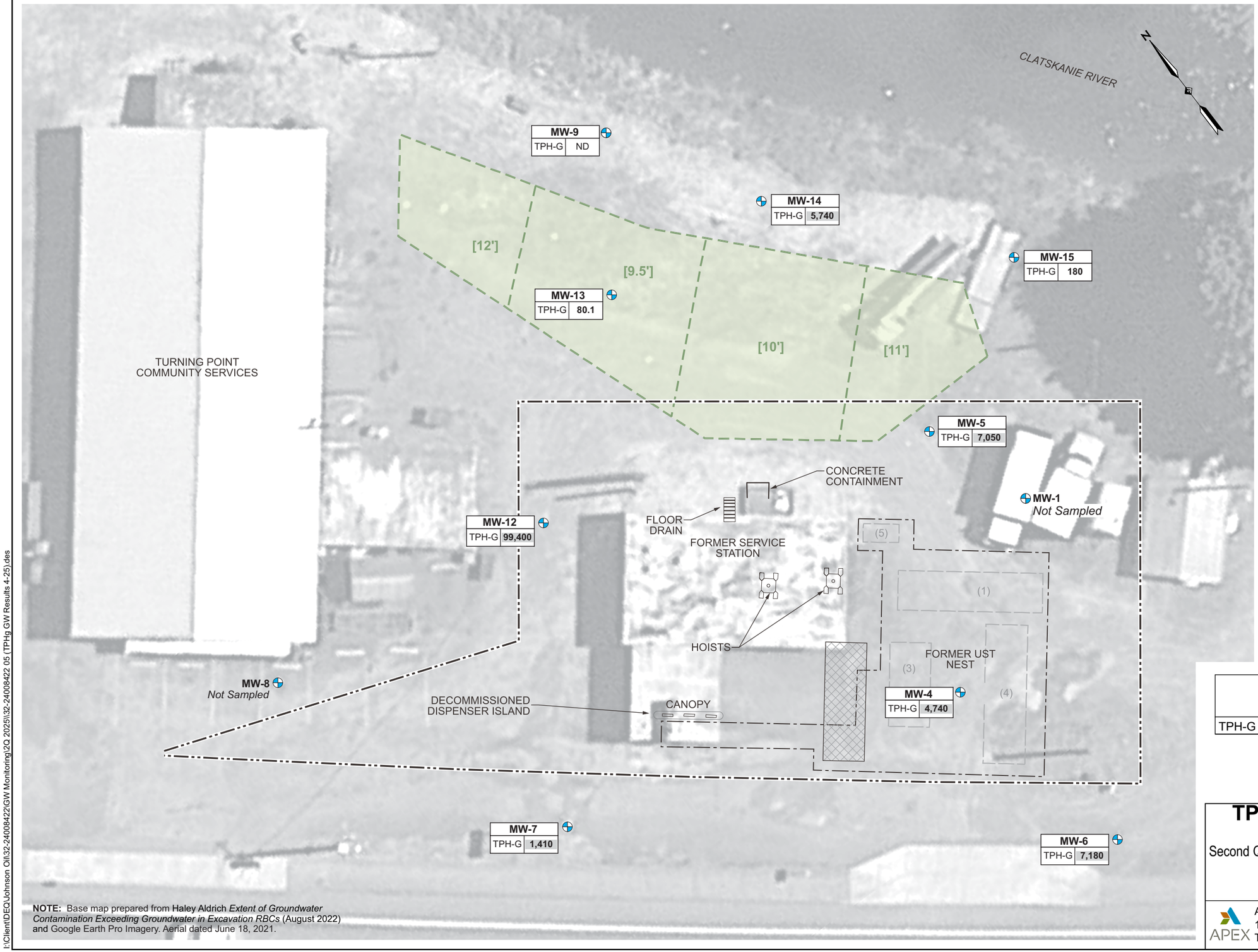


**NOTE:** Base map prepared from Haley Aldrich *Extent of Groundwater Contamination Exceeding Groundwater in Excavation RBCs* (August 2022) and Google Earth Pro Imagery. Aerial dated June 18, 2021.

## *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 5,740 — 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 (April 2025)

Second 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/CO | 5 |

July 2025

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# *Appendix A*

## Sampling Documentation

APEX

Apex Companies, LLC
15618 SW 72nd Ave.
Portland, OR 97224

| | | | |
|---|---|---|---|
| | | Job Number: | 24008422 |
| Client: | DEQ | Date: | 4/21/2025 |
| Project: | Johnson Oil | Sampler: | Chris Weer |
| Weather: | 46° mostly cloudy | Time In/Out: | 9:10/1720 |

**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 | 10:13 | - | 1.39 | 20 | - | 20 | |
| MW-5 | 10:09 | - | 3.07 | 20 | - | 20 | |
| MW-6 | 10:11 | - | 4.66 | 20 | - | 20 | |
| MW-7 | 10:13 | - | 8.29 | 20 | - | 20.00 | |
| MW-8 | PAVED | OVER | | 15 | - | 15.00 | Not accessible |
| MW-9 | 10:01 | - | 7.67 | 15 | - | 15 | |
| MW-12 | 10:15 | - | 4.99 | 15 | - | 15.00 | |
| MW-13 | 10:05 | - | 3.17 | 17 | - | 17 | |
| MW-14 | 10:07 | - | 8.80 | 20 | - | 20.00 | |
| MW-15 | 10:03 | - | 8.18 | 20 | - | 20 | |

| Apex Companies, LLC<br>15618 SW 72nd Ave.<br>Portland, OR 97224 | Well I.D. | MW-4 | Job Number: | 24008422 |
|---|---|---|---|---|
| | Client: | DEQ | Date: | 4/21/2025 |
| | Project: | Johnson Oil | Sampler: | Chris Weer |
| | Weather: | 52° mostly cloudy | Time In/Out: | 1600/ 16:35 |

**WELL DATA**

| | | | | | |
|---|---|---|---|---|---|
| Well Depth: | 20 feet | Well Diameter: | 2 inch | Water Height | |
| Depth to Water: | 1.38 feet | Screened Interval: | | x Multiplier | |
| Water Column Length: | 18.62 feet | Depth to Free Product: | n/a | x Casing Volumes | |
| Purge Volume: | 4.60 | 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 |
| 1615 | | 1.00 | 1.39 | 0.30 | 6.46 | 13.59 | 737 | 1.17 | 16.7 | - | AC |
| 1618 | 0.90 | 1.90 | 1.39 | 0.30 | 6.44 | 13.78 | 732 | 1.13 | 16.6 | - | AC |
| 1621 | 0.90 | 2.80 | 1.39 | 0.30 | 6.56 | 13.57 | 733 | 1.13 | 17.1 | - | AC |
| 1624 | 0.90 | 3.70 | 1.39 | 0.30 | 6.55 | 13.57 | 733 | 1.13 | 16.9 | - | AC |
| 1627 | 0.90 | 4.60 | 1.39 | 0.30 | 6.55 | 13.59 | 732 | 1.12 | 16.8 | - | AC |
| | | | | | | | | | | | |
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Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

**SAMPLING DATA**

| Sample ID: | MW-4 | Sampling Flow Rate | 0.30 | Analytical Laboratory: | Pace | |
|---|---|---|---|---|---|---|
| Sample Time: | 16:30 | Final Depth to Water: | 1.39 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<br>15618 SW 72nd Ave.<br>Portland, OR 97224 | Well I.D. | MW-5 | Job Number: | 24008422 |
|---|---|---|---|---|
| | Client: | DEQ | Date: | 4/21/2025 |
| | Project: | Johnson Oil | Sampler: | Chris Weer |
| | Weather: | 51° partly cloudy | Time In/Out: | 13:45 / 14:20 |

**WELL DATA**

| | | | | | |
|---|---|---|---|---|---|
| Well Depth: | 20 feet | Well Diameter: | 2 inch | Water Height | |
| Depth to Water: | 3.07 feet | Screened Interval: | | x Multiplier | |
| Water Column Length: | 16.93 feet | Depth to Free Product: | n/a | x Casing Volumes | |
| Purge Volume: | 2.80 l | 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 feet | | | | | 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 | |
| 14:00 | | 1.00 | 4.79 | 0.30 | 6.30 | 13.25° | 554 | 1.21 | 4.8 | - | AC | |
| 1403 | 0.90 | 1.90 | 5.50 | 0.30 | 6.30 | 13.08° | 556 | 1.18 | 5.7 | - | AC | |
| 1406 | 0.90 | 2.80 | 6.19 | 0.30 | 6.30 | 13.27 | 554 | 1.16 | 6.5 | - | AC | |
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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: | 14:12 | Final Depth to Water: | 5.89 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<br>15618 SW 72nd Ave.<br>Portland, OR 97224 | Well I.D. | MW-6 | Job Number: | 24008422 |
|---|---|---|---|---|
| | Client: | DEQ | Date: | 4/21/2025 |
| | Project: | Johnson Oil | Sampler: | Chris Weer |
| | Weather: | 51° Cloudy | Time In/Out: | 14:25/15:05 |

**WELL DATA**

| | | | | | |
|---|---|---|---|---|---|
| Well Depth: | 20 feet | Well Diameter: | 2 inch | Water Height | |
| Depth to Water: | 4.46 feet | Screened Interval: | | x Multiplier | |
| Water Column Length: | 15.54 feet | Depth to Free Product: | n/a | x Casing Volumes | |
| Purge Volume: | 2.80 L | 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 feet | | | | 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 | |
| 1445 | | 1.00 | 6.71 | 0.30 | 6.45 | 14.52 | 564 | 1.18 | 3.9 | - | AC | |
| 1448 | 0.90 | 1.90 | 7.54 | 0.30 | 6.44 | 14.40 | 562 | 1.14 | 5.6 | - | AC | |
| 1451 | 0.90 | 2.80 | 8.33 | 0.30 | 6.41 | 14.60 | 560 | 1.12 | 6.8 | - | AC | |
| | | | | | | | | | | | | |
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Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

**SAMPLING DATA**

| | | | | | | |
|---|---|---|---|---|---|---|
| Sample ID: | MW-6 | Sampling Flow Rate | 0.29 | Analytical Laboratory: | Pace | |
| Sample Time: | 1500 | Final Depth to Water: | 8.61 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<br>15618 SW 72nd Ave.<br>Portland, OR 97224 | Well I.D. | MW-7 | Job Number: | 24008422 |
|---|---|---|---|---|
| | Client: | DEQ | Date: | 4/21/2025 |
| | Project: | Johnson Oil | Sampler: | Chris Weer |
| | Weather: | 52° Cloudy | Time In/Out: | 15:10/15:55 |

**WELL DATA**

| | | | | | |
|---|---|---|---|---|---|
| Well Depth: | 20 feet | Well Diameter: | 2 inch | Water Height | |
| Depth to Water: | 5.90 feet | Screened Interval: | | x Multiplier | |
| Water Column Length: | 14.10 feet | Depth to Free Product: | n/a | x Casing Volumes | |
| Purge Volume: | 2.80 | 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 |
| 15:30 | 0.90 | 1.00 | 8.30 | 0.30 | 6.23 | 15.07 | 600 | 1.60 | 13.2 | - | AC |
| 1533 | 0.90 | 1.90 | 8.72 | 0.30 | 6.17 | ~~15.~~ 14.82 | 599 | 1.56 | 14.7 | - | AC |
| 1536 | 0.90 | 2.80 | 9.92 | 0.30 | 6.13 | 15.01 | 589 | 1.55 | 15.8 | - | AC |
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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: | 15:45 | Final Depth to Water: | 10.29 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<br>15618 SW 72nd Ave.<br>Portland, OR 97224 | Well I.D. | MW - 8 | Job Number: | 24008422 |
|---|---|---|---|---|
| | Client: | DEQ | Date: | 4/21/25 |
| | Project: | Johnson Oil | Sampler: | Chris Weer |
| | Weather: | 47° Cloudy | Time In/Out: | N/A |

**WELL DATA**

| | | | | | |
|---|---|---|---|---|---|
| Well Depth: | 15 feet | Well Diameter: | 2 inch | Water Height | |
| Depth to Water: | ~ feet | Screened Interval: | ~ | x Multiplier | |
| Water Column Length: | ~ 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 |
| WELL PAVED OVER | | | | | | | | | | | |
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Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

**SAMPLING DATA**

| Sample ID: | [redacted] | Sampling Flow Rate | | Analytical Laboratory: | Pace | |
|---|---|---|---|---|---|---|
| Sample Time: | | Final Depth to Water: | feet | Did Well Dewater? | | |
| # 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**

Not Accessible

| Apex Companies, LLC<br>15618 SW 72nd Ave.<br>Portland, OR 97224 | Well I.D. | MW-9 | Job Number: | 24008422 |
|---|---|---|---|---|
| | Client: | DEQ | Date: | 4/21/2025 |
| | Project: | Johnson Oil | Sampler: | Chris Weer |
| | Weather: | 47° Cloudy | Time In/Out: | 10:55 / 11:45 |

**WELL DATA**

| | | | | | |
|---|---|---|---|---|---|
| Well Depth: | 15 feet | Well Diameter: | 2 inch | Water Height | |
| Depth to Water: | 7.71 feet | Screened Interval: | | x Multiplier | |
| Water Column Length: | 7.29' feet | Depth to Free Product: | n/a | x Casing Volumes | |
| Purge Volume: | 4.60 | 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 Feet | 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 |
| 11:10 | | 1.00 | 10.27 | 0.30 | 4.35 | 11.18° | 71 | 5.73 | 55.9 | - | AC |
| 11:13 | 0.90 | 1.90 | 10.80 | 0.30 | 4.07 | 11.24 | 71 | 5.81 | 65.2 | - | AC |
| 11:16 | 0.90 | 2.80 | 11.50 | 0.30 | 3.97 | 11.05 | 70 | 5.83 | 68.6 | - | AC |
| 11:19 | 0.90 | 3.70 | 12.21 | 0.30 | 3.90 | 11.04 | 70 | 5.72 | 70.8 | - | AC |
| 11:22 | 0.90 | 4.60 | 12.73 | 0.30 | 3.87 | 11.04 | 70 | 5.62 | 71.6 | - | AC |
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Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

**SAMPLING DATA**

| Sample ID: | MW-9 | Sampling Flow Rate | 0.30 | Analytical Laboratory: | Pace | |
|---|---|---|---|---|---|---|
| Sample Time: | 11:25 | Final Depth to Water: | 13.11 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**

[redacted] well has been pumped over.

| Apex Companies, LLC<br>15618 SW 72nd Ave.<br>Portland, OR 97224 | Well I.D. | MW-12 | Job Number: | 24008422 |
|---|---|---|---|---|
| | Client: | DEQ | Date: | 4/21/2025 |
| | Project: | Johnson Oil | Sampler: | Chris Weer |
| | Weather: | 53° mostly cloudy | Time In/Out: | 1640/1720 |

**WELL DATA**

| | | | | | |
|---|---|---|---|---|---|
| Well Depth: | 15 feet | Well Diameter: | 2 inch | Water Height | |
| Depth to Water: | 4.85 feet | Screened Interval: | | x Multiplier | |
| Water Column Length: | 10.15 feet | Depth to Free Product: | n/a | x Casing Volumes | |
| Purge Volume: | 5.50 | 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 |
| 1655 | | 1.00 | 5.60 | 0.30 | 6.45 | 13.02 | 332 | 1.31 | 22.3 | - | C |
| 1658 | 0.90 | 1.90 | 5.69 | 0.30 | 6.32 | 12.91 | 331 | 1.25 | 23.3 | - | C |
| 1701 | 0.90 | 2.80 | 5.80 | 0.30 | 6.26 | 12.80 | 329 | 1.23 | 23.6 | - | C |
| 1704 | 0.90 | 3.70 | 5.90 | 0.30 | 6.17 | 12.88 | 328 | 1.20 | 22.9 | - | C |
| 1707 | 0.90 | 4.60 | 5.99 | 0.30 | 6.14 | 12.86 | 328 | 1.20 | 22.4 | - | C |
| 1710 | 0.90 | 5.50 | 6.07 | 0.30 | 6.09 | 12.81 | 328 | 1.19 | 22.6 | - | C |
| | | | | | | | | | | | |
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Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

**SAMPLING DATA**

| Sample ID: | MW-12 | Sampling Flow Rate | 0.25 | Analytical Laboratory: | Pace | |
|---|---|---|---|---|---|---|
| Sample Time: | 1715 | Final Depth to Water: | 5.94 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 | Apex Companies, LLC<br>15618 SW 72nd Ave.<br>Portland, OR 97224 | Well I.D. | MW-13 | Job Number: | 24008422 |
| | | Client: | DEQ | Date: | 4/21/2 |
| | | Project: | Johnson Oil | Sampler: | Chris Weer |
| | | Weather: | 50° Cloudy | Time In/Out: | 1230/1250 |

**WELL DATA**

| | | | | | |
|---|---|---|---|---|---|
| Well Depth: | 17 feet | Well Diameter: | 2 inch | Water Height | |
| Depth to Water: | 3.18 feet | Screened Interval: | | x Multiplier | |
| Water Column Length: | 13.82 feet | Depth to Free Product: | n/a | x Casing Volumes | |
| Purge Volume: | 2.80 | 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: | ~11 ft. | 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 |
| 12:35 | | 1.00 | 3.20 | 0.30 | 6.72 | 11.53 | 383 | 1.75 | 49.2 | - | AC |
| 12:38 | 0.90 | 1.90 | 3.20 | 0.30 | 6.74 | 11.57 | 385 | 1.40 | 48.0 | - | AC |
| 12:41 | 0.90 | 2.80 | 3.20 | 0.30 | 6.78 | 11.53 | 386 | 1.33 | 46.3 | - | AC |
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Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

**SAMPLING DATA**

| | | | | | | |
|---|---|---|---|---|---|---|
| Sample ID: | MW-13 | Sampling Flow Rate | 0.30 | Analytical Laboratory: | Pace | |
| Sample Time: | 12:45 | Final Depth to Water: | 3.17 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 | | ~~Dup~~ |
| 3 VOA | HCl | NWTPH-Gx | yes **no** | No Filter | | ~~Dup~~ |
| | | | yes no | | | |
| | | | yes no | | | |
| | | | yes no | | | |
| | | | yes no | | | |

**COMMENTS**

Dropped a pen in the well

| Apex Companies, LLC<br>15618 SW 72nd Ave.<br>Portland, OR 97224 | Well I.D. | MW-14 | Job Number: | 24008422 |
|---|---|---|---|---|
| | Client: | DEQ | Date: | 4/21/2025 |
| | Project: | Johnson Oil | Sampler: | Chris Weer |
| | Weather: | 50° mostly cloudy | Time In/Out: | 12:55/13:35 |

**WELL DATA**

| | | | | | |
|---|---|---|---|---|---|
| Well Depth: | 20 feet | Well Diameter: | 2 inch | Water Height | |
| Depth to Water: | 8.77 feet | Screened Interval: | | x Multiplier | |
| Water Column Length: | 11.23 feet | Depth to Free Product: | n/a | x Casing Volumes | |
| Purge Volume: | 2.80 | 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 feet | 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 |
| 1307 | 0.90 | 1.00 | 9.74 | 0.30 | 6.21 | 12.19 | 587 | 1.38 | 13.7 | - | C |
| 1310 | 0.90 | 1.90 | 10.41 | 0.30 | 6.24 | 12.27 | 585 | 1.28 | 15.0 | - | C |
| 1313 | 0.90 | 2.80 | 10.52 | 0.30 | 6.26 | 12.31 | 584 | 1.25 | 15.1 | - | C |
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Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

**SAMPLING DATA**

| Sample ID: | MW-14/DUP | Sampling Flow Rate | 0.25 | Analytical Laboratory: | Pace | |
|---|---|---|---|---|---|---|
| Sample Time: | 1320/1328 | Final Depth to Water: | 10.49 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 | | | ~~DUP~~ |
| | | | yes no | | | ~~DUP~~ |
| | | | yes no | | | ~~DUP~~ |
| | | | yes no | | | ~~DUP~~ |

**COMMENTS**

DUPLICATE

| Apex Companies, LLC<br>15618 SW 72nd Ave.<br>Portland, OR 97224 | Well I.D. | MW-15 | Job Number: | 24008422 |
|---|---|---|---|---|
| | Client: | DEQ | Date: | 4/21/2025 |
| | Project: | Johnson Oil | Sampler: | Chris Weer |
| | Weather: | 49° Showers | Time In/Out: | 11:50 / 12:20 |

**WELL DATA**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Depth: | 20 feet | | Well Diameter: | 2 inch | | Water Height | |
| Depth to Water: | 8.27 feet | | Screened Interval: | | | x Multiplier | |
| Water Column Length: | 11.73 feet | | Depth to Free Product: | n/a | | x Casing Volumes | |
| Purge Volume: | 2.80 | | 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 |
| 12:00 | [illegible] | 1.00 | 9.31 | 0.30 | 5.40 | 11.98 | 381 | 1.32 | 43.3 | — | AC |
| 1203 | 0.90 | 1.90 | 9.60 | 0.30 | 5.50 | 11.63 | 384 | 1.34 | 40.6 | — | AC |
| 1206 | 0.90 | 2.80 | 9.72 | 0.30 | 5.50 | 11.79 | 385 | 1.25 | 39.5 | — | AC |
| | | | | | | | | | | | |
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Clarity: VC = very cloudy, Cl = Cloudy, SC = slightly cloudy, AC = almost clear, C = clear

**SAMPLING DATA**

| Sample ID: | MW-15 | Sampling Flow Rate | 0.30 | Analytical Laboratory: | Pace | |
|---|---|---|---|---|---|---|
| Sample Time: | 12:10 | Final Depth to Water: | 8.73 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 |
| | 4/21/2025 | | 1.39 | -- | -- | 93.04 | 6.55 | 13.59 | 732 | 1.12 | 16.8 |
| 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 |
| | 4/21/2025 | | 3.07 | -- | -- | 91.23 | 6.30 | 13.27 | 554 | 1.16 | 6.5 |
| 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 |
| | 4/21/2025 | | 4.46 | -- | -- | 91.11 | 6.41 | 14.60 | 560 | 1.12 | 6.8 |
| 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 |
| | 4/21/2025 | | 5.90 | -- | -- | 89.14 | 6.13 | 15.01 | 589 | 1.55 | 15.8 |
| 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 | | | | | | | | |
| | 4/21/2025 | | 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 |
| | 4/21/2025 | | 7.71 | -- | -- | 86.83 | 3.87 | 11.04 | 70 | 5.62 | 71.6 |
| 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 |
| | 4/21/2025 | | 4.85 | -- | -- | 94.21 | 6.09 | 12.81 | 328 | 1.19 | 22.6 |
| 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 |
| | 4/21/2025 | | 3.18 | -- | -- | 95.10 | 6.78 | 11.53 | 386 | 1.33 | 46.3 |
| 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 |
| | 4/21/2025 | | 8.77 | -- | -- | 90.51 | 6.26 | 12.31 | 584 | 1.25 | 15.1 |
| 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 |
| | 4/21/2025 | | 8.27 | -- | -- | 92.05 | 5.5 | 11.79 | 385 | 1.25 | 39.5 |

***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 |
| | 4/21/2025 | 4,740 | 77.8 | 3.52 J | 46.5 | 3.58 J | <5.00 | 178 | <5.00 | <5.00 | 124 |
| 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 |
| | 4/21/2025 | 7,050 | 129 | 9.93 J | 1,070 | 36.8 J | <25.0 | 406 | <25.0 | <25.0 | 1,199 |
| 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 |
| | 4/21/2025 | 7,180 | 580 | 9.07 J | 150 | 29.5 J | <20.0 | <100.0 C3 | <20.0 | 3.53 J | 730 |
| 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 |
| | 4/21/2025 | 1,410 | 59.6 | 1.56 | 42.9 | 80.9 | 13.1 | 3.78 C3 J | 15.00 | 13.1 | 185.0 |
| 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 | | | | | | | | | |
| | 4/21/2025 | 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 J- | <1.00 | **0.117 J** | **2.01** |
| | 4/21/2025 | <100.0 | <1.00 | <1.00 | <1.00 | <3.00 | <1.00 | <5.00 J- | <1.00 | <1.00 | **3.00** |
| 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 J- | **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** |
| | 4/21/2025 | **99,400** | **1,190** | **14,900** | **4,770** | **24,200** | <50.0 | **516 J-** | **2,570** | **684** | **45,060** |
| 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** | <1.00 | **20.6** | **4.9** | <1.00 | **2.79 J** | **2.90 J** | **0.288 J** | **47.6** |
| | 1/22/2025 | **42.2 JB** | <1.00 | <1.00 | <1.00 | <3.00 | <1.00 | <5.00 | <1.00 | <1.00 | **4.18** |
| | 4/21/2025 | **80.1 J** | **1.40** | <1.00 | <1.00 | <3.00 | <1.00 | <5.00 | <1.00 | <1.00 | **3.9** |
| 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 J- | **15.4 J** | **7.25 J** | **817** |
| | 4/21/2025 | **5,740** | **773** | <25.0 | **64.7** | **32.5 J** | <25.0 | <125.0 J- | <25.0 | <25.0 | **850** |
| 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 J- | <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 J- | <1.00 | <1.00 | **33.4** |
| | 4/21/2025 | **180** | **4.15** | <1.00 | <1.00 | <3.00 | <1.00 | <5.00 J- | <1.00 | <1.00 | **6.7** |
| 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:***

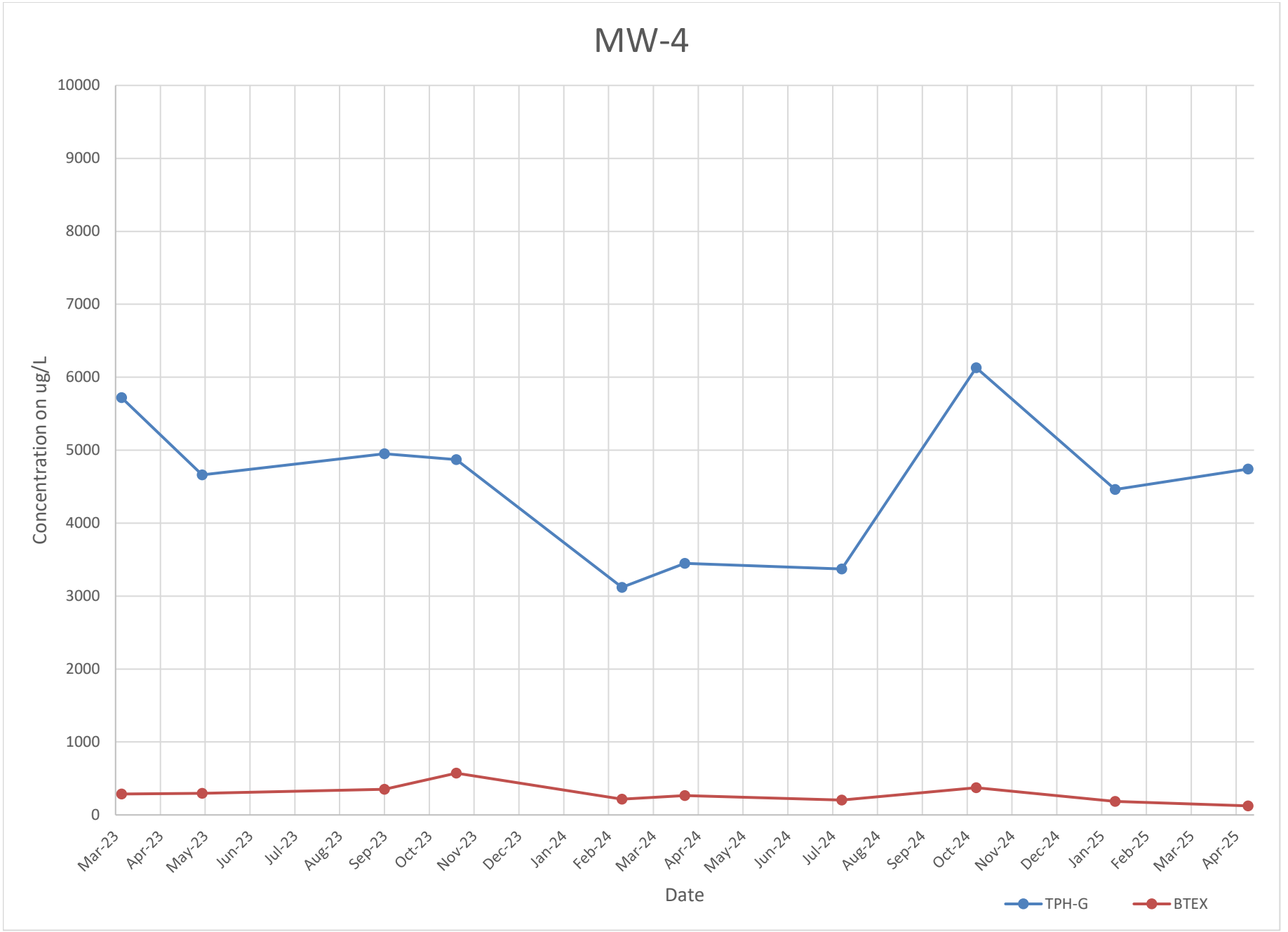
1. µg/m$^3$ = Micrograms per cubic meter.
2. **Bold** values indicate concentration detected above the minimum reporting limit.
3. Shaded values indicate concentrations detected above one or more applicable RBC.
4. *Italicized* values indicate a reporting limit above the applicable RBC
5. < = Concentration 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
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Nov-24
Dec-24
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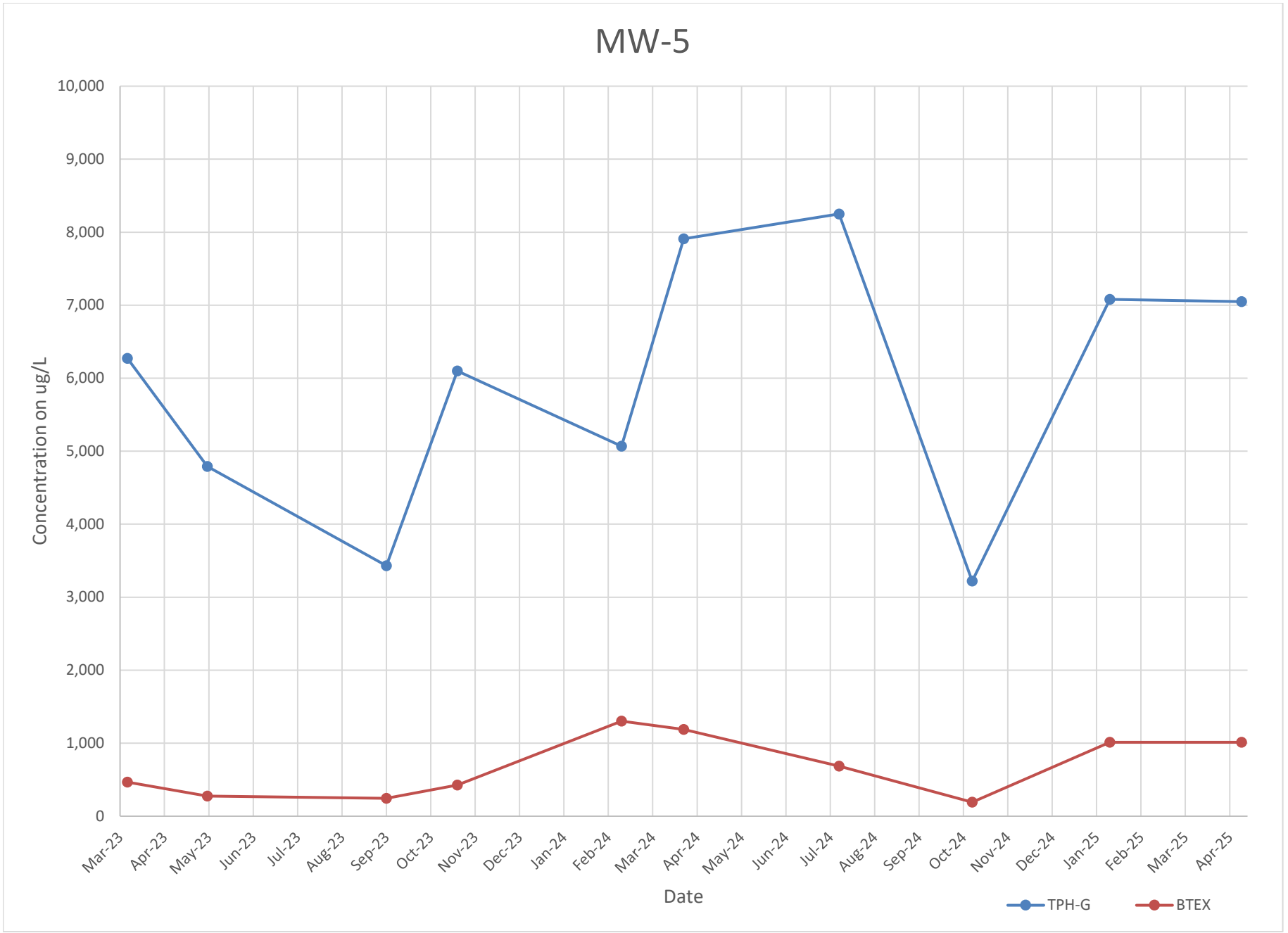
Feb-25
Mar-25
Apr-25
Date
TPH-G
BTEX


MW-5
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
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Nov-24
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Jan-25
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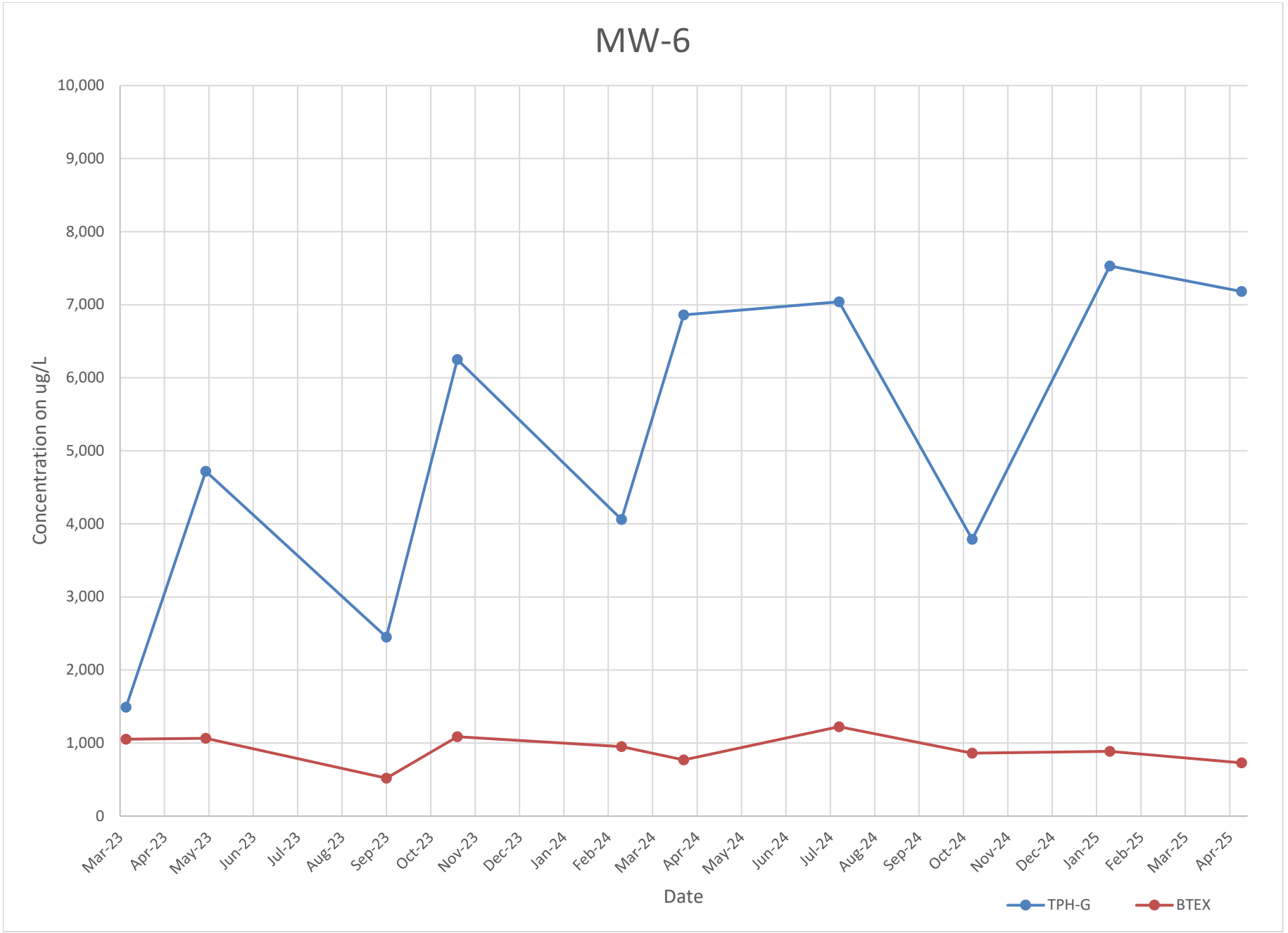
Mar-25
Apr-25
Date
TPH-G
BTEX


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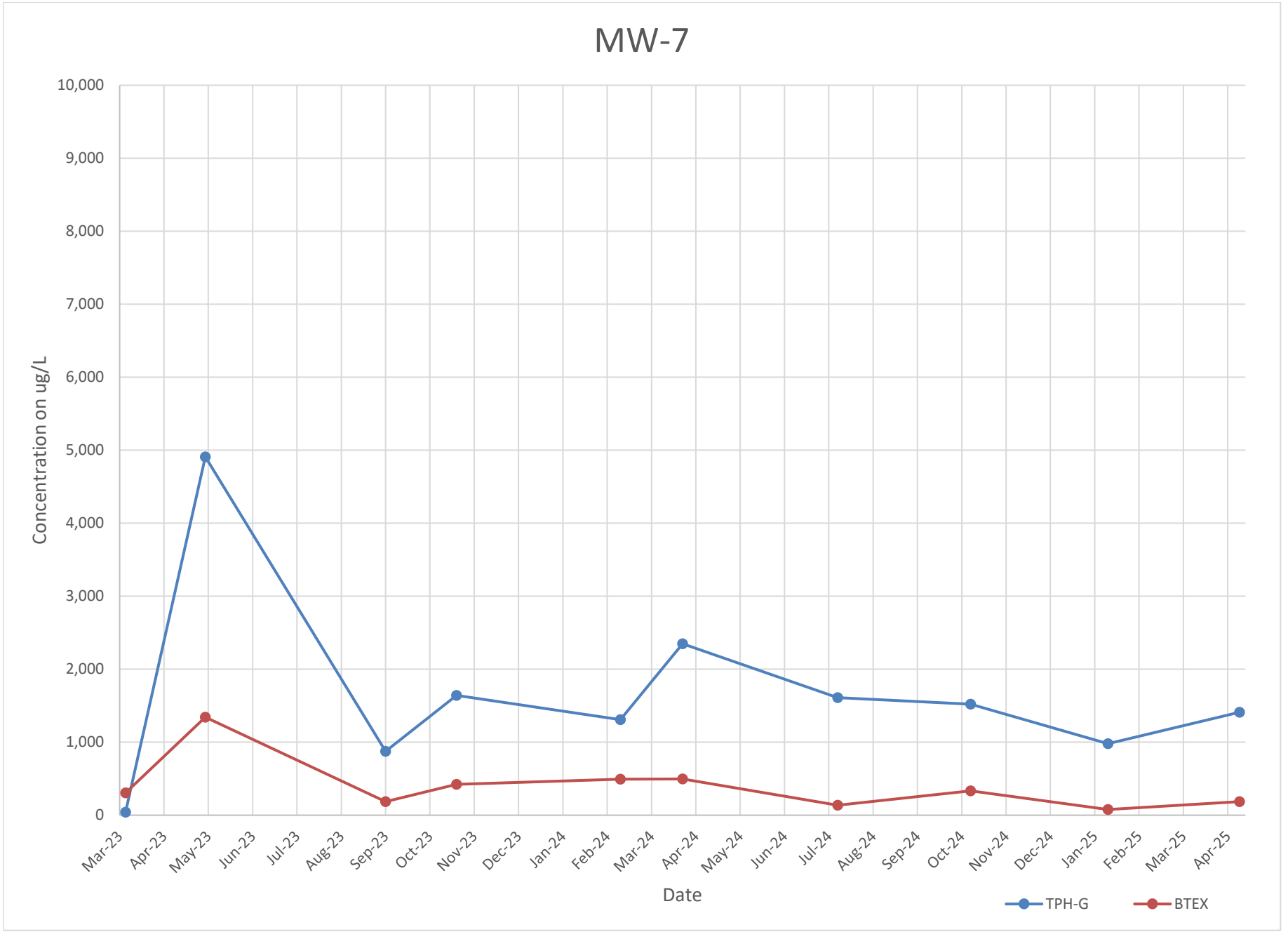
MW-7
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Concentration on ug/L
Mar-23
Apr-23
May-23
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Apr-25
Date
TPH-G
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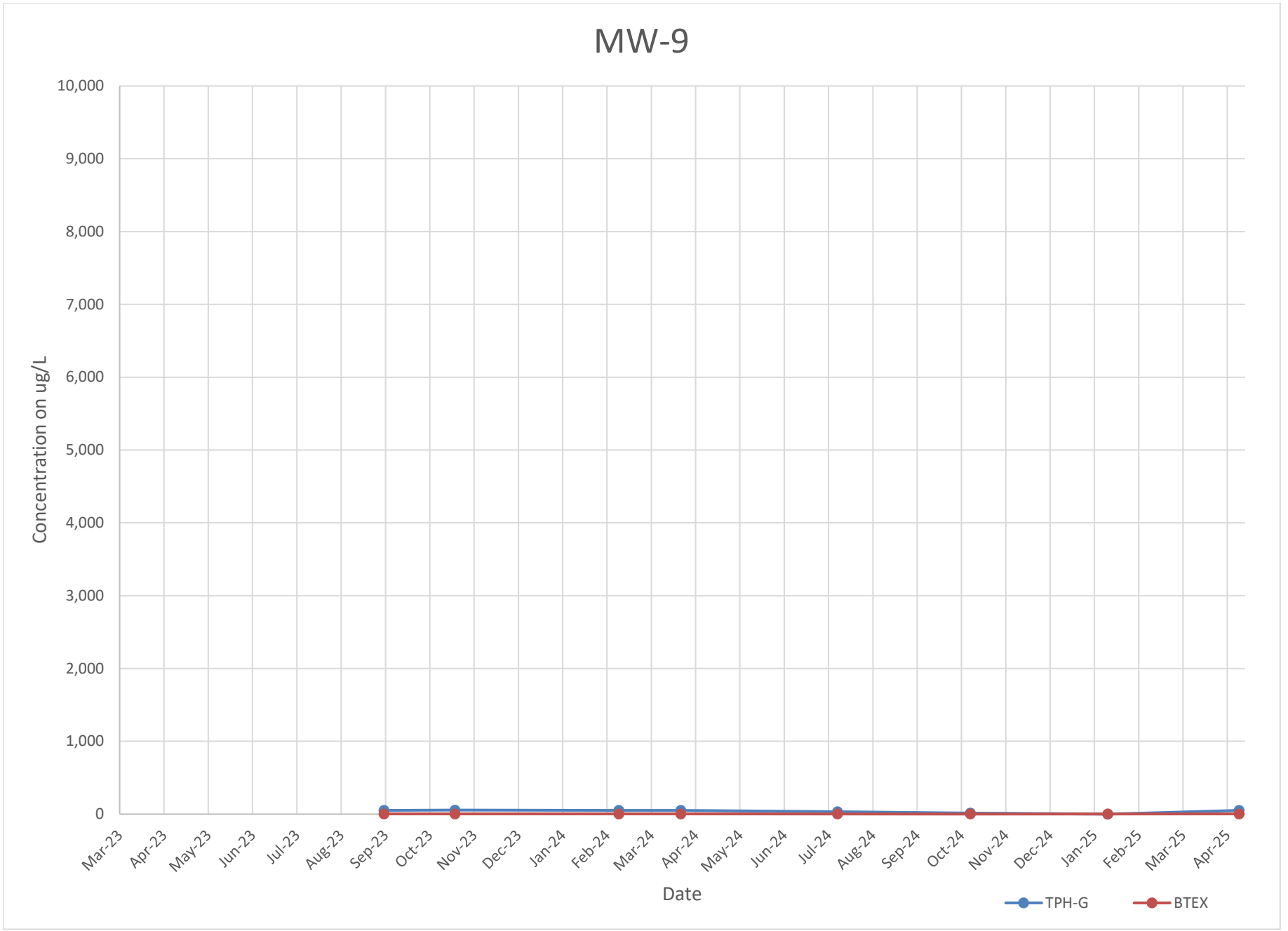
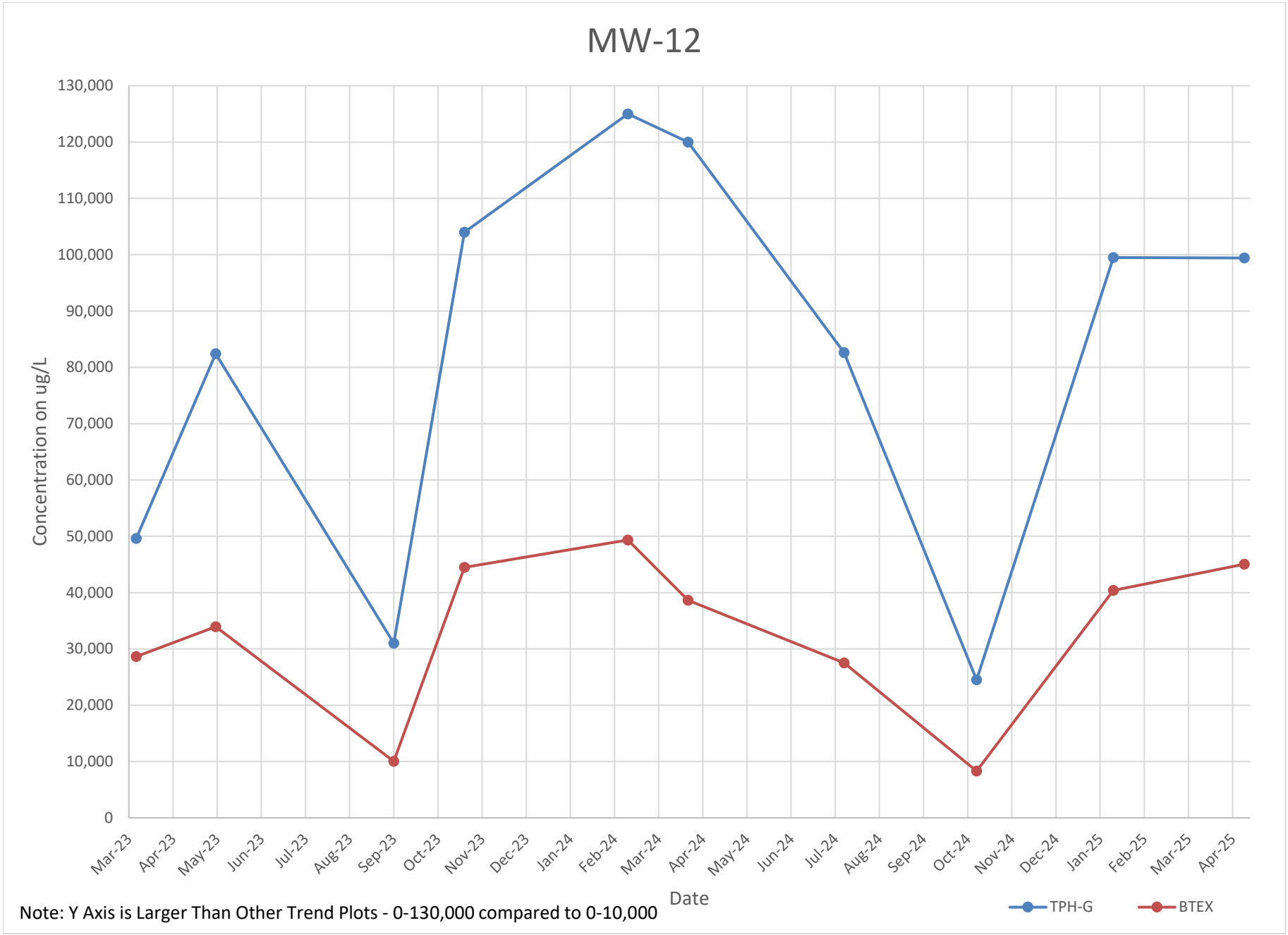
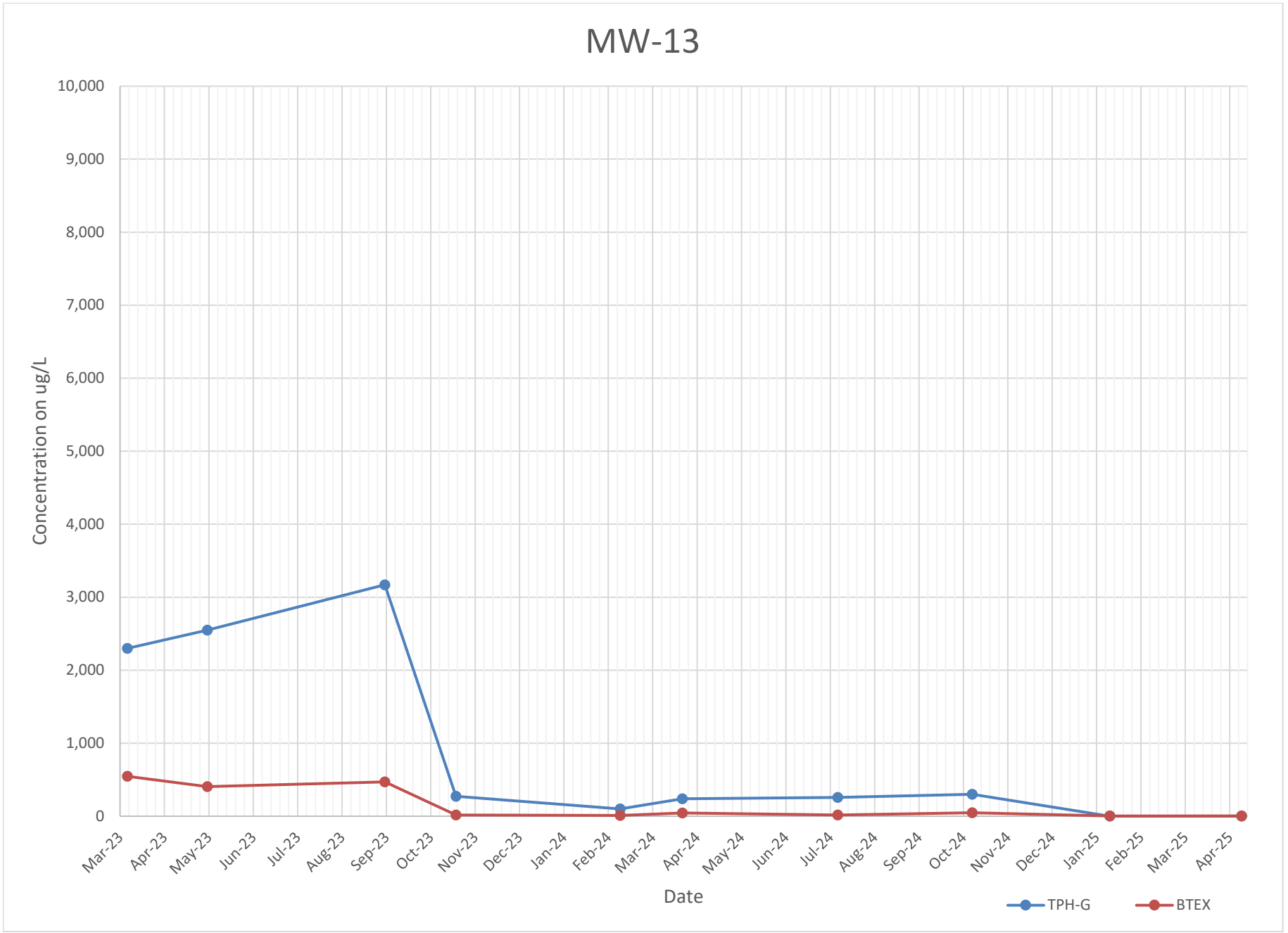

MW-9
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Concentration on ug/L
Mar-23
Apr-23
May-23
Jun-23
Jul-23
Aug-23
Sep-23
Oct-23
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Apr-25
Date
TPH-G
BTEX




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
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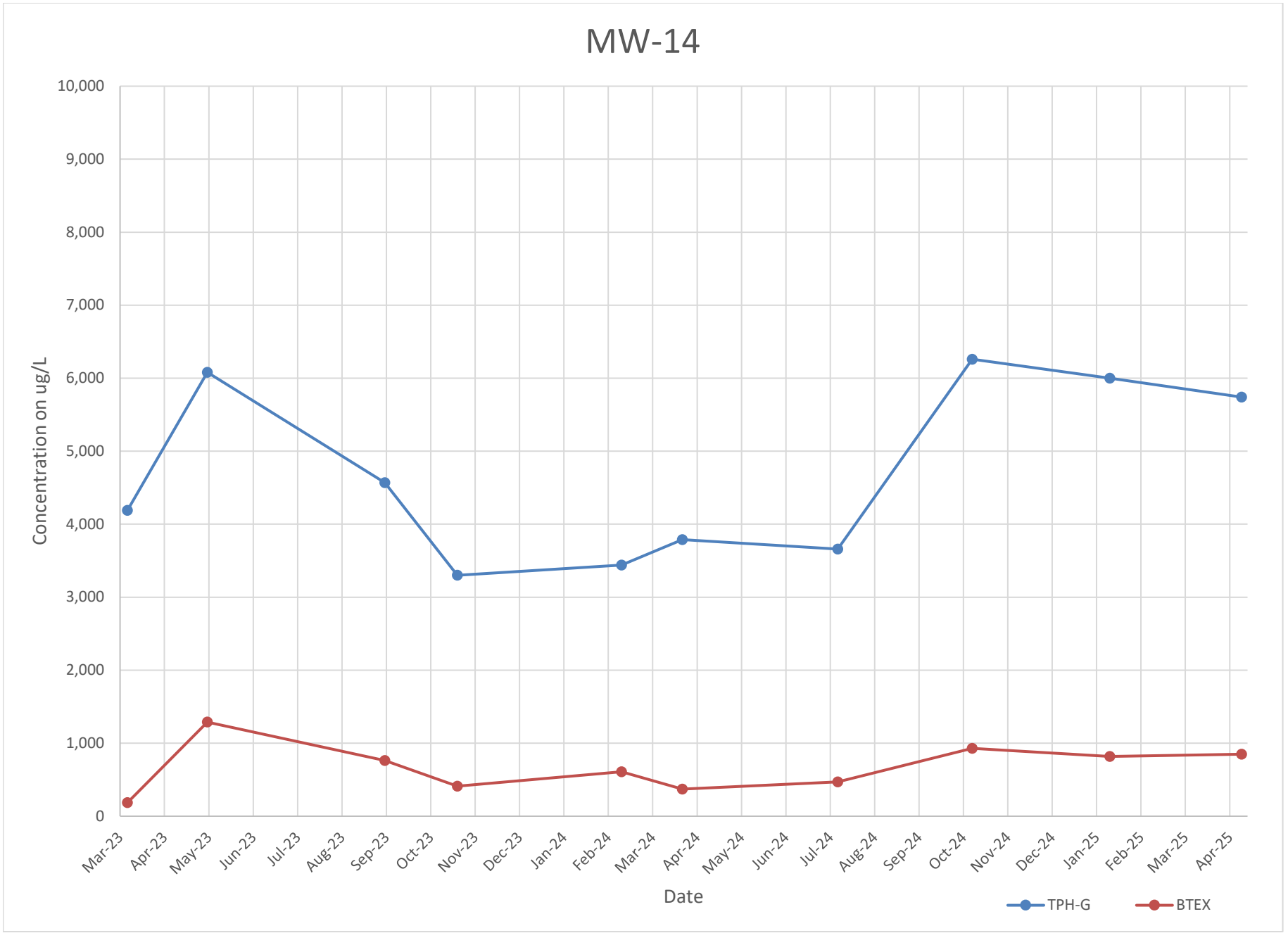
Feb-25
Mar-25
Apr-25
Date
TPH-G
BTEX


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
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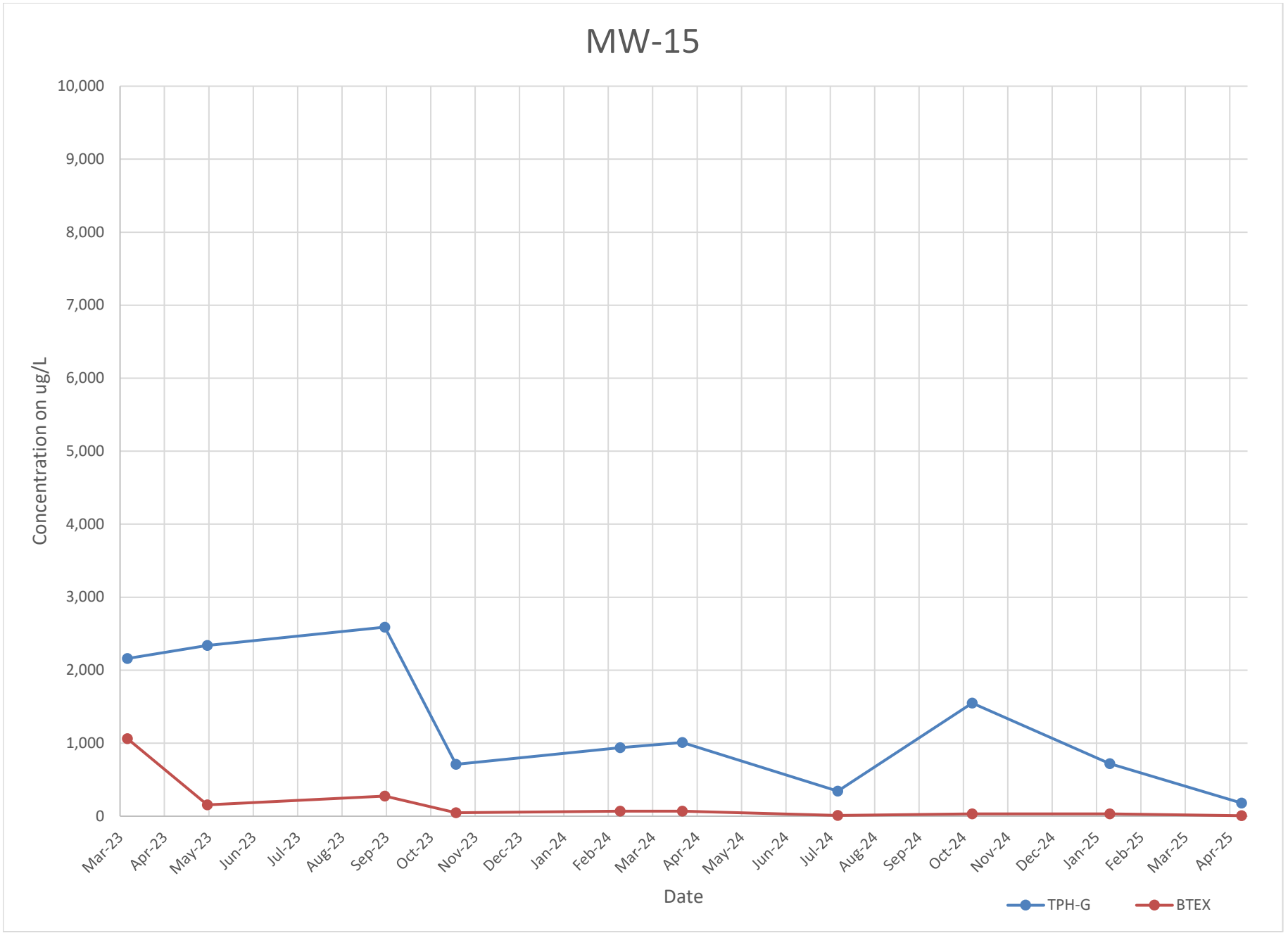
Feb-25
Mar-25
Apr-25
Date
TPH-G
BTEX


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
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Mar-25
Apr-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 second quarter 2025 monitoring event at the former Johnson Oil Site in Clatskanie, Oregon. The groundwater 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). Copies of the analytical laboratory reports are included in this appendix.

| Laboratory Report | Date Reported | Media |
|---|---|---|
| L1851017 | January 30, 2025 | Groundwater |

## *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.

## *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. |
| 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.

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 WG2501425 at a concentrations of 56.0 µg/L. The associated groundwater concentrations of TPH-Gx for the affected sample (MW-15) was less than ten times the method blank concentration. Therefore, the TPH-Gx results for MW-15 may have had significant contribution from laboratory contamination and result is '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 WG2501286observed concentrations was outside of recovery limits for dichlorofluoromethane in samples MW-6, MW-12, MW-13, MW-14, and MW-15. 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.

The MS/MSD recoveries were within laboratory control limits with the exception of bromomethane, chloroethane, chloromethane, dichlorodifluoromethane, and vinyl chloride in samples from MW-7 and MW-9. These analytes are not presented in the data tables and therefore are not flagged. Any concentrations above the method detection limit should be considered an estimate.

### 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: acrolein in wells MW-4, MW-5, MW-6, MW-12, MW-13, MW-14, and MW-15; acetone, 1,2-dibromo-3-chloropropane, and naphthalene in MW-6, MW-12, MW-13, MW-14, and MW-15; and bromoform, n-butylbenzene, carbon tetrachloride, chloroethane, 1,2-dibromo-3-chloropropane, hexachloro-1,3-butadiene, naphthalene, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, and 1,1,1-trichloroethane in MW-7 and MW-9. Of these analytes, only naphthalene is a contaminant of concern and results are 'J-' flagged as estimated with a potential low bias.

## 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.

# ANALYTICAL REPORT

May 01, 2025



## Oregon Dept. of Env. Quality - ODEQ

| | |
|---|---|
| Sample Delivery Group: | L1851017 |
| Samples Received: | 04/23/2025 |
| 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 L1851017-01 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 04/21/25 16:30 | 04/23/25 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC) by Method NWTPHGX | WG2501070 | 1 | 04/27/25 12:54 | 04/27/25 12:54 | DWR | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2502892 | 5 | 04/30/25 10:38 | 04/30/25 10:38 | KST | Mt. Juliet, TN |

## MW-5 L1851017-02 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 04/21/25 14:12 | 04/23/25 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC) by Method NWTPHGX | WG2501070 | 1 | 04/27/25 13:15 | 04/27/25 13:15 | DWR | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2502892 | 25 | 04/30/25 10:58 | 04/30/25 10:58 | KST | Mt. Juliet, TN |

## MW-6 L1851017-03 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 04/21/25 15:00 | 04/23/25 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC) by Method NWTPHGX | WG2501070 | 20 | 04/27/25 15:16 | 04/27/25 15:16 | DWR | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2501286 | 20 | 04/27/25 22:14 | 04/27/25 22:14 | DYW | Mt. Juliet, TN |

## MW-7 L1851017-04 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 04/21/25 15:45 | 04/23/25 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC) by Method NWTPHGX | WG2501070 | 1 | 04/27/25 13:35 | 04/27/25 13:35 | DWR | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2501583 | 1 | 04/28/25 14:56 | 04/28/25 14:56 | JBE | Mt. Juliet, TN |

## MW-9 L1851017-05 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 04/21/25 11:25 | 04/23/25 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC) by Method NWTPHGX | WG2501070 | 1 | 04/27/25 13:55 | 04/27/25 13:55 | DWR | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2501583 | 1 | 04/28/25 15:18 | 04/28/25 15:18 | JBE | Mt. Juliet, TN |

## MW-12 L1851017-06 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 04/21/25 17:15 | 04/23/25 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC) by Method NWTPHGX | WG2501070 | 50 | 04/27/25 15:37 | 04/27/25 15:37 | DWR | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2501286 | 50 | 04/27/25 22:37 | 04/27/25 22:37 | DYW | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2502892 | 500 | 04/30/25 11:17 | 04/30/25 11:17 | KST | Mt. Juliet, TN |

## MW-13 L1851017-07 GW

| Collected by | Collected date/time | Received date/time |
|---|---|---|
| | 04/21/25 12:45 | 04/23/25 09:00 |

| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
|---|---|---|---|---|---|---|
| Volatile Organic Compounds (GC) by Method NWTPHGX | WG2501070 | 1 | 04/27/25 14:16 | 04/27/25 14:16 | DWR | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2501286 | 1 | 04/27/25 19:04 | 04/27/25 19:04 | DYW | Mt. Juliet, TN |

## MW-14 L1851017-08 GW

| | | | Collected by | Collected date/time | Received date/time | |
|---|---|---|---|---|---|---|
| | | | | 04/21/25 13:20 | 04/23/25 09:00 | |
| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
| Volatile Organic Compounds (GC) by Method NWTPHGX | WG2501070 | 1 | 04/27/25 14:36 | 04/27/25 14:36 | DWR | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2501286 | 25 | 04/27/25 23:01 | 04/27/25 23:01 | DYW | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2502892 | 25 | 04/30/25 11:37 | 04/30/25 11:37 | KST | Mt. Juliet, TN |

## MW-15 L1851017-09 GW

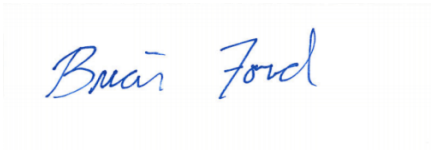
| | | | Collected by | Collected date/time | Received date/time | |
|---|---|---|---|---|---|---|
| | | | | 04/21/25 12:10 | 04/23/25 09:00 | |
| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
| Volatile Organic Compounds (GC) by Method NWTPHGX | WG2501425 | 1 | 04/28/25 01:25 | 04/28/25 01:25 | DYW | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2501286 | 1 | 04/27/25 19:28 | 04/27/25 19:28 | DYW | Mt. Juliet, TN |

## DUP L1851017-10 GW

| | | | Collected by | Collected date/time | Received date/time | |
|---|---|---|---|---|---|---|
| | | | | 04/21/25 13:28 | 04/23/25 09:00 | |
| Method | Batch | Dilution | Preparation date/time | Analysis date/time | Analyst | Location |
| Volatile Organic Compounds (GC) by Method NWTPHGX | WG2501070 | 1 | 04/27/25 14:56 | 04/27/25 14:56 | DWR | Mt. Juliet, TN |
| Volatile Organic Compounds (GC/MS) by Method 8260D | WG2501286 | 25 | 04/27/25 23:24 | 04/27/25 23:24 | 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 | 4740 | | 31.6 | 100 | 1 | 04/27/2025 12:54 | WG2501070 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *102* | | | *78.0-120* | | *04/27/2025 12:54* | WG2501070 |

## 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 | | 56.5 | 250 | 5 | 04/30/2025 10:38 | WG2502892 |
| Acrolein | U | C3 J3 | 12.7 | 250 | 5 | 04/30/2025 10:38 | WG2502892 |
| Acrylonitrile | U | | 3.36 | 50.0 | 5 | 04/30/2025 10:38 | WG2502892 |
| Benzene | 77.8 | | 0.471 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Bromobenzene | U | | 0.590 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Bromodichloromethane | U | | 0.680 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Bromoform | U | | 0.645 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Bromomethane | U | | 3.03 | 25.0 | 5 | 04/30/2025 10:38 | WG2502892 |
| n-Butylbenzene | 15.6 | | 0.785 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| sec-Butylbenzene | 20.6 | | 0.625 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| tert-Butylbenzene | U | | 0.635 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Carbon disulfide | U | | 0.481 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Carbon tetrachloride | U | | 0.640 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Chlorobenzene | U | | 0.580 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Chlorodibromomethane | U | | 0.700 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Chloroethane | U | | 0.960 | 25.0 | 5 | 04/30/2025 10:38 | WG2502892 |
| Chloroform | U | | 0.555 | 25.0 | 5 | 04/30/2025 10:38 | WG2502892 |
| Chloromethane | U | | 4.80 | 12.5 | 5 | 04/30/2025 10:38 | WG2502892 |
| 2-Chlorotoluene | U | | 0.530 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 4-Chlorotoluene | U | | 0.570 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,2-Dibromo-3-Chloropropane | U | | 1.38 | 25.0 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,2-Dibromoethane | U | | 0.630 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Dibromomethane | U | | 0.610 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,2-Dichlorobenzene | U | | 0.535 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,3-Dichlorobenzene | U | | 0.550 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,4-Dichlorobenzene | U | | 0.600 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Dichlorodifluoromethane | U | J3 | 1.87 | 25.0 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,1-Dichloroethane | U | | 0.500 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,2-Dichloroethane | U | | 0.409 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,1-Dichloroethene | U | | 0.940 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| cis-1,2-Dichloroethene | U | | 0.630 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| trans-1,2-Dichloroethene | U | | 0.745 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,2-Dichloropropane | U | | 0.745 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,1-Dichloropropene | U | | 0.710 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,3-Dichloropropane | U | | 0.550 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| cis-1,3-Dichloropropene | U | J4 | 0.555 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| trans-1,3-Dichloropropene | U | | 0.590 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 2,2-Dichloropropane | U | | 0.805 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Di-isopropyl ether | U | | 0.525 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Ethylbenzene | 46.5 | | 0.685 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Hexachloro-1,3-butadiene | U | | 1.69 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Isopropylbenzene | 76.5 | | 0.525 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| p-Isopropyltoluene | U | | 0.600 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 2-Butanone (MEK) | U | J3 | 5.95 | 50.0 | 5 | 04/30/2025 10:38 | WG2502892 |
| Methylene Chloride | U | | 2.15 | 25.0 | 5 | 04/30/2025 10:38 | WG2502892 |
| 4-Methyl-2-pentanone (MIBK) | U | | 2.39 | 50.0 | 5 | 04/30/2025 10:38 | WG2502892 |
| Methyl tert-butyl ether | U | | 0.505 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Naphthalene | 178 | | 5.00 | 25.0 | 5 | 04/30/2025 10:38 | WG2502892 |

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 | 245 | | 0.497 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Styrene | U | | 0.590 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,1,1,2-Tetrachloroethane | U | | 0.735 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,1,2,2-Tetrachloroethane | U | | 0.665 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.900 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Tetrachloroethene | U | | 1.50 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Toluene | 3.52 | J | 1.39 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,2,3-Trichlorobenzene | U | | 1.15 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,2,4-Trichlorobenzene | U | | 2.41 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,1,1-Trichloroethane | U | | 0.745 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,1,2-Trichloroethane | U | | 0.790 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Trichloroethene | U | | 0.950 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Trichlorofluoromethane | U | | 0.800 | 25.0 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,2,3-Trichloropropane | U | | 1.19 | 12.5 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,2,4-Trimethylbenzene | U | | 1.61 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,2,3-Trimethylbenzene | 2.64 | J | 0.520 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| 1,3,5-Trimethylbenzene | U | | 0.520 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Vinyl chloride | U | | 1.17 | 5.00 | 5 | 04/30/2025 10:38 | WG2502892 |
| Xylenes, Total | 3.58 | J | 0.870 | 15.0 | 5 | 04/30/2025 10:38 | WG2502892 |
| *(S) Toluene-d8* | *110* | | | *80.0-120* | | *04/30/2025 10:38* | WG2502892 |
| *(S) 4-Bromofluorobenzene* | *94.3* | | | *77.0-126* | | *04/30/2025 10:38* | WG2502892 |
| *(S) 1,2-Dichloroethane-d4* | *97.9* | | | *70.0-130* | | *04/30/2025 10:38* | WG2502892 |

## 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 | 7050 | | 31.6 | 100 | 1 | 04/27/2025 13:15 | WG2501070 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *85.3* | | | *78.0-120* | | *04/27/2025 13:15* | WG2501070 |

## 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 | 04/30/2025 10:58 | WG2502892 |
| Acrolein | U | C3 J3 | 63.5 | 1250 | 25 | 04/30/2025 10:58 | WG2502892 |
| Acrylonitrile | U | | 16.8 | 250 | 25 | 04/30/2025 10:58 | WG2502892 |
| Benzene | 129 | | 2.35 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Bromobenzene | U | | 2.95 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Bromodichloromethane | U | | 3.40 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Bromoform | U | | 3.22 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Bromomethane | U | | 15.1 | 125 | 25 | 04/30/2025 10:58 | WG2502892 |
| n-Butylbenzene | 21.5 | J | 3.93 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| sec-Butylbenzene | 17.7 | J | 3.13 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| tert-Butylbenzene | U | | 3.18 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Carbon disulfide | U | | 2.41 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Carbon tetrachloride | U | | 3.20 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Chlorobenzene | U | | 2.90 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Chlorodibromomethane | U | | 3.50 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Chloroethane | U | | 4.80 | 125 | 25 | 04/30/2025 10:58 | WG2502892 |
| Chloroform | 7.52 | J | 2.78 | 125 | 25 | 04/30/2025 10:58 | WG2502892 |
| Chloromethane | U | | 24.0 | 62.5 | 25 | 04/30/2025 10:58 | WG2502892 |
| 2-Chlorotoluene | U | | 2.65 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 4-Chlorotoluene | U | | 2.85 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,2-Dibromo-3-Chloropropane | U | | 6.90 | 125 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,2-Dibromoethane | U | | 3.15 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Dibromomethane | U | | 3.05 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,2-Dichlorobenzene | U | | 2.68 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,3-Dichlorobenzene | U | | 2.75 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,4-Dichlorobenzene | U | | 3.00 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Dichlorodifluoromethane | U | J3 | 9.35 | 125 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,1-Dichloroethane | U | | 2.50 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,2-Dichloroethane | U | | 2.05 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,1-Dichloroethene | U | | 4.70 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| cis-1,2-Dichloroethene | U | | 3.15 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| trans-1,2-Dichloroethene | U | | 3.73 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,2-Dichloropropane | U | | 3.73 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,1-Dichloropropene | U | | 3.55 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,3-Dichloropropane | U | | 2.75 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| cis-1,3-Dichloropropene | U | J4 | 2.78 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| trans-1,3-Dichloropropene | U | | 2.95 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 2,2-Dichloropropane | U | | 4.03 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Di-isopropyl ether | U | | 2.63 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Ethylbenzene | 1070 | | 3.43 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Hexachloro-1,3-butadiene | U | | 8.43 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Isopropylbenzene | 124 | | 2.63 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| p-Isopropyltoluene | U | | 3.00 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 2-Butanone (MEK) | U | J3 | 29.8 | 250 | 25 | 04/30/2025 10:58 | WG2502892 |
| Methylene Chloride | U | | 10.7 | 125 | 25 | 04/30/2025 10:58 | WG2502892 |
| 4-Methyl-2-pentanone (MIBK) | U | | 12.0 | 250 | 25 | 04/30/2025 10:58 | WG2502892 |
| Methyl tert-butyl ether | U | | 2.53 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Naphthalene | 406 | | 25.0 | 125 | 25 | 04/30/2025 10:58 | WG2502892 |

## 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 | 443 | | 2.48 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Styrene | U | | 2.95 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,1,1,2-Tetrachloroethane | U | | 3.68 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,1,2,2-Tetrachloroethane | U | | 3.33 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,1,2-Trichlorotrifluoroethane | U | | 4.50 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Tetrachloroethene | U | | 7.50 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Toluene | 9.93 | J | 6.95 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,2,3-Trichlorobenzene | U | | 5.75 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,2,4-Trichlorobenzene | U | | 12.0 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,1,1-Trichloroethane | U | | 3.73 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,1,2-Trichloroethane | U | | 3.95 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Trichloroethene | U | | 4.75 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Trichlorofluoromethane | U | | 4.00 | 125 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,2,3-Trichloropropane | U | | 5.93 | 62.5 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,2,4-Trimethylbenzene | U | | 8.05 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,2,3-Trimethylbenzene | 23.7 | J | 2.60 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| 1,3,5-Trimethylbenzene | U | | 2.60 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Vinyl chloride | U | | 5.85 | 25.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| Xylenes, Total | 36.8 | J | 4.35 | 75.0 | 25 | 04/30/2025 10:58 | WG2502892 |
| *(S) Toluene-d8* | *110* | | | *80.0-120* | | *04/30/2025 10:58* | WG2502892 |
| *(S) 4-Bromofluorobenzene* | *93.9* | | | *77.0-126* | | *04/30/2025 10:58* | WG2502892 |
| *(S) 1,2-Dichloroethane-d4* | *93.9* | | | *70.0-130* | | *04/30/2025 10:58* | WG2502892 |

## 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 | 7180 | | 632 | 2000 | 20 | 04/27/2025 15:16 | WG2501070 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *98.9* | | | *78.0-120* | | *04/27/2025 15:16* | WG2501070 |

## 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 | C3 | 226 | 1000 | 20 | 04/27/2025 22:14 | WG2501286 |
| Acrolein | U | C3 | 50.8 | 1000 | 20 | 04/27/2025 22:14 | WG2501286 |
| Acrylonitrile | U | | 13.4 | 200 | 20 | 04/27/2025 22:14 | WG2501286 |
| Benzene | 580 | | 1.88 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Bromobenzene | U | | 2.36 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Bromodichloromethane | U | | 2.72 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Bromoform | U | | 2.58 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Bromomethane | U | | 12.1 | 100 | 20 | 04/27/2025 22:14 | WG2501286 |
| n-Butylbenzene | U | | 3.14 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| sec-Butylbenzene | 17.8 | J | 2.50 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| tert-Butylbenzene | U | | 2.54 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Carbon disulfide | U | | 1.92 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Carbon tetrachloride | U | | 2.56 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Chlorobenzene | U | | 2.32 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Chlorodibromomethane | U | | 2.80 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Chloroethane | U | | 3.84 | 100 | 20 | 04/27/2025 22:14 | WG2501286 |
| Chloroform | U | | 2.22 | 100 | 20 | 04/27/2025 22:14 | WG2501286 |
| Chloromethane | U | | 19.2 | 50.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 2-Chlorotoluene | U | | 2.12 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 4-Chlorotoluene | U | | 2.28 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,2-Dibromo-3-Chloropropane | U | C3 | 5.52 | 100 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,2-Dibromoethane | U | | 2.52 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Dibromomethane | U | | 2.44 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,2-Dichlorobenzene | U | | 2.14 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,3-Dichlorobenzene | U | | 2.20 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,4-Dichlorobenzene | U | | 2.40 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Dichlorodifluoromethane | U | J4 | 7.48 | 100 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,1-Dichloroethane | U | | 2.00 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,2-Dichloroethane | U | | 1.64 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,1-Dichloroethene | U | | 3.76 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| cis-1,2-Dichloroethene | U | | 2.52 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| trans-1,2-Dichloroethene | U | | 2.98 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,2-Dichloropropane | U | | 2.98 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,1-Dichloropropene | U | | 2.84 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,3-Dichloropropane | U | | 2.20 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| cis-1,3-Dichloropropene | U | | 2.22 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| trans-1,3-Dichloropropene | U | | 2.36 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 2,2-Dichloropropane | U | | 3.22 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Di-isopropyl ether | U | | 2.10 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Ethylbenzene | 150 | | 2.74 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Hexachloro-1,3-butadiene | U | | 6.74 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Isopropylbenzene | 149 | | 2.10 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| p-Isopropyltoluene | U | | 2.40 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 2-Butanone (MEK) | U | | 23.8 | 200 | 20 | 04/27/2025 22:14 | WG2501286 |
| Methylene Chloride | U | | 8.60 | 100 | 20 | 04/27/2025 22:14 | WG2501286 |
| 4-Methyl-2-pentanone (MIBK) | U | | 9.56 | 200 | 20 | 04/27/2025 22:14 | WG2501286 |
| Methyl tert-butyl ether | U | | 2.02 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Naphthalene | U | C3 | 20.0 | 100 | 20 | 04/27/2025 22:14 | WG2501286 |

## 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 | 501 | | 1.99 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Styrene | U | | 2.36 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,1,1,2-Tetrachloroethane | U | | 2.94 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,1,2,2-Tetrachloroethane | U | | 2.66 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,1,2-Trichlorotrifluoroethane | U | | 3.60 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Tetrachloroethene | U | | 6.00 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Toluene | 9.07 | J | 5.56 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,2,3-Trichlorobenzene | U | | 4.60 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,2,4-Trichlorobenzene | U | | 9.62 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,1,1-Trichloroethane | U | | 2.98 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,1,2-Trichloroethane | U | | 3.16 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Trichloroethene | U | | 3.80 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Trichlorofluoromethane | U | | 3.20 | 100 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,2,3-Trichloropropane | U | | 4.74 | 50.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,2,4-Trimethylbenzene | U | | 6.44 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,2,3-Trimethylbenzene | 2.18 | J | 2.08 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| 1,3,5-Trimethylbenzene | 3.53 | J | 2.08 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Vinyl chloride | U | | 4.68 | 20.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| Xylenes, Total | 29.5 | J | 3.48 | 60.0 | 20 | 04/27/2025 22:14 | WG2501286 |
| *(S) Toluene-d8* | *103* | | | *80.0-120* | | *04/27/2025 22:14* | WG2501286 |
| *(S) 4-Bromofluorobenzene* | *104* | | | *77.0-126* | | *04/27/2025 22:14* | WG2501286 |
| *(S) 1,2-Dichloroethane-d4* | *93.1* | | | *70.0-130* | | *04/27/2025 22:14* | WG2501286 |

## 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 | 1410 | | 31.6 | 100 | 1 | 04/27/2025 13:35 | WG2501070 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *93.4* | | | *78.0-120* | | *04/27/2025 13:35* | WG2501070 |

## 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 | 04/28/2025 14:56 | WG2501583 |
| Acrolein | U | | 2.54 | 50.0 | 1 | 04/28/2025 14:56 | WG2501583 |
| Acrylonitrile | U | | 0.671 | 10.0 | 1 | 04/28/2025 14:56 | WG2501583 |
| Benzene | 59.6 | | 0.0941 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Bromobenzene | U | | 0.118 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Bromodichloromethane | U | | 0.136 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Bromoform | U | C3 | 0.129 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Bromomethane | U | | 0.605 | 5.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| n-Butylbenzene | 0.277 | C3 J | 0.157 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| sec-Butylbenzene | 0.650 | J | 0.125 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| tert-Butylbenzene | 0.162 | J | 0.127 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Carbon disulfide | U | | 0.0962 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Carbon tetrachloride | U | C3 | 0.128 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Chlorobenzene | U | | 0.116 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Chlorodibromomethane | U | | 0.140 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Chloroethane | U | C3 | 0.192 | 5.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Chloroform | U | | 0.111 | 5.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Chloromethane | U | | 0.960 | 2.50 | 1 | 04/28/2025 14:56 | WG2501583 |
| 2-Chlorotoluene | U | | 0.106 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 4-Chlorotoluene | U | | 0.114 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,2-Dibromo-3-Chloropropane | U | C3 | 0.276 | 5.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,2-Dibromoethane | U | | 0.126 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Dibromomethane | U | | 0.122 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,2-Dichlorobenzene | U | | 0.107 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,3-Dichlorobenzene | U | | 0.110 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,4-Dichlorobenzene | U | | 0.120 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Dichlorodifluoromethane | U | | 0.374 | 5.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,1-Dichloroethane | U | | 0.100 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,2-Dichloroethane | U | | 0.0819 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,1-Dichloroethene | U | | 0.188 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| cis-1,2-Dichloroethene | U | | 0.126 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| trans-1,2-Dichloroethene | U | | 0.149 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,2-Dichloropropane | U | | 0.149 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,1-Dichloropropene | U | | 0.142 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,3-Dichloropropane | U | | 0.110 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| cis-1,3-Dichloropropene | U | | 0.111 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| trans-1,3-Dichloropropene | U | | 0.118 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 2,2-Dichloropropane | U | | 0.161 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Di-isopropyl ether | U | | 0.105 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Ethylbenzene | 42.9 | | 0.137 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Hexachloro-1,3-butadiene | U | C3 | 0.337 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Isopropylbenzene | 9.30 | | 0.105 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| p-Isopropyltoluene | U | | 0.120 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 2-Butanone (MEK) | U | | 1.19 | 10.0 | 1 | 04/28/2025 14:56 | WG2501583 |
| Methylene Chloride | U | | 0.430 | 5.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.478 | 10.0 | 1 | 04/28/2025 14:56 | WG2501583 |
| Methyl tert-butyl ether | 13.1 | | 0.101 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Naphthalene | 3.78 | C3 J | 1.00 | 5.00 | 1 | 04/28/2025 14:56 | WG2501583 |

## 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 | 16.8 | | 0.0993 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Styrene | U | | 0.118 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,1,1,2-Tetrachloroethane | U | | 0.147 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,1,2,2-Tetrachloroethane | U | | 0.133 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.180 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Tetrachloroethene | U | | 0.300 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Toluene | 1.56 | | 0.278 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,2,3-Trichlorobenzene | U | C3 | 0.230 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,2,4-Trichlorobenzene | U | C3 | 0.481 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,1,1-Trichloroethane | U | C3 | 0.149 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,1,2-Trichloroethane | U | | 0.158 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Trichloroethene | U | | 0.190 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Trichlorofluoromethane | U | | 0.160 | 5.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,2,3-Trichloropropane | U | | 0.237 | 2.50 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,2,4-Trimethylbenzene | 15.0 | | 0.322 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,2,3-Trimethylbenzene | 9.64 | | 0.104 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| 1,3,5-Trimethylbenzene | 4.62 | | 0.104 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Vinyl chloride | U | | 0.234 | 1.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| Xylenes, Total | 80.9 | | 0.174 | 3.00 | 1 | 04/28/2025 14:56 | WG2501583 |
| *(S) Toluene-d8* | *102* | | | *80.0-120* | | *04/28/2025 14:56* | WG2501583 |
| *(S) 4-Bromofluorobenzene* | *99.4* | | | *77.0-126* | | *04/28/2025 14:56* | WG2501583 |
| *(S) 1,2-Dichloroethane-d4* | *84.3* | | | *70.0-130* | | *04/28/2025 14:56* | WG2501583 |

## 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 | U | | 31.6 | 100 | 1 | 04/27/2025 13:55 | WG2501070 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *103* | | | *78.0-120* | | *04/27/2025 13:55* | WG2501070 |

## 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 | 04/28/2025 15:18 | WG2501583 |
| Acrolein | U | | 2.54 | 50.0 | 1 | 04/28/2025 15:18 | WG2501583 |
| Acrylonitrile | U | | 0.671 | 10.0 | 1 | 04/28/2025 15:18 | WG2501583 |
| Benzene | U | | 0.0941 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Bromobenzene | U | | 0.118 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Bromodichloromethane | U | | 0.136 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Bromoform | U | C3 | 0.129 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Bromomethane | U | | 0.605 | 5.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| n-Butylbenzene | U | C3 | 0.157 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| sec-Butylbenzene | U | | 0.125 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| tert-Butylbenzene | U | | 0.127 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Carbon disulfide | U | | 0.0962 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Carbon tetrachloride | U | C3 | 0.128 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Chlorobenzene | U | | 0.116 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Chlorodibromomethane | U | | 0.140 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Chloroethane | U | C3 | 0.192 | 5.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Chloroform | U | | 0.111 | 5.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Chloromethane | U | | 0.960 | 2.50 | 1 | 04/28/2025 15:18 | WG2501583 |
| 2-Chlorotoluene | U | | 0.106 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 4-Chlorotoluene | U | | 0.114 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,2-Dibromo-3-Chloropropane | U | C3 | 0.276 | 5.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,2-Dibromoethane | U | | 0.126 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Dibromomethane | U | | 0.122 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,2-Dichlorobenzene | U | | 0.107 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,3-Dichlorobenzene | U | | 0.110 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,4-Dichlorobenzene | U | | 0.120 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Dichlorodifluoromethane | U | | 0.374 | 5.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,1-Dichloroethane | U | | 0.100 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,2-Dichloroethane | U | | 0.0819 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,1-Dichloroethene | U | | 0.188 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| cis-1,2-Dichloroethene | U | | 0.126 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| trans-1,2-Dichloroethene | U | | 0.149 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,2-Dichloropropane | U | | 0.149 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,1-Dichloropropene | U | | 0.142 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,3-Dichloropropane | U | | 0.110 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| cis-1,3-Dichloropropene | U | | 0.111 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| trans-1,3-Dichloropropene | U | | 0.118 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 2,2-Dichloropropane | U | | 0.161 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Di-isopropyl ether | U | | 0.105 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Ethylbenzene | U | | 0.137 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Hexachloro-1,3-butadiene | U | C3 | 0.337 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Isopropylbenzene | U | | 0.105 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| p-Isopropyltoluene | U | | 0.120 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 2-Butanone (MEK) | U | | 1.19 | 10.0 | 1 | 04/28/2025 15:18 | WG2501583 |
| Methylene Chloride | U | | 0.430 | 5.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.478 | 10.0 | 1 | 04/28/2025 15:18 | WG2501583 |
| Methyl tert-butyl ether | U | | 0.101 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Naphthalene | U | C3 | 1.00 | 5.00 | 1 | 04/28/2025 15:18 | WG2501583 |

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 | U | | 0.0993 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Styrene | U | | 0.118 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,1,1,2-Tetrachloroethane | U | | 0.147 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,1,2,2-Tetrachloroethane | U | | 0.133 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.180 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Tetrachloroethene | U | | 0.300 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Toluene | U | | 0.278 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,2,3-Trichlorobenzene | U | C3 | 0.230 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,2,4-Trichlorobenzene | U | C3 | 0.481 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,1,1-Trichloroethane | U | C3 | 0.149 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,1,2-Trichloroethane | U | | 0.158 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Trichloroethene | U | | 0.190 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Trichlorofluoromethane | U | | 0.160 | 5.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,2,3-Trichloropropane | U | | 0.237 | 2.50 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,2,4-Trimethylbenzene | U | | 0.322 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,2,3-Trimethylbenzene | U | | 0.104 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| 1,3,5-Trimethylbenzene | U | | 0.104 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Vinyl chloride | U | | 0.234 | 1.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| Xylenes, Total | U | | 0.174 | 3.00 | 1 | 04/28/2025 15:18 | WG2501583 |
| *(S) Toluene-d8* | *97.3* | | | *80.0-120* | | *04/28/2025 15:18* | WG2501583 |
| *(S) 4-Bromofluorobenzene* | *94.2* | | | *77.0-126* | | *04/28/2025 15:18* | WG2501583 |
| *(S) 1,2-Dichloroethane-d4* | *100* | | | *70.0-130* | | *04/28/2025 15:18* | WG2501583 |

## 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 | 99400 | | 1580 | 5000 | 50 | 04/27/2025 15:37 | WG2501070 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *102* | | | *78.0-120* | | *04/27/2025 15:37* | WG2501070 |

## 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 | C3 | 565 | 2500 | 50 | 04/27/2025 22:37 | WG2501286 |
| Acrolein | U | C3 | 127 | 2500 | 50 | 04/27/2025 22:37 | WG2501286 |
| Acrylonitrile | U | | 33.6 | 500 | 50 | 04/27/2025 22:37 | WG2501286 |
| Benzene | 1190 | | 4.71 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Bromobenzene | U | | 5.90 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Bromodichloromethane | U | | 6.80 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Bromoform | U | | 6.45 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Bromomethane | U | | 30.3 | 250 | 50 | 04/27/2025 22:37 | WG2501286 |
| n-Butylbenzene | U | | 7.85 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| sec-Butylbenzene | U | | 6.25 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| tert-Butylbenzene | U | | 6.35 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Carbon disulfide | U | | 4.81 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Carbon tetrachloride | U | | 6.40 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Chlorobenzene | U | | 5.80 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Chlorodibromomethane | U | | 7.00 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Chloroethane | U | | 9.60 | 250 | 50 | 04/27/2025 22:37 | WG2501286 |
| Chloroform | U | | 5.55 | 250 | 50 | 04/27/2025 22:37 | WG2501286 |
| Chloromethane | 86.7 | J | 48.0 | 125 | 50 | 04/27/2025 22:37 | WG2501286 |
| 2-Chlorotoluene | U | | 5.30 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 4-Chlorotoluene | U | | 5.70 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,2-Dibromo-3-Chloropropane | U | C3 | 13.8 | 250 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,2-Dibromoethane | U | | 6.30 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Dibromomethane | U | | 6.10 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,2-Dichlorobenzene | U | | 5.35 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,3-Dichlorobenzene | U | | 5.50 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,4-Dichlorobenzene | U | | 6.00 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Dichlorodifluoromethane | U | J4 | 18.7 | 250 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,1-Dichloroethane | U | | 5.00 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,2-Dichloroethane | U | | 4.09 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,1-Dichloroethene | U | | 9.40 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| cis-1,2-Dichloroethene | U | | 6.30 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| trans-1,2-Dichloroethene | U | | 7.45 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,2-Dichloropropane | U | | 7.45 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,1-Dichloropropene | U | | 7.10 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,3-Dichloropropane | U | | 5.50 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| cis-1,3-Dichloropropene | U | | 5.55 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| trans-1,3-Dichloropropene | U | | 5.90 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 2,2-Dichloropropane | U | | 8.05 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Di-isopropyl ether | U | | 5.25 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Ethylbenzene | 4770 | | 6.85 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Hexachloro-1,3-butadiene | U | | 16.9 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Isopropylbenzene | 123 | | 5.25 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| p-Isopropyltoluene | U | | 6.00 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 2-Butanone (MEK) | U | | 59.5 | 500 | 50 | 04/27/2025 22:37 | WG2501286 |
| Methylene Chloride | U | | 21.5 | 250 | 50 | 04/27/2025 22:37 | WG2501286 |
| 4-Methyl-2-pentanone (MIBK) | U | | 23.9 | 500 | 50 | 04/27/2025 22:37 | WG2501286 |
| Methyl tert-butyl ether | U | | 5.05 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Naphthalene | 516 | C3 | 50.0 | 250 | 50 | 04/27/2025 22:37 | WG2501286 |

## 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 | 371 | | 4.97 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Styrene | U | | 5.90 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,1,1,2-Tetrachloroethane | U | | 7.35 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,1,2,2-Tetrachloroethane | U | | 6.65 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,1,2-Trichlorotrifluoroethane | U | | 9.00 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Tetrachloroethene | U | | 15.0 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Toluene | 14900 | | 139 | 500 | 500 | 04/30/2025 11:17 | WG2502892 |
| 1,2,3-Trichlorobenzene | U | | 11.5 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,2,4-Trichlorobenzene | U | | 24.1 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,1,1-Trichloroethane | U | | 7.45 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,1,2-Trichloroethane | U | | 7.90 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Trichloroethene | U | | 9.50 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Trichlorofluoromethane | U | | 8.00 | 250 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,2,3-Trichloropropane | U | | 11.9 | 125 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,2,4-Trimethylbenzene | 2570 | | 16.1 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,2,3-Trimethylbenzene | 617 | | 5.20 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| 1,3,5-Trimethylbenzene | 684 | | 5.20 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Vinyl chloride | U | | 11.7 | 50.0 | 50 | 04/27/2025 22:37 | WG2501286 |
| Xylenes, Total | 24200 | | 8.70 | 150 | 50 | 04/27/2025 22:37 | WG2501286 |
| *(S) Toluene-d8* | *101* | | | *80.0-120* | | *04/27/2025 22:37* | WG2501286 |
| *(S) Toluene-d8* | *110* | | | *80.0-120* | | *04/30/2025 11:17* | WG2502892 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *77.0-126* | | *04/27/2025 22:37* | WG2501286 |
| *(S) 4-Bromofluorobenzene* | *93.1* | | | *77.0-126* | | *04/30/2025 11:17* | WG2502892 |
| *(S) 1,2-Dichloroethane-d4* | *96.6* | | | *70.0-130* | | *04/27/2025 22:37* | WG2501286 |
| *(S) 1,2-Dichloroethane-d4* | *96.4* | | | *70.0-130* | | *04/30/2025 11:17* | WG2502892 |

## 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 | 80.1 | J | 31.6 | 100 | 1 | 04/27/2025 14:16 | WG2501070 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *103* | | | *78.0-120* | | *04/27/2025 14:16* | WG2501070 |

## 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 | C3 | 11.3 | 50.0 | 1 | 04/27/2025 19:04 | WG2501286 |
| Acrolein | U | C3 | 2.54 | 50.0 | 1 | 04/27/2025 19:04 | WG2501286 |
| Acrylonitrile | U | | 0.671 | 10.0 | 1 | 04/27/2025 19:04 | WG2501286 |
| Benzene | 1.40 | | 0.0941 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Bromobenzene | U | | 0.118 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Bromodichloromethane | U | | 0.136 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Bromoform | U | | 0.129 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Bromomethane | U | | 0.605 | 5.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| n-Butylbenzene | U | | 0.157 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| sec-Butylbenzene | U | | 0.125 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| tert-Butylbenzene | U | | 0.127 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Carbon disulfide | U | | 0.0962 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Carbon tetrachloride | U | | 0.128 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Chlorobenzene | U | | 0.116 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Chlorodibromomethane | U | | 0.140 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Chloroethane | U | | 0.192 | 5.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Chloroform | U | | 0.111 | 5.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Chloromethane | U | | 0.960 | 2.50 | 1 | 04/27/2025 19:04 | WG2501286 |
| 2-Chlorotoluene | U | | 0.106 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 4-Chlorotoluene | U | | 0.114 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,2-Dibromo-3-Chloropropane | U | C3 | 0.276 | 5.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,2-Dibromoethane | U | | 0.126 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Dibromomethane | U | | 0.122 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,2-Dichlorobenzene | U | | 0.107 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,3-Dichlorobenzene | U | | 0.110 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,4-Dichlorobenzene | U | | 0.120 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Dichlorodifluoromethane | U | J4 | 0.374 | 5.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,1-Dichloroethane | U | | 0.100 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,2-Dichloroethane | U | | 0.0819 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,1-Dichloroethene | U | | 0.188 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| cis-1,2-Dichloroethene | U | | 0.126 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| trans-1,2-Dichloroethene | U | | 0.149 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,2-Dichloropropane | U | | 0.149 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,1-Dichloropropene | U | | 0.142 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,3-Dichloropropane | U | | 0.110 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| cis-1,3-Dichloropropene | U | | 0.111 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| trans-1,3-Dichloropropene | U | | 0.118 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 2,2-Dichloropropane | U | | 0.161 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Di-isopropyl ether | U | | 0.105 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Ethylbenzene | U | | 0.137 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Hexachloro-1,3-butadiene | U | | 0.337 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Isopropylbenzene | U | | 0.105 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| p-Isopropyltoluene | U | | 0.120 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 2-Butanone (MEK) | U | | 1.19 | 10.0 | 1 | 04/27/2025 19:04 | WG2501286 |
| Methylene Chloride | U | | 0.430 | 5.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.478 | 10.0 | 1 | 04/27/2025 19:04 | WG2501286 |
| Methyl tert-butyl ether | U | | 0.101 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Naphthalene | U | C3 | 1.00 | 5.00 | 1 | 04/27/2025 19:04 | WG2501286 |

## 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 | 04/27/2025 19:04 | WG2501286 |
| Styrene | U | | 0.118 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,1,1,2-Tetrachloroethane | U | | 0.147 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,1,2,2-Tetrachloroethane | U | | 0.133 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.180 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Tetrachloroethene | U | | 0.300 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Toluene | U | | 0.278 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,2,3-Trichlorobenzene | U | | 0.230 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,2,4-Trichlorobenzene | U | | 0.481 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,1,1-Trichloroethane | U | | 0.149 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,1,2-Trichloroethane | U | | 0.158 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Trichloroethene | U | | 0.190 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Trichlorofluoromethane | U | | 0.160 | 5.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,2,3-Trichloropropane | U | | 0.237 | 2.50 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,2,4-Trimethylbenzene | U | | 0.322 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,2,3-Trimethylbenzene | U | | 0.104 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| 1,3,5-Trimethylbenzene | U | | 0.104 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Vinyl chloride | U | | 0.234 | 1.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| Xylenes, Total | U | | 0.174 | 3.00 | 1 | 04/27/2025 19:04 | WG2501286 |
| *(S) Toluene-d8* | *107* | | | *80.0-120* | | *04/27/2025 19:04* | WG2501286 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *77.0-126* | | *04/27/2025 19:04* | WG2501286 |
| *(S) 1,2-Dichloroethane-d4* | *98.1* | | | *70.0-130* | | *04/27/2025 19:04* | WG2501286 |

## 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 | 5740 | | 31.6 | 100 | 1 | 04/27/2025 14:36 | WG2501070 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *105* | | | *78.0-120* | | *04/27/2025 14:36* | WG2501070 |

## 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 | C3 | 282 | 1250 | 25 | 04/27/2025 23:01 | WG2501286 |
| Acrolein | U | C3 | 63.5 | 1250 | 25 | 04/27/2025 23:01 | WG2501286 |
| Acrylonitrile | U | | 16.8 | 250 | 25 | 04/27/2025 23:01 | WG2501286 |
| Benzene | 773 | | 2.35 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Bromobenzene | U | | 2.95 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Bromodichloromethane | U | | 3.40 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Bromoform | U | | 3.22 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Bromomethane | U | | 15.1 | 125 | 25 | 04/27/2025 23:01 | WG2501286 |
| n-Butylbenzene | 7.94 | J | 3.93 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| sec-Butylbenzene | 6.14 | J | 3.13 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| tert-Butylbenzene | U | | 3.18 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Carbon disulfide | U | | 2.41 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Carbon tetrachloride | U | | 3.20 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Chlorobenzene | U | | 2.90 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Chlorodibromomethane | U | | 3.50 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Chloroethane | U | | 4.80 | 125 | 25 | 04/27/2025 23:01 | WG2501286 |
| Chloroform | U | | 2.78 | 125 | 25 | 04/27/2025 23:01 | WG2501286 |
| Chloromethane | U | | 24.0 | 62.5 | 25 | 04/27/2025 23:01 | WG2501286 |
| 2-Chlorotoluene | U | | 2.65 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 4-Chlorotoluene | U | | 2.85 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,2-Dibromo-3-Chloropropane | U | C3 | 6.90 | 125 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,2-Dibromoethane | U | | 3.15 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Dibromomethane | U | | 3.05 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,2-Dichlorobenzene | U | | 2.68 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,3-Dichlorobenzene | U | | 2.75 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,4-Dichlorobenzene | U | | 3.00 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Dichlorodifluoromethane | U | J4 | 9.35 | 125 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,1-Dichloroethane | U | | 2.50 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,2-Dichloroethane | U | | 2.05 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,1-Dichloroethene | U | | 4.70 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| cis-1,2-Dichloroethene | U | | 3.15 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| trans-1,2-Dichloroethene | U | | 3.73 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,2-Dichloropropane | U | | 3.73 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,1-Dichloropropene | U | | 3.55 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,3-Dichloropropane | U | | 2.75 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| cis-1,3-Dichloropropene | U | | 2.78 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| trans-1,3-Dichloropropene | U | | 2.95 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 2,2-Dichloropropane | U | | 4.03 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Di-isopropyl ether | U | | 2.63 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Ethylbenzene | 64.7 | | 3.43 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Hexachloro-1,3-butadiene | U | | 8.43 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Isopropylbenzene | 26.2 | | 2.63 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| p-Isopropyltoluene | U | | 3.00 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 2-Butanone (MEK) | U | | 29.8 | 250 | 25 | 04/27/2025 23:01 | WG2501286 |
| Methylene Chloride | U | | 10.7 | 125 | 25 | 04/27/2025 23:01 | WG2501286 |
| 4-Methyl-2-pentanone (MIBK) | U | | 12.0 | 250 | 25 | 04/27/2025 23:01 | WG2501286 |
| Methyl tert-butyl ether | U | | 2.53 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Naphthalene | U | C3 | 25.0 | 125 | 25 | 04/27/2025 23:01 | WG2501286 |

## 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 | 101 | | 2.48 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Styrene | U | | 2.95 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,1,1,2-Tetrachloroethane | U | | 3.68 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,1,2,2-Tetrachloroethane | U | | 3.33 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,1,2-Trichlorotrifluoroethane | U | | 4.50 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Tetrachloroethene | U | | 7.50 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Toluene | U | | 6.95 | 25.0 | 25 | 04/30/2025 11:37 | WG2502892 |
| 1,2,3-Trichlorobenzene | U | | 5.75 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,2,4-Trichlorobenzene | U | | 12.0 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,1,1-Trichloroethane | U | | 3.73 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,1,2-Trichloroethane | U | | 3.95 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Trichloroethene | U | | 4.75 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Trichlorofluoromethane | U | | 4.00 | 125 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,2,3-Trichloropropane | U | | 5.93 | 62.5 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,2,4-Trimethylbenzene | U | | 8.05 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,2,3-Trimethylbenzene | 18.9 | J | 2.60 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| 1,3,5-Trimethylbenzene | U | | 2.60 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Vinyl chloride | U | | 5.85 | 25.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| Xylenes, Total | 32.5 | J | 4.35 | 75.0 | 25 | 04/27/2025 23:01 | WG2501286 |
| *(S) Toluene-d8* | *107* | | | *80.0-120* | | *04/27/2025 23:01* | WG2501286 |
| *(S) Toluene-d8* | *108* | | | *80.0-120* | | *04/30/2025 11:37* | WG2502892 |
| *(S) 4-Bromofluorobenzene* | *103* | | | *77.0-126* | | *04/27/2025 23:01* | WG2501286 |
| *(S) 4-Bromofluorobenzene* | *92.0* | | | *77.0-126* | | *04/30/2025 11:37* | WG2502892 |
| *(S) 1,2-Dichloroethane-d4* | *94.9* | | | *70.0-130* | | *04/27/2025 23:01* | WG2501286 |
| *(S) 1,2-Dichloroethane-d4* | *99.9* | | | *70.0-130* | | *04/30/2025 11:37* | WG2502892 |

## 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 | 180 | B | 31.6 | 100 | 1 | 04/28/2025 01:25 | WG2501425 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *91.9* | | | *78.0-120* | | *04/28/2025 01:25* | WG2501425 |

## 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 | C3 | 11.3 | 50.0 | 1 | 04/27/2025 19:28 | WG2501286 |
| Acrolein | U | C3 | 2.54 | 50.0 | 1 | 04/27/2025 19:28 | WG2501286 |
| Acrylonitrile | U | | 0.671 | 10.0 | 1 | 04/27/2025 19:28 | WG2501286 |
| Benzene | 4.15 | | 0.0941 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Bromobenzene | U | | 0.118 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Bromodichloromethane | U | | 0.136 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Bromoform | U | | 0.129 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Bromomethane | U | | 0.605 | 5.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| n-Butylbenzene | 0.649 | J | 0.157 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| sec-Butylbenzene | 1.50 | | 0.125 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| tert-Butylbenzene | U | | 0.127 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Carbon disulfide | U | | 0.0962 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Carbon tetrachloride | U | | 0.128 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Chlorobenzene | U | | 0.116 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Chlorodibromomethane | U | | 0.140 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Chloroethane | U | | 0.192 | 5.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Chloroform | U | | 0.111 | 5.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Chloromethane | U | | 0.960 | 2.50 | 1 | 04/27/2025 19:28 | WG2501286 |
| 2-Chlorotoluene | U | | 0.106 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 4-Chlorotoluene | U | | 0.114 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,2-Dibromo-3-Chloropropane | U | C3 | 0.276 | 5.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,2-Dibromoethane | U | | 0.126 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Dibromomethane | U | | 0.122 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,2-Dichlorobenzene | U | | 0.107 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,3-Dichlorobenzene | U | | 0.110 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,4-Dichlorobenzene | U | | 0.120 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Dichlorodifluoromethane | U | J4 | 0.374 | 5.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,1-Dichloroethane | U | | 0.100 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,2-Dichloroethane | U | | 0.0819 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,1-Dichloroethene | U | | 0.188 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| cis-1,2-Dichloroethene | U | | 0.126 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| trans-1,2-Dichloroethene | U | | 0.149 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,2-Dichloropropane | U | | 0.149 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,1-Dichloropropene | U | | 0.142 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,3-Dichloropropane | U | | 0.110 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| cis-1,3-Dichloropropene | U | | 0.111 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| trans-1,3-Dichloropropene | U | | 0.118 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 2,2-Dichloropropane | U | | 0.161 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Di-isopropyl ether | U | | 0.105 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Ethylbenzene | U | | 0.137 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Hexachloro-1,3-butadiene | U | | 0.337 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Isopropylbenzene | 4.59 | | 0.105 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| p-Isopropyltoluene | U | | 0.120 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 2-Butanone (MEK) | U | | 1.19 | 10.0 | 1 | 04/27/2025 19:28 | WG2501286 |
| Methylene Chloride | U | | 0.430 | 5.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 4-Methyl-2-pentanone (MIBK) | U | | 0.478 | 10.0 | 1 | 04/27/2025 19:28 | WG2501286 |
| Methyl tert-butyl ether | U | | 0.101 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Naphthalene | U | C3 | 1.00 | 5.00 | 1 | 04/27/2025 19:28 | WG2501286 |

## 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 | 3.58 | | 0.0993 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Styrene | U | | 0.118 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,1,1,2-Tetrachloroethane | U | | 0.147 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,1,2,2-Tetrachloroethane | U | | 0.133 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,1,2-Trichlorotrifluoroethane | U | | 0.180 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Tetrachloroethene | U | | 0.300 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Toluene | U | | 0.278 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,2,3-Trichlorobenzene | U | | 0.230 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,2,4-Trichlorobenzene | U | | 0.481 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,1,1-Trichloroethane | U | | 0.149 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,1,2-Trichloroethane | U | | 0.158 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Trichloroethene | U | | 0.190 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Trichlorofluoromethane | U | | 0.160 | 5.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,2,3-Trichloropropane | U | | 0.237 | 2.50 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,2,4-Trimethylbenzene | U | | 0.322 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,2,3-Trimethylbenzene | 0.686 | J | 0.104 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| 1,3,5-Trimethylbenzene | U | | 0.104 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Vinyl chloride | U | | 0.234 | 1.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| Xylenes, Total | U | | 0.174 | 3.00 | 1 | 04/27/2025 19:28 | WG2501286 |
| *(S) Toluene-d8* | *106* | | | *80.0-120* | | *04/27/2025 19:28* | WG2501286 |
| *(S) 4-Bromofluorobenzene* | *105* | | | *77.0-126* | | *04/27/2025 19:28* | WG2501286 |
| *(S) 1,2-Dichloroethane-d4* | *97.6* | | | *70.0-130* | | *04/27/2025 19:28* | WG2501286 |

## 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 | 5590 | | 31.6 | 100 | 1 | 04/27/2025 14:56 | WG2501070 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *105* | | | *78.0-120* | | *04/27/2025 14:56* | WG2501070 |

## 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 | C3 | 282 | 1250 | 25 | 04/27/2025 23:24 | WG2501286 |
| Acrolein | U | C3 | 63.5 | 1250 | 25 | 04/27/2025 23:24 | WG2501286 |
| Acrylonitrile | U | | 16.8 | 250 | 25 | 04/27/2025 23:24 | WG2501286 |
| Benzene | 712 | | 2.35 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Bromobenzene | U | | 2.95 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Bromodichloromethane | U | | 3.40 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Bromoform | U | | 3.22 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Bromomethane | U | | 15.1 | 125 | 25 | 04/27/2025 23:24 | WG2501286 |
| n-Butylbenzene | U | | 3.93 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| sec-Butylbenzene | 3.86 | J | 3.13 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| tert-Butylbenzene | U | | 3.18 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Carbon disulfide | U | | 2.41 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Carbon tetrachloride | U | | 3.20 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Chlorobenzene | U | | 2.90 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Chlorodibromomethane | U | | 3.50 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Chloroethane | U | | 4.80 | 125 | 25 | 04/27/2025 23:24 | WG2501286 |
| Chloroform | U | | 2.78 | 125 | 25 | 04/27/2025 23:24 | WG2501286 |
| Chloromethane | U | | 24.0 | 62.5 | 25 | 04/27/2025 23:24 | WG2501286 |
| 2-Chlorotoluene | U | | 2.65 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 4-Chlorotoluene | U | | 2.85 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,2-Dibromo-3-Chloropropane | U | C3 | 6.90 | 125 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,2-Dibromoethane | U | | 3.15 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Dibromomethane | U | | 3.05 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,2-Dichlorobenzene | U | | 2.68 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,3-Dichlorobenzene | U | | 2.75 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,4-Dichlorobenzene | U | | 3.00 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Dichlorodifluoromethane | U | J4 | 9.35 | 125 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,1-Dichloroethane | U | | 2.50 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,2-Dichloroethane | U | | 2.05 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,1-Dichloroethene | U | | 4.70 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| cis-1,2-Dichloroethene | U | | 3.15 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| trans-1,2-Dichloroethene | U | | 3.73 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,2-Dichloropropane | U | | 3.73 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,1-Dichloropropene | U | | 3.55 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,3-Dichloropropane | U | | 2.75 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| cis-1,3-Dichloropropene | U | | 2.78 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| trans-1,3-Dichloropropene | U | | 2.95 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 2,2-Dichloropropane | U | | 4.03 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Di-isopropyl ether | U | | 2.63 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Ethylbenzene | 48.6 | | 3.43 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Hexachloro-1,3-butadiene | U | | 8.43 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Isopropylbenzene | 19.3 | J | 2.63 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| p-Isopropyltoluene | U | | 3.00 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 2-Butanone (MEK) | U | | 29.8 | 250 | 25 | 04/27/2025 23:24 | WG2501286 |
| Methylene Chloride | U | | 10.7 | 125 | 25 | 04/27/2025 23:24 | WG2501286 |
| 4-Methyl-2-pentanone (MIBK) | U | | 12.0 | 250 | 25 | 04/27/2025 23:24 | WG2501286 |
| Methyl tert-butyl ether | U | | 2.53 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Naphthalene | U | C3 | 25.0 | 125 | 25 | 04/27/2025 23:24 | WG2501286 |

## 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 | 66.3 | | 2.48 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Styrene | U | | 2.95 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,1,1,2-Tetrachloroethane | U | | 3.68 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,1,2,2-Tetrachloroethane | U | | 3.33 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,1,2-Trichlorotrifluoroethane | U | | 4.50 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Tetrachloroethene | U | | 7.50 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Toluene | U | | 6.95 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,2,3-Trichlorobenzene | U | | 5.75 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,2,4-Trichlorobenzene | U | | 12.0 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,1,1-Trichloroethane | U | | 3.73 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,1,2-Trichloroethane | U | | 3.95 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Trichloroethene | U | | 4.75 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Trichlorofluoromethane | U | | 4.00 | 125 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,2,3-Trichloropropane | U | | 5.93 | 62.5 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,2,4-Trimethylbenzene | U | | 8.05 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,2,3-Trimethylbenzene | 11.8 | J | 2.60 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| 1,3,5-Trimethylbenzene | U | | 2.60 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Vinyl chloride | U | | 5.85 | 25.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| Xylenes, Total | 12.3 | J | 4.35 | 75.0 | 25 | 04/27/2025 23:24 | WG2501286 |
| *(S) Toluene-d8* | *104* | | | *80.0-120* | | *04/27/2025 23:24* | WG2501286 |
| *(S) 4-Bromofluorobenzene* | *102* | | | *77.0-126* | | *04/27/2025 23:24* | WG2501286 |
| *(S) 1,2-Dichloroethane-d4* | *93.4* | | | *70.0-130* | | *04/27/2025 23:24* | WG2501286 |

## Method Blank (MB)

(MB) R4205920-3 04/27/25 08:56

| 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)* | *102* | | | *78.0-120* |

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

(LCS) R4205920-1 04/27/25 07:55 • (LCSD) R4205920-2 04/27/25 08:15

| 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 | 5000 | 4960 | 4120 | 99.2 | 82.4 | 70.0-124 | | | 18.5 | 20 |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | | *105* | *101* | *78.0-120* | | | | |

## Method Blank (MB)

(MB) R4207599-2 04/27/25 21:55

| Analyte | MB Result ug/l | MB Qualifier | MB MDL ug/l | MB RDL ug/l |
|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | 56.0 | J | 31.6 | 100 |
| *(S) a,a,a-Trifluorotoluene(FID)* | *99.3* | | | *78.0-120* |

## Laboratory Control Sample (LCS)

(LCS) R4207599-1 04/27/25 20:36

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Gasoline Range Organics-NWTPH | 5000 | 4680 | 93.6 | 70.0-124 | |
| *(S) a,a,a-Trifluorotoluene(FID)* | | | *91.4* | *78.0-120* | |

## Method Blank (MB)

(MB) R4205898-3 04/27/25 15:12

| 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) R4205898-3 04/27/25 15:12

| 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* | *106* | | | *80.0-120* |
| *(S) 4-Bromofluorobenzene* | *106* | | | *77.0-126* |
| *(S) 1,2-Dichloroethane-d4* | *99.3* | | | *70.0-130* |

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

(LCS) R4205898-1 04/27/25 13:37 • (LCSD) R4205898-2 04/27/25 14:01

| 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 | 18.8 | 17.6 | 75.2 | 70.4 | 19.0-160 | J | J | 6.59 | 27 |
| Acrolein | 25.0 | 18.5 | 18.6 | 74.0 | 74.4 | 10.0-160 | J | J | 0.539 | 26 |
| Acrylonitrile | 25.0 | 28.2 | 27.2 | 113 | 109 | 55.0-149 | | | 3.61 | 20 |

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

(LCS) R4205898-1 04/27/25 13:37 • (LCSD) R4205898-2 04/27/25 14:01

| 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 | 5.20 | 5.09 | 104 | 102 | 70.0-123 | | | 2.14 | 20 |
| Bromobenzene | 5.00 | 4.59 | 4.26 | 91.8 | 85.2 | 73.0-121 | | | 7.46 | 20 |
| Bromodichloromethane | 5.00 | 5.19 | 5.01 | 104 | 100 | 75.0-120 | | | 3.53 | 20 |
| Bromoform | 5.00 | 5.04 | 5.04 | 101 | 101 | 68.0-132 | | | 0.000 | 20 |
| Bromomethane | 5.00 | 6.13 | 6.36 | 123 | 127 | 10.0-160 | | | 3.68 | 25 |
| n-Butylbenzene | 5.00 | 4.29 | 4.13 | 85.8 | 82.6 | 73.0-125 | | | 3.80 | 20 |
| sec-Butylbenzene | 5.00 | 4.26 | 4.36 | 85.2 | 87.2 | 75.0-125 | | | 2.32 | 20 |
| tert-Butylbenzene | 5.00 | 4.16 | 4.16 | 83.2 | 83.2 | 76.0-124 | | | 0.000 | 20 |
| Carbon disulfide | 5.00 | 5.50 | 5.38 | 110 | 108 | 61.0-128 | | | 2.21 | 20 |
| Carbon tetrachloride | 5.00 | 5.09 | 5.15 | 102 | 103 | 68.0-126 | | | 1.17 | 20 |
| Chlorobenzene | 5.00 | 5.00 | 4.97 | 100 | 99.4 | 80.0-121 | | | 0.602 | 20 |
| Chlorodibromomethane | 5.00 | 5.00 | 4.86 | 100 | 97.2 | 77.0-125 | | | 2.84 | 20 |
| Chloroethane | 5.00 | 5.29 | 4.97 | 106 | 99.4 | 47.0-150 | | J | 6.24 | 20 |
| Chloroform | 5.00 | 5.21 | 5.09 | 104 | 102 | 73.0-120 | | | 2.33 | 20 |
| Chloromethane | 5.00 | 6.55 | 6.70 | 131 | 134 | 41.0-142 | | | 2.26 | 20 |
| 2-Chlorotoluene | 5.00 | 4.42 | 4.35 | 88.4 | 87.0 | 76.0-123 | | | 1.60 | 20 |
| 4-Chlorotoluene | 5.00 | 4.20 | 4.17 | 84.0 | 83.4 | 75.0-122 | | | 0.717 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 3.88 | 3.73 | 77.6 | 74.6 | 58.0-134 | J | J | 3.94 | 20 |
| 1,2-Dibromoethane | 5.00 | 5.00 | 4.83 | 100 | 96.6 | 80.0-122 | | | 3.46 | 20 |
| Dibromomethane | 5.00 | 5.15 | 4.92 | 103 | 98.4 | 80.0-120 | | | 4.57 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 4.33 | 4.51 | 86.6 | 90.2 | 79.0-121 | | | 4.07 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 4.50 | 4.41 | 90.0 | 88.2 | 79.0-120 | | | 2.02 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 4.63 | 4.54 | 92.6 | 90.8 | 79.0-120 | | | 1.96 | 20 |
| Dichlorodifluoromethane | 5.00 | 7.65 | 7.39 | 153 | 148 | 51.0-149 | J4 | | 3.46 | 20 |
| 1,1-Dichloroethane | 5.00 | 5.29 | 5.35 | 106 | 107 | 70.0-126 | | | 1.13 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.99 | 4.81 | 99.8 | 96.2 | 70.0-128 | | | 3.67 | 20 |
| 1,1-Dichloroethene | 5.00 | 5.40 | 5.42 | 108 | 108 | 71.0-124 | | | 0.370 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 4.98 | 4.82 | 99.6 | 96.4 | 73.0-120 | | | 3.27 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.22 | 5.18 | 104 | 104 | 73.0-120 | | | 0.769 | 20 |
| 1,2-Dichloropropane | 5.00 | 5.69 | 5.59 | 114 | 112 | 77.0-125 | | | 1.77 | 20 |
| 1,1-Dichloropropene | 5.00 | 5.15 | 4.94 | 103 | 98.8 | 74.0-126 | | | 4.16 | 20 |
| 1,3-Dichloropropane | 5.00 | 5.04 | 5.00 | 101 | 100 | 80.0-120 | | | 0.797 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 4.36 | 4.46 | 87.2 | 89.2 | 80.0-123 | | | 2.27 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 4.45 | 4.35 | 89.0 | 87.0 | 78.0-124 | | | 2.27 | 20 |
| 2,2-Dichloropropane | 5.00 | 4.21 | 4.26 | 84.2 | 85.2 | 58.0-130 | | | 1.18 | 20 |
| Di-isopropyl ether | 5.00 | 5.27 | 5.23 | 105 | 105 | 58.0-138 | | | 0.762 | 20 |
| Ethylbenzene | 5.00 | 4.77 | 4.93 | 95.4 | 98.6 | 79.0-123 | | | 3.30 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.68 | 4.82 | 93.6 | 96.4 | 54.0-138 | | | 2.95 | 20 |
| Isopropylbenzene | 5.00 | 4.73 | 4.80 | 94.6 | 96.0 | 76.0-127 | | | 1.47 | 20 |
| p-Isopropyltoluene | 5.00 | 4.18 | 4.22 | 83.6 | 84.4 | 76.0-125 | | | 0.952 | 20 |

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

(LCS) R4205898-1 04/27/25 13:37 • (LCSD) R4205898-2 04/27/25 14:01

| 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 | 22.4 | 20.9 | 89.6 | 83.6 | 44.0-160 | | | 6.93 | 20 |
| Methylene Chloride | 5.00 | 4.91 | 4.70 | 98.2 | 94.0 | 67.0-120 | J | J | 4.37 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 26.1 | 25.6 | 104 | 102 | 68.0-142 | | | 1.93 | 20 |
| Methyl tert-butyl ether | 5.00 | 4.53 | 4.47 | 90.6 | 89.4 | 68.0-125 | | | 1.33 | 20 |
| Naphthalene | 5.00 | 3.43 | 3.43 | 68.6 | 68.6 | 54.0-135 | J | J | 0.000 | 20 |
| n-Propylbenzene | 5.00 | 4.27 | 4.25 | 85.4 | 85.0 | 77.0-124 | | | 0.469 | 20 |
| Styrene | 5.00 | 4.68 | 4.73 | 93.6 | 94.6 | 73.0-130 | | | 1.06 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 4.96 | 5.06 | 99.2 | 101 | 75.0-125 | | | 2.00 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.07 | 4.24 | 81.4 | 84.8 | 65.0-130 | | | 4.09 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.17 | 5.03 | 103 | 101 | 69.0-132 | | | 2.75 | 20 |
| Tetrachloroethene | 5.00 | 5.52 | 5.40 | 110 | 108 | 72.0-132 | | | 2.20 | 20 |
| Toluene | 5.00 | 5.08 | 5.08 | 102 | 102 | 79.0-120 | | | 0.000 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.36 | 4.43 | 87.2 | 88.6 | 50.0-138 | | | 1.59 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.15 | 4.13 | 83.0 | 82.6 | 57.0-137 | | | 0.483 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.28 | 5.17 | 106 | 103 | 73.0-124 | | | 2.11 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 5.15 | 5.16 | 103 | 103 | 80.0-120 | | | 0.194 | 20 |
| Trichloroethene | 5.00 | 5.66 | 5.27 | 113 | 105 | 78.0-124 | | | 7.14 | 20 |
| Trichlorofluoromethane | 5.00 | 4.35 | 4.09 | 87.0 | 81.8 | 59.0-147 | J | J | 6.16 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 4.23 | 4.29 | 84.6 | 85.8 | 73.0-130 | | | 1.41 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 4.19 | 4.24 | 83.8 | 84.8 | 76.0-121 | | | 1.19 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 4.28 | 4.32 | 85.6 | 86.4 | 77.0-120 | | | 0.930 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 4.23 | 4.17 | 84.6 | 83.4 | 76.0-122 | | | 1.43 | 20 |
| Vinyl chloride | 5.00 | 5.53 | 5.39 | 111 | 108 | 67.0-131 | | | 2.56 | 20 |
| Xylenes, Total | 15.0 | 14.6 | 14.6 | 97.3 | 97.3 | 79.0-123 | | | 0.000 | 20 |
| *(S) Toluene-d8* | | | | *103* | *105* | *80.0-120* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *102* | *103* | *77.0-126* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *97.4* | *96.0* | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R4206241-2 04/28/25 05:04

| 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) R4206241-2 04/28/25 05:04

| 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* | *99.9* | | | *80.0-120* |
| *(S) 4-Bromofluorobenzene* | *96.1* | | | *77.0-126* |
| *(S) 1,2-Dichloroethane-d4* | *102* | | | *70.0-130* |

## Laboratory Control Sample (LCS)

(LCS) R4206241-1 04/28/25 03:59

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Acetone | 25.0 | 29.6 | 118 | 19.0-160 | J |
| Acrolein | 25.0 | 24.2 | 96.8 | 10.0-160 | J |
| Acrylonitrile | 25.0 | 27.8 | 111 | 55.0-149 | |

## Laboratory Control Sample (LCS)

(LCS) R4206241-1 04/28/25 03:59

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| Benzene | 5.00 | 4.53 | 90.6 | 70.0-123 | |
| Bromobenzene | 5.00 | 4.80 | 96.0 | 73.0-121 | |
| Bromodichloromethane | 5.00 | 4.06 | 81.2 | 75.0-120 | |
| Bromoform | 5.00 | 3.97 | 79.4 | 68.0-132 | |
| Bromomethane | 5.00 | 4.65 | 93.0 | 10.0-160 | J |
| n-Butylbenzene | 5.00 | 3.97 | 79.4 | 73.0-125 | |
| sec-Butylbenzene | 5.00 | 4.27 | 85.4 | 75.0-125 | |
| tert-Butylbenzene | 5.00 | 4.50 | 90.0 | 76.0-124 | |
| Carbon disulfide | 5.00 | 4.35 | 87.0 | 61.0-128 | |
| Carbon tetrachloride | 5.00 | 3.90 | 78.0 | 68.0-126 | |
| Chlorobenzene | 5.00 | 4.41 | 88.2 | 80.0-121 | |
| Chlorodibromomethane | 5.00 | 4.07 | 81.4 | 77.0-125 | |
| Chloroethane | 5.00 | 3.91 | 78.2 | 47.0-150 | J |
| Chloroform | 5.00 | 4.03 | 80.6 | 73.0-120 | J |
| Chloromethane | 5.00 | 5.31 | 106 | 41.0-142 | |
| 2-Chlorotoluene | 5.00 | 4.68 | 93.6 | 76.0-123 | |
| 4-Chlorotoluene | 5.00 | 4.45 | 89.0 | 75.0-122 | |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 3.53 | 70.6 | 58.0-134 | J |
| 1,2-Dibromoethane | 5.00 | 4.20 | 84.0 | 80.0-122 | |
| Dibromomethane | 5.00 | 4.44 | 88.8 | 80.0-120 | |
| 1,2-Dichlorobenzene | 5.00 | 4.19 | 83.8 | 79.0-121 | |
| 1,3-Dichlorobenzene | 5.00 | 4.30 | 86.0 | 79.0-120 | |
| 1,4-Dichlorobenzene | 5.00 | 4.47 | 89.4 | 79.0-120 | |
| Dichlorodifluoromethane | 5.00 | 4.51 | 90.2 | 51.0-149 | J |
| 1,1-Dichloroethane | 5.00 | 4.59 | 91.8 | 70.0-126 | |
| 1,2-Dichloroethane | 5.00 | 4.03 | 80.6 | 70.0-128 | |
| 1,1-Dichloroethene | 5.00 | 4.14 | 82.8 | 71.0-124 | |
| cis-1,2-Dichloroethene | 5.00 | 4.18 | 83.6 | 73.0-120 | |
| trans-1,2-Dichloroethene | 5.00 | 4.38 | 87.6 | 73.0-120 | |
| 1,2-Dichloropropane | 5.00 | 4.94 | 98.8 | 77.0-125 | |
| 1,1-Dichloropropene | 5.00 | 4.29 | 85.8 | 74.0-126 | |
| 1,3-Dichloropropane | 5.00 | 4.51 | 90.2 | 80.0-120 | |
| cis-1,3-Dichloropropene | 5.00 | 4.15 | 83.0 | 80.0-123 | |
| trans-1,3-Dichloropropene | 5.00 | 4.29 | 85.8 | 78.0-124 | |
| 2,2-Dichloropropane | 5.00 | 4.19 | 83.8 | 58.0-130 | |
| Di-isopropyl ether | 5.00 | 4.62 | 92.4 | 58.0-138 | |
| Ethylbenzene | 5.00 | 4.34 | 86.8 | 79.0-123 | |
| Hexachloro-1,3-butadiene | 5.00 | 3.63 | 72.6 | 54.0-138 | |
| Isopropylbenzene | 5.00 | 4.06 | 81.2 | 76.0-127 | |
| p-Isopropyltoluene | 5.00 | 4.14 | 82.8 | 76.0-125 | |

## Laboratory Control Sample (LCS)

(LCS) R4206241-1 04/28/25 03:59

| Analyte | Spike Amount ug/l | LCS Result ug/l | LCS Rec. % | Rec. Limits % | LCS Qualifier |
|---|---|---|---|---|---|
| 2-Butanone (MEK) | 25.0 | 26.5 | 106 | 44.0-160 | |
| Methylene Chloride | 5.00 | 4.41 | 88.2 | 67.0-120 | J |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 26.3 | 105 | 68.0-142 | |
| Methyl tert-butyl ether | 5.00 | 3.98 | 79.6 | 68.0-125 | |
| Naphthalene | 5.00 | 2.92 | 58.4 | 54.0-135 | J |
| n-Propylbenzene | 5.00 | 4.67 | 93.4 | 77.0-124 | |
| Styrene | 5.00 | 4.16 | 83.2 | 73.0-130 | |
| 1,1,1,2-Tetrachloroethane | 5.00 | 4.07 | 81.4 | 75.0-125 | |
| 1,1,2,2-Tetrachloroethane | 5.00 | 4.86 | 97.2 | 65.0-130 | |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 4.32 | 86.4 | 69.0-132 | |
| Tetrachloroethene | 5.00 | 4.37 | 87.4 | 72.0-132 | |
| Toluene | 5.00 | 4.59 | 91.8 | 79.0-120 | |
| 1,2,3-Trichlorobenzene | 5.00 | 3.03 | 60.6 | 50.0-138 | |
| 1,2,4-Trichlorobenzene | 5.00 | 3.12 | 62.4 | 57.0-137 | |
| 1,1,1-Trichloroethane | 5.00 | 3.96 | 79.2 | 73.0-124 | |
| 1,1,2-Trichloroethane | 5.00 | 4.41 | 88.2 | 80.0-120 | |
| Trichloroethene | 5.00 | 4.52 | 90.4 | 78.0-124 | |
| Trichlorofluoromethane | 5.00 | 4.27 | 85.4 | 59.0-147 | J |
| 1,2,3-Trichloropropane | 5.00 | 5.06 | 101 | 73.0-130 | |
| 1,2,4-Trimethylbenzene | 5.00 | 4.21 | 84.2 | 76.0-121 | |
| 1,2,3-Trimethylbenzene | 5.00 | 4.10 | 82.0 | 77.0-120 | |
| 1,3,5-Trimethylbenzene | 5.00 | 4.36 | 87.2 | 76.0-122 | |
| Vinyl chloride | 5.00 | 5.51 | 110 | 67.0-131 | |
| Xylenes, Total | 15.0 | 12.7 | 84.7 | 79.0-123 | |
| *(S) Toluene-d8* | | | *107* | *80.0-120* | |
| *(S) 4-Bromofluorobenzene* | | | *94.5* | *77.0-126* | |
| *(S) 1,2-Dichloroethane-d4* | | | *89.7* | *70.0-130* | |

## L1851014-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1851014-04 04/28/25 13:29 • (MS) R4206241-3 04/28/25 15:40 • (MSD) R4206241-4 04/28/25 16:01

| 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 | 21.1 | 18.9 | 84.4 | 75.6 | 1 | 10.0-160 | | | 11.0 | 35 |
| Acrolein | 25.0 | U | 34.7 | 29.9 | 139 | 120 | 1 | 10.0-160 | J | J | 14.9 | 39 |
| Acrylonitrile | 25.0 | U | 30.9 | 26.4 | 124 | 106 | 1 | 21.0-160 | | | 15.7 | 32 |
| Benzene | 5.00 | U | 4.90 | 4.22 | 98.0 | 84.4 | 1 | 17.0-158 | | | 14.9 | 27 |
| Bromobenzene | 5.00 | U | 4.45 | 3.99 | 89.0 | 79.8 | 1 | 30.0-149 | | | 10.9 | 28 |
| Bromodichloromethane | 5.00 | U | 4.33 | 3.87 | 86.6 | 77.4 | 1 | 31.0-150 | | | 11.2 | 27 |

## L1851014-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1851014-04 04/28/25 13:29 • (MS) R4206241-3 04/28/25 15:40 • (MSD) R4206241-4 04/28/25 16:01

| 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 | 4.64 | 4.41 | 92.8 | 88.2 | 1 | 29.0-150 | | | 5.08 | 29 |
| Bromomethane | 5.00 | U | 5.06 | 2.56 | 101 | 51.2 | 1 | 10.0-160 | | J3 | 65.6 | 38 |
| n-Butylbenzene | 5.00 | U | 4.08 | 3.56 | 81.6 | 71.2 | 1 | 31.0-150 | | | 13.6 | 30 |
| sec-Butylbenzene | 5.00 | U | 4.32 | 3.96 | 86.4 | 79.2 | 1 | 33.0-155 | | | 8.70 | 29 |
| tert-Butylbenzene | 5.00 | U | 4.38 | 3.83 | 87.6 | 76.6 | 1 | 34.0-153 | | | 13.4 | 28 |
| Carbon disulfide | 5.00 | U | 4.81 | 3.89 | 96.2 | 77.8 | 1 | 10.0-156 | | | 21.1 | 28 |
| Carbon tetrachloride | 5.00 | U | 4.70 | 4.14 | 94.0 | 82.8 | 1 | 23.0-159 | | | 12.7 | 28 |
| Chlorobenzene | 5.00 | U | 4.99 | 4.27 | 99.8 | 85.4 | 1 | 33.0-152 | | | 15.6 | 27 |
| Chlorodibromomethane | 5.00 | U | 4.60 | 4.40 | 92.0 | 88.0 | 1 | 37.0-149 | | | 4.44 | 27 |
| Chloroethane | 5.00 | U | 4.55 | 3.15 | 91.0 | 63.0 | 1 | 10.0-160 | | J3 | 36.4 | 30 |
| Chloroform | 5.00 | 0.489 | 5.13 | 4.34 | 92.8 | 77.0 | 1 | 29.0-154 | | | 16.7 | 28 |
| Chloromethane | 5.00 | U | 9.27 | 5.35 | 185 | 107 | 1 | 10.0-160 | J5 | J3 | 53.6 | 29 |
| 2-Chlorotoluene | 5.00 | U | 4.33 | 4.01 | 86.6 | 80.2 | 1 | 32.0-153 | | | 7.67 | 28 |
| 4-Chlorotoluene | 5.00 | U | 4.31 | 3.93 | 86.2 | 78.6 | 1 | 32.0-150 | | | 9.22 | 28 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | U | 4.45 | 3.88 | 89.0 | 77.6 | 1 | 22.0-151 | J | J | 13.7 | 34 |
| 1,2-Dibromoethane | 5.00 | U | 4.60 | 4.31 | 92.0 | 86.2 | 1 | 34.0-147 | | | 6.51 | 27 |
| Dibromomethane | 5.00 | U | 4.55 | 4.22 | 91.0 | 84.4 | 1 | 30.0-151 | | | 7.53 | 27 |
| 1,2-Dichlorobenzene | 5.00 | U | 4.76 | 3.92 | 95.2 | 78.4 | 1 | 34.0-149 | | | 19.4 | 28 |
| 1,3-Dichlorobenzene | 5.00 | U | 4.66 | 4.21 | 93.2 | 84.2 | 1 | 36.0-146 | | | 10.1 | 27 |
| 1,4-Dichlorobenzene | 5.00 | U | 4.67 | 4.45 | 93.4 | 89.0 | 1 | 35.0-142 | | | 4.82 | 27 |
| Dichlorodifluoromethane | 5.00 | U | 6.98 | 4.32 | 140 | 86.4 | 1 | 10.0-160 | | J J3 | 47.1 | 29 |
| 1,1-Dichloroethane | 5.00 | U | 5.19 | 4.54 | 104 | 90.8 | 1 | 25.0-158 | | | 13.4 | 27 |
| 1,2-Dichloroethane | 5.00 | U | 4.40 | 3.83 | 88.0 | 76.6 | 1 | 29.0-151 | | | 13.9 | 27 |
| 1,1-Dichloroethene | 5.00 | U | 5.02 | 4.00 | 100 | 80.0 | 1 | 11.0-160 | | | 22.6 | 29 |
| cis-1,2-Dichloroethene | 5.00 | U | 4.84 | 4.01 | 96.8 | 80.2 | 1 | 10.0-160 | | | 18.8 | 27 |
| trans-1,2-Dichloroethene | 5.00 | U | 5.05 | 4.33 | 101 | 86.6 | 1 | 17.0-153 | | | 15.4 | 27 |
| 1,2-Dichloropropane | 5.00 | U | 5.08 | 4.50 | 102 | 90.0 | 1 | 30.0-156 | | | 12.1 | 27 |
| 1,1-Dichloropropene | 5.00 | U | 4.68 | 4.12 | 93.6 | 82.4 | 1 | 25.0-158 | | | 12.7 | 27 |
| 1,3-Dichloropropane | 5.00 | U | 5.06 | 4.65 | 101 | 93.0 | 1 | 38.0-147 | | | 8.44 | 27 |
| cis-1,3-Dichloropropene | 5.00 | U | 4.31 | 3.70 | 86.2 | 74.0 | 1 | 34.0-149 | | | 15.2 | 28 |
| trans-1,3-Dichloropropene | 5.00 | U | 4.39 | 4.01 | 87.8 | 80.2 | 1 | 32.0-149 | | | 9.05 | 28 |
| 2,2-Dichloropropane | 5.00 | U | 4.06 | 3.61 | 81.2 | 72.2 | 1 | 24.0-152 | | | 11.7 | 29 |
| Di-isopropyl ether | 5.00 | U | 5.01 | 4.37 | 100 | 87.4 | 1 | 21.0-160 | | | 13.6 | 28 |
| Ethylbenzene | 5.00 | U | 4.80 | 4.21 | 96.0 | 84.2 | 1 | 30.0-155 | | | 13.1 | 27 |
| Hexachloro-1,3-butadiene | 5.00 | U | 4.85 | 3.96 | 97.0 | 79.2 | 1 | 20.0-154 | | | 20.2 | 34 |
| Isopropylbenzene | 5.00 | U | 4.80 | 4.14 | 96.0 | 82.8 | 1 | 28.0-157 | | | 14.8 | 27 |
| p-Isopropyltoluene | 5.00 | U | 4.23 | 3.81 | 84.6 | 76.2 | 1 | 30.0-154 | | | 10.4 | 29 |
| 2-Butanone (MEK) | 25.0 | U | 21.8 | 18.6 | 87.2 | 74.4 | 1 | 10.0-160 | | | 15.8 | 32 |
| Methylene Chloride | 5.00 | U | 4.74 | 3.92 | 94.8 | 78.4 | 1 | 23.0-144 | | | 18.9 | 28 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | U | 24.7 | 22.0 | 98.8 | 88.0 | 1 | 29.0-160 | | | 11.6 | 29 |

## L1851014-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1851014-04 04/28/25 13:29 • (MS) R4206241-3 04/28/25 15:40 • (MSD) R4206241-4 04/28/25 16:01

| 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 | 4.58 | 4.09 | 91.6 | 81.8 | 1 | 28.0-150 | | | 11.3 | 29 |
| Naphthalene | 5.00 | U | 3.38 | 2.85 | 67.6 | 57.0 | 1 | 12.0-156 | J | J | 17.0 | 35 |
| n-Propylbenzene | 5.00 | U | 4.33 | 4.01 | 86.6 | 80.2 | 1 | 31.0-154 | | | 7.67 | 28 |
| Styrene | 5.00 | U | 4.55 | 3.98 | 91.0 | 79.6 | 1 | 33.0-155 | | | 13.4 | 28 |
| 1,1,1,2-Tetrachloroethane | 5.00 | U | 4.83 | 4.10 | 96.6 | 82.0 | 1 | 36.0-151 | | | 16.3 | 29 |
| 1,1,2,2-Tetrachloroethane | 5.00 | U | 4.71 | 4.33 | 94.2 | 86.6 | 1 | 33.0-150 | | | 8.41 | 28 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | U | 5.48 | 4.26 | 110 | 85.2 | 1 | 23.0-160 | | | 25.1 | 30 |
| Tetrachloroethene | 5.00 | U | 5.54 | 4.92 | 111 | 98.4 | 1 | 10.0-160 | | | 11.9 | 27 |
| Toluene | 5.00 | U | 4.87 | 4.30 | 97.4 | 86.0 | 1 | 26.0-154 | | | 12.4 | 28 |
| 1,2,3-Trichlorobenzene | 5.00 | U | 3.80 | 2.85 | 76.0 | 57.0 | 1 | 17.0-150 | | | 28.6 | 36 |
| 1,2,4-Trichlorobenzene | 5.00 | U | 4.15 | 3.30 | 83.0 | 66.0 | 1 | 24.0-150 | | | 22.8 | 33 |
| 1,1,1-Trichloroethane | 5.00 | U | 4.49 | 3.96 | 89.8 | 79.2 | 1 | 23.0-160 | | | 12.5 | 28 |
| 1,1,2-Trichloroethane | 5.00 | U | 4.88 | 4.45 | 97.6 | 89.0 | 1 | 35.0-147 | | | 9.22 | 27 |
| Trichloroethene | 5.00 | U | 4.81 | 4.22 | 96.2 | 84.4 | 1 | 10.0-160 | | | 13.1 | 25 |
| Trichlorofluoromethane | 5.00 | U | 5.40 | 4.01 | 108 | 80.2 | 1 | 17.0-160 | | J | 29.5 | 31 |
| 1,2,3-Trichloropropane | 5.00 | U | 4.56 | 4.25 | 91.2 | 85.0 | 1 | 34.0-151 | | | 7.04 | 29 |
| 1,2,4-Trimethylbenzene | 5.00 | U | 4.26 | 3.76 | 85.2 | 75.2 | 1 | 26.0-154 | | | 12.5 | 27 |
| 1,2,3-Trimethylbenzene | 5.00 | U | 4.29 | 3.75 | 85.8 | 75.0 | 1 | 32.0-149 | | | 13.4 | 28 |
| 1,3,5-Trimethylbenzene | 5.00 | U | 4.34 | 3.89 | 86.8 | 77.8 | 1 | 28.0-153 | | | 10.9 | 27 |
| Vinyl chloride | 5.00 | U | 8.00 | 3.12 | 160 | 62.4 | 1 | 10.0-160 | | J3 | 87.8 | 27 |
| Xylenes, Total | 15.0 | U | 14.3 | 12.7 | 95.3 | 84.7 | 1 | 29.0-154 | | | 11.9 | 28 |
| *(S) Toluene-d8* | | | | | *104* | *106* | | *80.0-120* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | | *98.1* | *97.9* | | *77.0-126* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | | *93.7* | *91.1* | | *70.0-130* | | | | |

## Method Blank (MB)

(MB) R4207615-3 04/30/25 07:25

| 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) R4207615-3 04/30/25 07:25

| 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* | *111* | | | *80.0-120* |
| *(S) 4-Bromofluorobenzene* | *91.7* | | | *77.0-126* |
| *(S) 1,2-Dichloroethane-d4* | *92.0* | | | *70.0-130* |

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

(LCS) R4207615-1 04/30/25 06:27 • (LCSD) R4207615-2 04/30/25 06:47

| 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 | 21.3 | 19.3 | 85.2 | 77.2 | 19.0-160 | J | J | 9.85 | 27 |
| Acrolein | 25.0 | 16.4 | 28.2 | 65.6 | 113 | 10.0-160 | J | J J3 | 52.9 | 26 |
| Acrylonitrile | 25.0 | 20.1 | 19.4 | 80.4 | 77.6 | 55.0-149 | | | 3.54 | 20 |

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

(LCS) R4207615-1 04/30/25 06:27 • (LCSD) R4207615-2 04/30/25 06:47

| 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 | 4.75 | 4.25 | 95.0 | 85.0 | 70.0-123 | | | 11.1 | 20 |
| Bromobenzene | 5.00 | 5.17 | 4.64 | 103 | 92.8 | 73.0-121 | | | 10.8 | 20 |
| Bromodichloromethane | 5.00 | 4.62 | 4.31 | 92.4 | 86.2 | 75.0-120 | | | 6.94 | 20 |
| Bromoform | 5.00 | 4.41 | 4.09 | 88.2 | 81.8 | 68.0-132 | | | 7.53 | 20 |
| Bromomethane | 5.00 | 6.21 | 5.38 | 124 | 108 | 10.0-160 | | | 14.3 | 25 |
| n-Butylbenzene | 5.00 | 5.28 | 4.57 | 106 | 91.4 | 73.0-125 | | | 14.4 | 20 |
| sec-Butylbenzene | 5.00 | 5.33 | 4.68 | 107 | 93.6 | 75.0-125 | | | 13.0 | 20 |
| tert-Butylbenzene | 5.00 | 5.10 | 4.37 | 102 | 87.4 | 76.0-124 | | | 15.4 | 20 |
| Carbon disulfide | 5.00 | 5.83 | 4.89 | 117 | 97.8 | 61.0-128 | | | 17.5 | 20 |
| Carbon tetrachloride | 5.00 | 4.79 | 4.34 | 95.8 | 86.8 | 68.0-126 | | | 9.86 | 20 |
| Chlorobenzene | 5.00 | 5.09 | 4.71 | 102 | 94.2 | 80.0-121 | | | 7.76 | 20 |
| Chlorodibromomethane | 5.00 | 4.74 | 4.21 | 94.8 | 84.2 | 77.0-125 | | | 11.8 | 20 |
| Chloroethane | 5.00 | 5.19 | 4.53 | 104 | 90.6 | 47.0-150 | | J | 13.6 | 20 |
| Chloroform | 5.00 | 4.81 | 4.39 | 96.2 | 87.8 | 73.0-120 | J | J | 9.13 | 20 |
| Chloromethane | 5.00 | 5.36 | 4.69 | 107 | 93.8 | 41.0-142 | | | 13.3 | 20 |
| 2-Chlorotoluene | 5.00 | 5.38 | 4.79 | 108 | 95.8 | 76.0-123 | | | 11.6 | 20 |
| 4-Chlorotoluene | 5.00 | 5.22 | 4.61 | 104 | 92.2 | 75.0-122 | | | 12.4 | 20 |
| 1,2-Dibromo-3-Chloropropane | 5.00 | 4.77 | 4.54 | 95.4 | 90.8 | 58.0-134 | J | J | 4.94 | 20 |
| 1,2-Dibromoethane | 5.00 | 4.69 | 4.36 | 93.8 | 87.2 | 80.0-122 | | | 7.29 | 20 |
| Dibromomethane | 5.00 | 4.59 | 4.37 | 91.8 | 87.4 | 80.0-120 | | | 4.91 | 20 |
| 1,2-Dichlorobenzene | 5.00 | 5.15 | 4.58 | 103 | 91.6 | 79.0-121 | | | 11.7 | 20 |
| 1,3-Dichlorobenzene | 5.00 | 5.16 | 4.57 | 103 | 91.4 | 79.0-120 | | | 12.1 | 20 |
| 1,4-Dichlorobenzene | 5.00 | 5.21 | 4.49 | 104 | 89.8 | 79.0-120 | | | 14.8 | 20 |
| Dichlorodifluoromethane | 5.00 | 6.04 | 4.79 | 121 | 95.8 | 51.0-149 | | J J3 | 23.1 | 20 |
| 1,1-Dichloroethane | 5.00 | 4.41 | 4.20 | 88.2 | 84.0 | 70.0-126 | | | 4.88 | 20 |
| 1,2-Dichloroethane | 5.00 | 4.63 | 4.30 | 92.6 | 86.0 | 70.0-128 | | | 7.39 | 20 |
| 1,1-Dichloroethene | 5.00 | 4.53 | 4.46 | 90.6 | 89.2 | 71.0-124 | | | 1.56 | 20 |
| cis-1,2-Dichloroethene | 5.00 | 4.64 | 4.15 | 92.8 | 83.0 | 73.0-120 | | | 11.1 | 20 |
| trans-1,2-Dichloroethene | 5.00 | 5.29 | 4.56 | 106 | 91.2 | 73.0-120 | | | 14.8 | 20 |
| 1,2-Dichloropropane | 5.00 | 4.34 | 4.15 | 86.8 | 83.0 | 77.0-125 | | | 4.48 | 20 |
| 1,1-Dichloropropene | 5.00 | 4.26 | 4.08 | 85.2 | 81.6 | 74.0-126 | | | 4.32 | 20 |
| 1,3-Dichloropropane | 5.00 | 4.89 | 4.49 | 97.8 | 89.8 | 80.0-120 | | | 8.53 | 20 |
| cis-1,3-Dichloropropene | 5.00 | 4.11 | 3.87 | 82.2 | 77.4 | 80.0-123 | | J4 | 6.02 | 20 |
| trans-1,3-Dichloropropene | 5.00 | 4.65 | 4.30 | 93.0 | 86.0 | 78.0-124 | | | 7.82 | 20 |
| 2,2-Dichloropropane | 5.00 | 4.80 | 3.98 | 96.0 | 79.6 | 58.0-130 | | | 18.7 | 20 |
| Di-isopropyl ether | 5.00 | 4.30 | 4.11 | 86.0 | 82.2 | 58.0-138 | | | 4.52 | 20 |
| Ethylbenzene | 5.00 | 4.91 | 4.39 | 98.2 | 87.8 | 79.0-123 | | | 11.2 | 20 |
| Hexachloro-1,3-butadiene | 5.00 | 4.51 | 4.16 | 90.2 | 83.2 | 54.0-138 | | | 8.07 | 20 |
| Isopropylbenzene | 5.00 | 5.53 | 4.87 | 111 | 97.4 | 76.0-127 | | | 12.7 | 20 |
| p-Isopropyltoluene | 5.00 | 5.40 | 4.74 | 108 | 94.8 | 76.0-125 | | | 13.0 | 20 |

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

(LCS) R4207615-1 04/30/25 06:27 • (LCSD) R4207615-2 04/30/25 06:47

| 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 | 22.1 | 17.5 | 88.4 | 70.0 | 44.0-160 | | J3 | 23.2 | 20 |
| Methylene Chloride | 5.00 | 4.62 | 4.25 | 92.4 | 85.0 | 67.0-120 | J | J | 8.34 | 20 |
| 4-Methyl-2-pentanone (MIBK) | 25.0 | 25.0 | 23.1 | 100 | 92.4 | 68.0-142 | | | 7.90 | 20 |
| Methyl tert-butyl ether | 5.00 | 4.10 | 4.27 | 82.0 | 85.4 | 68.0-125 | | | 4.06 | 20 |
| Naphthalene | 5.00 | 4.93 | 4.81 | 98.6 | 96.2 | 54.0-135 | J | J | 2.46 | 20 |
| n-Propylbenzene | 5.00 | 5.60 | 4.86 | 112 | 97.2 | 77.0-124 | | | 14.1 | 20 |
| Styrene | 5.00 | 4.47 | 4.01 | 89.4 | 80.2 | 73.0-130 | | | 10.8 | 20 |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.05 | 4.53 | 101 | 90.6 | 75.0-125 | | | 10.9 | 20 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.41 | 5.00 | 108 | 100 | 65.0-130 | | | 7.88 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 5.00 | 5.24 | 4.66 | 105 | 93.2 | 69.0-132 | | | 11.7 | 20 |
| Tetrachloroethene | 5.00 | 5.05 | 4.45 | 101 | 89.0 | 72.0-132 | | | 12.6 | 20 |
| Toluene | 5.00 | 5.36 | 4.68 | 107 | 93.6 | 79.0-120 | | | 13.5 | 20 |
| 1,2,3-Trichlorobenzene | 5.00 | 4.91 | 4.45 | 98.2 | 89.0 | 50.0-138 | | | 9.83 | 20 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.47 | 3.85 | 89.4 | 77.0 | 57.0-137 | | | 14.9 | 20 |
| 1,1,1-Trichloroethane | 5.00 | 5.03 | 4.44 | 101 | 88.8 | 73.0-124 | | | 12.5 | 20 |
| 1,1,2-Trichloroethane | 5.00 | 4.93 | 4.68 | 98.6 | 93.6 | 80.0-120 | | | 5.20 | 20 |
| Trichloroethene | 5.00 | 4.53 | 4.14 | 90.6 | 82.8 | 78.0-124 | | | 9.00 | 20 |
| Trichlorofluoromethane | 5.00 | 4.91 | 4.31 | 98.2 | 86.2 | 59.0-147 | J | J | 13.0 | 20 |
| 1,2,3-Trichloropropane | 5.00 | 4.89 | 4.72 | 97.8 | 94.4 | 73.0-130 | | | 3.54 | 20 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.49 | 4.72 | 110 | 94.4 | 76.0-121 | | | 15.1 | 20 |
| 1,2,3-Trimethylbenzene | 5.00 | 5.37 | 4.75 | 107 | 95.0 | 77.0-120 | | | 12.3 | 20 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.57 | 4.76 | 111 | 95.2 | 76.0-122 | | | 15.7 | 20 |
| Vinyl chloride | 5.00 | 5.07 | 4.22 | 101 | 84.4 | 67.0-131 | | | 18.3 | 20 |
| Xylenes, Total | 15.0 | 13.7 | 13.2 | 91.3 | 88.0 | 79.0-123 | | | 3.72 | 20 |
| *(S) Toluene-d8* | | | | *106* | *106* | *80.0-120* | | | | |
| *(S) 4-Bromofluorobenzene* | | | | *92.1* | *90.6* | *77.0-126* | | | | |
| *(S) 1,2-Dichloroethane-d4* | | | | *97.2* | *102* | *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. |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| J4 | The associated batch QC was outside the established quality control range for accuracy. |
| J5 | The sample matrix interfered with the ability to make any accurate determination; spike value is high. |

# 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 Selection Criteria:** ☐ Proximity (if TAT < 48 hrs) ☐ Prior work on same project | **Turn Around Time:** ☒ 10 days (std.) ☐ 5 days |
| **Send Lab Report To:** Kara Master | Lab Batch #: | | |
| Address: Department of Environmental Quality, 700 NE Multnomah St, Suite 600, Portland, OR 97232 | **Invoice To:** ODEQ/Business Office; Address: 700 NE Multnomah Street, Suite 600, Portland, OR. 97232 | ☒ Cost (for anticipated analyses) ☐ Other labs disqualified or unable to perform requested services L1851017 | ☐ 72 hours ☐ 48 hours ☐ 24 hours ☐ Other |
| E-mail: Kara.E.MASTER@deq.oregon.gov | Tel. #: (800) 452-4011 | ☐ Emergency work | |

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

**1249**

| Sample ID# | Collected 4/21/2025 Time: | Matrix | Number of Containers | Sample Preservative: HCl | HCl | | | | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Requested Analyses: NWTPH-Gx | VOCs – EPA 8260B | | | | | | | | | |
| MW-4 | 16:30 | GW | 6 | X | X | | | | | | | | | -01 |
| MW-5 | 14:12 | GW | 6 | X | X | | | | | | | | | -02 |
| MW-6 | 15:00 | GW | 6 | X | X | | | | | | | | | -03 |
| MW-7 | 15:45 | GW | 6 | X | X | | | | | | | | | -04 |
| MW-9 | 11:25 | GW | 6 | X | X | | | | | | | | | -05 |
| MW-12 | 17:15 | GW | 6 | X | X | | | | | | | | | -06 |
| MW-13 | 12:45 | GW | 6 | X | X | | | | | | | | | -07 |
| MW-14 | 13:20 | GW | 6 | X | X | | | | | | | | | -08 |
| MW-15 | 12:10 | GW | 6 | X | X | | | | | | | | | -09 |
| Dup | 13:28 | 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;Tess.Chadil@apexcos.com; Kara.E.Master@deq.oregon.gov

| | | | |
|---|---|---|---|
| Relinquished By: Chris Weer | Agency/Agent: Apex Companies, LLC | Received By: | Agency: |
| Signature: Chris Weer | Time & Date: 4/22/2025, 1400 | Signature: | Time & Date: 4-23-25 0900 |
| Relinquished By: | Agency/Agent: | Received By: | Agency/Agent: |
| Signature: | Time & Date: | Signature: | Time & Date: |

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 AND SPECIAL CONTRACT TERMS AND CONDITIONS (T'S &C'S) CONTAINED IN THE PRICE AGREEMENT ARE HEREBY INCORPORATED BY REFERENCE AND SHALL APPLY TO THIS PURCHASE AND SHALL TAKE PRECEDENCE OVER ALL OTHER CONFLICTING T'S AND C'S, EXPRESS OR

2 Trip Blanks Containers: 60

Sample Receipt Checklist

| | | | |
|---|---|---|---|
| COC Seal Present/Intact: | Y N NP | 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 | Condition: NCF | OK |
| RA Screen <0.5 mR/hr: | Y N | | |

TUN 0.1 to 0.4 = 6.5 4047 5441 8400

# *Appendix D*

## Statistical Evaluation

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

| | | Two-Year Statistics (2023-2025) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Monitoring Well Number | Apr-25 Concentration [µg/L] | Detections | Apr-25 Historical Ranking | Minimum Concentration [µg/L] | Maximum Concentration [µg/L] | Mean Concentration [µg/L] | Standard Deviation | Coefficient of Variation | Apr-25 Relative to Mean | Mann Kendall | | | Linear Regression [mg/L/yr] | Data Tendency |
| | | | | | | | | | | S-Statistic | Confidence | Trend | | |
| MW-4 | 4,740 | 10 of 10 | 5 | 3,120 | 6,130 | 4,547 | 991 | 0.22 | 104% | -4 | 0.212 | No Trend | -198 | Downward |
| MW-5 | 7,050 | 10 of 10 | 4 | 3,220 | 8,250 | 5,917 | 1,753 | 0.30 | 119% | 10 | 0.579 | No Trend | 763 | Upward |
| MW-6 | 7,180 | 10 of 10 | 2 | 1,490 | 7,530 | 5,137 | 2,145 | 0.42 | 140% | 25 | 0.968 | **Increasing** | 2,076 | Upward |
| MW-7 | 1,410 | 10 of 10 | 6 | 43 | 4,910 | 1,665 | 1,288 | 0.77 | 85% | 0 | 0.000 | No Trend | -367 | Downward |
| MW-9 | 1 | 8 of 10 | 8 | ND | 55.7 | 29.7 | 23.3 | 0.78 | 3% | -19 | 0.893 | No Trend | 1 | Flat |
| MW-12 | 99,400 | 10 of 10 | 5 | 24,500 | 125,000 | 81,800 | 35,501 | 0.43 | 122% | 8 | 0.469 | No Trend | 10,974 | Downward |
| MW-13 | 80 | 10 of 10 | 9 | 42 | 3,170 | 930 | 1,224 | 1.32 | 9% | -23 | 0.951 | **Decreasing** | -1,327 | Downward |
| MW-14 | 5,740 | 10 of 10 | 4 | 3,300 | 6,260 | 4,703 | 1,195 | 0.25 | 122% | 9 | 0.526 | No Trend | 629 | Upward |
| MW-15 | 180 | 10 of 10 | 10 | 180 | 2,590 | 1,254 | 856 | 0.68 | 14% | -22 | 0.940 | **Decreasing** | -913 | 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.