First Quarter 2024 Monitoring Report
Former Johnson Oil
280 E Columbia River Highway
Clatskanie, Oregon

Prepared for:
Oregon Department of Environmental Quality
Task Order No. 066-23-04

May 30, 2024
32-23005297/Task 3

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1.0 Introduction

This First Quarter 2024 Monitoring Report (QMR) describes the field activities and presents the results of a groundwater monitoring event and soil vapor and ambient air sampling completed in February 2024 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, 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. 066-23-04, 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, collection and analysis of three soil vapor samples, and collection and analysis of four ambient air samples.

1.1.1 Deviations from the Work Plan

The ambient air sample from within the former service station building was not collected during this monitoring event because incorrect equipment was provided by the laboratory with insufficient time to rectify before the sampling event. Only three Radiello® sampling devices were included in the bottle order from the lab. Due to consideration of tenants and budget, an additional mobilization for the fourth sample was not completed.

2.0 Background

This section presents a description of the Site and its anticipated geology and hydrogeology.

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 an associated pump island (dispensers have been removed) and canopy. The Site and surrounding properties are zoned commercial, but the zoning rules allow for residential use in conjunction with commercial use. Turning Point is located adjacent to the north and west, and the property to the east is currently vacant (formerly a produce market that burned down).

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

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

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 the monitoring activities. Apex coordinated the timing of Site access with the County and Turning Point.

3.2 Groundwater Monitoring

Groundwater Levels. On February 26, 2024, groundwater levels were measured using an electronic water level indicator for monitoring wells MW-4 through MW-9 and MW-12 through MW-15. All 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. The depth to groundwater and groundwater elevations are presented in Table 1. Water level documentation is included in Appendix A.

In general, the February 2024 groundwater elevation data suggest a significantly variable groundwater flow across the Site with primarily a southeast to south flow direction under a hydraulic gradient of approximately 0.03 feet per foot (ft/ft). The groundwater elevations and elevation contours are presented on Figure 3. The groundwater flow direction adjacent to the Clatskanie River is towards the river under a gradient of

approximately 0.18 ft/ft and may be tidally influenced. The groundwater flow direction and gradients observed during the February 2024 monitoring event are consistent with previous events.

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

Consistent with prior monitoring events, the field parameters measured in monitoring well MW-9 are distinct from the observations in the other nine monitoring wells; the pH and conductivity values are lower and the DO and ORP values are significantly higher (the DO and ORP measurements in the other wells consistently show an anaerobic and reducing environment while MW-9 exhibits a relatively aerobic and oxidizing environment). The low DO and ORP observed in the other monitoring wells are consistent with expectations in the vicinity of a hydrocarbon plume influenced by microbial degradation (as the available oxygen is being utilized by the micro-organisms), suggesting that MW-9 is not being influenced by this process. There may also be a relationship between the high (oxidizing) ORP and the relatively low pH observed in MW-9. Furthermore, the combination of the higher DO and ORP, the unique lack of detected analytes in the laboratory sample (discussed below), and the lower groundwater elevation observed in MW-9 suggest that the well may be influenced by groundwater-surface water interaction with the adjacent Clatskanie River. However, there isn't enough data available to distinguish any specific relationship between the aquifer and the river or to compare results to the local aquifer outside of the influence of the petroleum plume. In addition, the field parameters observed in monitoring wells MW-14 and MW-15, which are approximately the same distance 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.

3.3 Soil Vapor Sampling

Soil vapor samples were collected on February 26, 2024 from sub-slab vapor points SG-7, SG-8 (located within the Turning Point building), and SG-10 (located within the former service station building). The locations of the soil vapor points are shown on Figure 2. Each soil vapor sample was collected in a 1-Liter Summa canister equipped with 200 cubic centimeters per minute (cc/min) flow controllers in accordance with the Standard Operating Procedure in Appendix A of the Work Plan.

3.4 Ambient Air Sampling

Radiello® radial diffusive sampling devices were used to collect three indoor ambient air samples (samples AMB-1 and AMB-2 within the Turning Point building and one outdoor ambient air sample, AMB-3, located under the awning on the southwest corner of the Turning Point building). The locations of the ambient air samples are shown on Figure 2. The ambient air samplers within and outside the Turning Point building were positioned approximately 6 feet above the ground surface. As noted in Section 1.1.1, the ambient air sample

from the former service station building was not collected during the February 2024 sampling event. The ambient air samplers were deployed for a period of seven days (February 26 to March 4, 2024). At the conclusion of the deployment period, the adsorbent cartridges were placed back into their original tubes, the sample end time was added to the sample labels, and the samples were shipped to the analytical laboratory.

3.5 Handling of Investigation-Derived Waste

Investigation-derived waste (IDW) consisted of purge water and decontamination water. IDW water was placed in a 5-gallon bucket and temporarily stored inside the former service station building 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.

4.0 Chemical Analyses and Results

Groundwater and soil vapor samples were submitted to Pace Analytical National located in Mount Juliet, Tennessee for analysis. The ambient air (Radiello®) samples were submitted to Eurofins Air Toxics located in Folsom, California for analysis. Sample analysis was conducted on a standard turnaround basis. Copies of the analytical laboratory reports are included in Appendix B 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.

4.1 Analyses Performed

4.1.1 Groundwater

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.

4.1.2 Soil Vapor

Soil vapor samples were analyzed for VOCs, including low fraction total petroleum hydrocarbons, by EPA Method TO-15.

4.1.3 Ambient Air

Ambient air samples collected were analyzed by for selected VOCs by EPA Method TO-17- RAD145.

4.2 Chemical Results

The analytical results and risk screening of the groundwater, soil vapor, and ambient air samples collected in February 2024 are summarized below. The concentrations were screened against the risk-based concentrations (RBCs) that correspond to the potentially complete exposure pathways published in *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* (DEQ, updated June 2023) including groundwater to indoor air occupational receptor (RBC_{wi}), groundwater in excavations for the construction and excavation worker receptor (RBC_{we}), soil vapor intrusion (RBC_{sv}), and ambient air (RBC_{air}). Section 4.2.4 provides a summary of potential exposure pathways.

4.2.1 Groundwater

Groundwater analytical results are presented in Table 2 and summarized on Figure 4 for the February 2024 groundwater monitoring event.

Total Petroleum Hydrocarbons. TPH-G was detected in each of the 10 groundwater samples collected during the February 2024 monitoring event except MW-9. TPH-G concentrations ranged from 52 micrograms per liter (µg/L; MW-8) to 125,000 µg/L (MW-12). TPH-G detections exceeded the groundwater to indoor air RBC of 520 µg/L in seven of the 10 samples collected. The TPH-G concentration in the sample collected from MW-12 also exceeded the RBC for groundwater in excavations for construction and excavation workers of 14,000 µg/L. The TPH-G concentration of 125,000 µg/L in the sample collected from MW-12 may indicate the presence of light non-aqueous phase liquid (LNAPL) in the vicinity of the well (the theoretical upper limit of dissolved-phase concentrations for fresh gasoline is approximately 100,000 µg/L; Interstate Technology & Regulatory Council, 2018). The TPH-G concentrations in samples collected from monitoring wells MW-4, MW-5, MW-6, MW-7, and MW-13 are generally lower than in recent monitoring events. The TPH-G concentration detected in the sample collected from monitoring well MW-8 is consistent with recent monitoring events. The TPH-G concentrations detected in the samples collected from monitoring wells MW-12, MW-14, and MW-15 are generally higher than in the fourth quarter 2023 monitoring event but within the range of historically observed concentrations except for MW-12, which has the relatively highest concentration since sampling began in this monitoring well.

Volatile Organic Compounds. One or more petroleum VOCs were detected at concentrations that exceed the RBCs in seven of the 10 groundwater samples collected in February 2024. The benzene and ethylbenzene RBCs were exceeded in seven samples, the naphthalene RBC was exceeded in three samples, and the xylenes RBC was exceeded in one sample. MW-12 was the only well that had RBC exceedances of all four petroleum VOCs.

The benzene, ethylbenzene, and xylene concentrations in the groundwater sample collected from MW-12 are at least one order of magnitude higher than the other monitoring wells. The ethylebenzene, xylenes, and

naphthalene concentrations in MW-12 exceed the groundwater in excavation RBC concentrations and are the only exceedances of this pathway at the Site during this monitoring event.

The detected benzene and ethylbenzene concentrations are relatively consistent with previous monitoring events in samples collected from monitoring wells MW-8, MW-9, and MW-15 (negligible VOCs detected). Concentrations generally decreased in samples collected from monitoring wells MW-4, MW-6, MW-7, and MW-13 (with the relatively lowest benzene and ethylbenzene concentrations detected to date) and increased in samples collected from monitoring wells MW-5 and MW-14. In the sample collected from MW-12, the benzene concentration decreased approximately 60 percent, but the ethylbenzene concentration increased slightly from the previous monitoring event to its highest concentration since monitoring began in MW-12.

4.2.2 Soil Vapor

Soil vapor results are presented in Table 3 and summarized on Figure 5. None of the VOCs or TPH-G detections in the soil vapor samples collected in the February 2024 monitoring event contain concentrations in excess of RBCs for chronic or acute exposure in a commercial setting, with the exception of naphthalene concentrations detected in SG-7.

TPH-G was detected in one of the collected soil vapor samples, SG-7, at 967 micrograms per cubic meter (µg/m^3). TPH-G was not detected in SG-8 or SG-10.

Trichloroethylene (TCE) was present at a concentration of 1.78 µg/m^3 in the soil vapor sample collected from SG-8 in February 2024. TCE has not previously been detected in soil vapor samples, with the exception of SG-10 during the April 2023 sampling event. Tetrachloroethylene (PCE) was present at a concentration of 1.84 µg/m^3 in the soil vapor sample collected from SG-7, a 38 percent reduction from the concentration observed during the November 2023 sampling event (2.96 µg/m^3). PCE has been detected in samples collected from locations SG-8 and SG-10 in previous sampling events but was not present in the February 2024 samples.

Four VOCs were detected in the soil vapor sample collected from SG-10 at concentrations approximately three orders of magnitude greater than previous sampling events at this location. The VOCs include: cyclohexane (1,540 µg/m^3), heptane (2,090 µg/m^3), n-hexane (2,240 µg/m^3), and 2,2,4-trimethylpentane (2,210 µg/m^3). Cyclohexane, heptane, and n-hexane have been observed in SG-10 during previous sampling events at significantly lower concentrations; 2,2,4-trimethylpentane has not been previously observed in SG-10 but was observed at a concentration of 1.45 µg/m^3 in the soil vapor sample collected from SG-7 in April 2023. Soil vapor samples collected from SG-8 have not shown detectable concentrations of these VOCs. All detections of cyclohexane, heptane, n-hexane, and 2,2,4-trimethylpentane are below applicable RBCs.

4.2.3 Ambient Air

Ambient air sample results are presented in Table 4 and summarized on Figure 5. VOCs were detected in all four collected samples, including both petroleum and non-petroleum VOCs. TPH analysis is not included in the passive RAD145 TO-17 analyte list.

Benzene was detected in each of the three ambient air samples collected, but no concentrations exceeded the RBC of 1.6 µg/m^3 for chronic commercial exposure. The benzene concentrations observed in samples AMB-1 (1.0 µg/m^3) and AMB-2 (1.2 µg/m^3) are 53 percent and 33 percent reductions in concentration compared to the previous event, respectively. The benzene concentrations in these samples were above the concentration in the outdoor ambient sample (0.67 µg/m^3) by factors of 1.5 and 1.8, respectively. All other detections of VOCs were either not detected or were below applicable RBCs.

4.2.4 Site Data Screening Summary

The observed exceedances of Site-related contaminants for each exposure pathway are summarized below.

Contaminant	Exposure Pathways			
	Groundwater Pathways		Soil Vapor	Ambient Air
	Vapor Intrusion	Groundwater in Excavations	Vapor Intrusion	Vapor Intrusion
TPH-G	Com (7)	Ex (1)	No	No
Benzene	Com (7)	No	No	No
Ethylbenzene	Com (7)	Ex (1)	No	No
Xylenes	Com (1)	Ex (1)	No	No
Naphthalene	Com (3)	No	Com (1)	No

Notes: Ex = Exceeds Excavation Worker RBC
Com = Exceeds Commercial Chronic RBC
No = No exceedances of RBCs
(#) = Number of Samples Exceeding June 2023 RBC

5.0 Conclusions

Based on the first quarter 2024 groundwater, soil vapor, and ambient air monitoring event and previous events, impacts from gasoline-range hydrocarbons and petroleum-related VOCs continue to be present at the Site and extend beneath the former Johnson Oil and Turning Point buildings.

Elevated concentrations of TPH-G and VOCs (benzene, ethylbenzene, total xylenes, and naphthalene) above the commercial vapor intrusion RBCs in groundwater suggest that the impacts to indoor air could be associated with the Site groundwater contamination or from residual LNAPL that may be present in the vicinity of MW-12 (east of the Turning Point building), but additional data is needed to fully assess this relationship. The TPH-G concentration in the groundwater sample collected from monitoring well MW-12 is the highest

recorded since this well was installed in 2023. The TPH-G concentrations detected in the samples collected from monitoring wells MW-8, MW-13, MW-14, and MW-15 are the lowest since monitoring began in these monitoring wells.

Concentrations of cyclohexane, heptane, n-hexane, and 2,2,4-trimethylpentane in the soil vapor sample collected from SG-10 are below applicable RBCs but are notable due to the significantly increased concentrations relative to recent monitoring events. Soil vapor samples collected in 2019 by Hart Crowser show similar low concentrations of these analytes in soil vapor samples collected in the vicinity of SG-10; however, relatively higher concentrations were observed at the southeast and northwest property boundaries during that event. These increased concentrations may be consistent with the presence of mobile NAPLs or rebound following the 2022 Interim Remedial Action Measure that was conducted at the property. Additional data and observation are necessary to determine if these detections are significant.

6.0 References

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

Interstate Technology & Regulatory Council (ITRC), 2018. *TPH Risk Evaluation at Petroleum-Contaminated Sites*. ITRC Risk Evaluation Team, tphrisk-1.itrcweb.org.

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 Willian 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	5/10/2018		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	94.43	1.38	--	--	93.05	--	--	--	--	--
	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
MW-5	5/23/2019		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	--	--	--	--	--
	3/29/2023	94.30	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
MW-6	5/23/2019		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	--	--	--	--	--
	3/29/2023	95.57	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
MW-7	3/23/2019		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	--	--	--	--	--
	3/29/2023	95.04	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
MW-8	5/24/2019		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	96.22	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
MW-9	5/23/2019		10.41	--	--	84.13	4.62	12.90	610	2.88	34.1
	7/10/2019		10.28	--	--	84.26	--	--	--	--	--
	9/16/2019	94.54	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

Please see notes at end of table.

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-9	2/26/2024	94.54	4.90			89.64	4.43	9.82	51	4.33	256.5
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
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
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
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

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
MW-4	5/10/2018	14,400	18.5	10.9 J	619	1,720	<0.367	283 J	1,190	404
	5/23/2019	7,340	117	2.07	436	43.2	<0.0367	284	58.3	22.9
	3/29/2023	5,720	84.5	1.83	196	3.43	<0.101	213	1.05	0.934 J
	5/22/2023	4,660	87.6	<10.0	188	<30.0	<10.0	117 J-	<10.0	<10.0
	9/21/2023	4,950	60.8	1.29	287	2.69 J	<1.00	363	0.412 J	0.292 J
	11/8/2023	4,870	199.0	<20.0	354	9.63 J	<20.0	137	<20.0	<20.0
	2/27/2024	3,120	94.2	<20.0	104	7.88	<20.0	130	4.57	<20.0
MW-5	5/23/2019	3,590	46.2	5.82	428	45.8	<0.367	151	48.6	22.7
	3/30/2023	6,270	68.4	4.24	380	14.3	<0.101	178	0.561 J	1.99
	5/23/2023	4,790	56.3	3.2 J	208	7.81 J	<10.0	54.9 J-	<10.0	<10.0
	9/21/2023	3,430	32.0	2.13	200	9.57	<1.00	120	0.341 J	0.975 J
	11/8/2023	6,100	141	13.1	244	29.4 J	<10.0	220	<10.0	2.58 J
	2/27/2024	5,070	147	13.6	1,080	61.4	<10.0	331	24.2	3.07
MW-6	5/23/2019	28,100	1,690	1,500	2,250	4,180	<18.4	241 J	809	206
	3/29/2023	1,490	609	8.50	240	194	<0.101	45.1	42.9	10.3
	5/22/2023	4,720	665	14.2 J	297	88.9 J	<50.0	<250 UJ	<50.0	11.1 J
	9/21/2023	2,450	379	6.25	92.7	41.1	<1.00	9.88	<1.00	2.57
	11/8/2023	6,250	772	11.2	230	74.3	<10.0	28.0 J	6.60 J	5.36 J
	2/27/2024	4,060	668	13.1	215	55.7	<10.0	19.6	3.09	7.72
MW-7	5/23/2019	5,610	524	<8.24	396	1,020	45.7	37.4 J	269	49.3
	3/29/2023	42.7 J	96.6	1.93	70.5	138	24.3	12.8	28.2	7.53
	5/22/2023	4,910	518	4.15	410	411	36.9	71.5 J-	148	39.0
	9/21/2023	876	49.6	1.44	35.6	99.3	14.6	2.66 J	18.0	5.3
	11/8/2023	1,640	166	0.981 J	163	92.2	12.4	17.1	22.6	4.7
	2/27/2024	1,310	131	2.19	123	236	17.4	10.3	19.4	11.8
MW-8	5/24/2019	88.0	2.16	<0.412	<0.384	26.0	<0.367	<1.00	4.53	1.43
	3/29/2023	4,550	<0.0941	<0.278	<0.137	3.21	0.331 J	<1.00	0.486 J	0.258 J
	5/22/2023	189 J+	<1.00	<1.00	<1.00	11.5	0.273 J	<5.00 UJ	3.64	1.15
	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
	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
	2/26/2024	52.0 B	<1.00	<1.00	<1.00	4.26	0.296	<5.00	0.400	<1.00
MW-9	5/23/2019	3,760	1,320	15.0	40.7	563.0	<0.376	3.31 J	141	44.3
	9/20/2023	<100	<1.00	<1.00	<1.00	<3.00	<1.00	<5.00	<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
	2/26/2024	<100	<1.00	<1.00	<1.00	<3.00	<1.00	<5.00	<1.00	<1.00

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
MW-12	3/30/2023	**49,600**	**1,510**	**12,600**	**2,720**	**11,800**	<2.02	**508**	**1,980**	**519**
	5/23/2023	**82,400**	**2,930**	**13,600**	**3,090**	**14,300**	<500	<2,500 UJ	**1,910**	**621**
	9/21/2023	**31,000**	**4,540**	**145**	**1,490**	**3,870**	**15.3**	**193 J**	**1,120**	**297**
	11/8/2023	**104,000**	**4,150**	**13,200**	**4,650**	**22,500**	<50.0	**288**	**2,380**	**649**
	2/27/2024	**125,000**	**1,650**	**19,300**	**4,990**	**23,400**	<100	**511**	**724**	**797**
MW-13	3/30/2023	**2,300**	**59.7**	**5.48**	**217**	**264**	<0.101	**53.5**	**205**	**117**
	5/23/2023	**2,550**	**123**	<10.0	**226**	**50.2**	<10.0	**18.8 J-**	**46.3**	**57.1**
	9/20/2023	**3,170**	**166**	<20.0	**279**	**16.1 J**	<1.00	**14.3**	**114**	**36.5**
	11/7/2023	**271**	**2.79**	<1.00	**10.4**	**1.47 J**	<1.00	<5.00	**1.96**	**0.177 J**
	2/26/2024	**98.3 B**	**1.45**	<1.00	**7.86**	**0.329**	<1.00	<5.00	<1.00	<1.00
MW-14	3/30/2023	**4,190**	**107**	**1.64**	**58.7**	**18.1**	<0.101	**15.3**	**9.54**	**1.68**
	5/23/2023	**6,080**	**1,230**	**8.69**	**34.6**	**15.6**	<1.00	**6.45 J-**	**38.0**	**23.8**
	9/20/2023	**4,570**	**703**	**4.08**	**46.7**	**7.73 J**	<1.01	**7.83**	<25.0	**22.4**
	11/8/2023	**3,300**	**370**	**6.99 J**	<25.0	**21.5 J**	<25.0	<125	<25.0	<25.0
	2/27/2024	**3,440**	**554**	**4.94**	**34.9**	**15.8**	<5.00	<25.0	**9.57**	**4.87**
MW-15	3/30/2023	**2,160**	**990**	**16.6**	**35.6**	**19.8**	**10.6**	**3.80 J**	**8.70**	**10.2**
	5/23/2023	**2,340**	**92.8**	<10.0	**45.1**	**11.2 J**	<10.0	<50 UJ	<10.0	<10.0
	9/20/2023	**2,590**	**250**	**2.96**	**20.9**	**2.98 J**	**6.43**	**1.84 J**	<10.0	<10.0
.	11/7/2023	**709**	**28.7**	**0.377 J**	**14.5**	**2.69 J**	<1.00	**3.84 J**	**0.727 J**	**0.157 J**
	2/26/2024	**940**	**27.6**	**0.518**	**33.2**	**6.20**	<1.00	**6.10**	**10.4**	<1.00
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 3
Soil Vapor Analytical Results
Former Johnson Oil
Clatskanie, Oregon

Sample Location	SG-7				SG-8				SG-10				RBCs - Commercial Soil Vapor (RBC_{sv})	
Date	5/23/2019	4/4/2023	11/7/2023	2/26/2024	5/23/2019	4/4/2023	11/7/2023	2/26/2024	5/23/2019	4/4/2023	11/7/2023	2/26/2024	Chronic	Acute
Volatile Organic Compounds (VOCs) by EPA Method TO-15 in µg/m^3														
Acetone	**1,360**	<2.97	**8.72**	**32.1**	**73.7**	**14.1**	**11.9**	**3.26**	**212**	<2.97	**20.5**	**9.08**	--	6,300,000
Allyl Chloride	--	<0.626	<0.626	<0.626	--	<0.626	<0.626	<0.626	--	<0.626	<0.626	<0.626	68	--
Benzene	<12.5	<0.639	<0.639	<0.639	<1.28	**0.684**	<0.639	<0.639	**2.24**	<0.639	**0.684**	*<63.9*	52	2,900
Benzyl Chloride	--	<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	<1.34	--	<1.34	<1.34	<1.34	--	<1.34	<1.34	<134	11	--
Bromoform	--	<6.21	<6.21	<6.21	--	<6.21	<6.21	<6.21	--	<6.21	<6.21	<6.21	370	--
Bromomethane	--	<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	14	67,000
Carbon Disulfide	<12.4	<0.622	<0.622	**3.70**	<1.24	**4.17**	<0.622	<0.622	**3.46**	<0.622	**0.890**	<0.622	100,000	630,000
Carbon Tetrachloride	--	<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	<0.924	--	<0.924	<0.924	<0.924	--	<0.924	<0.924	<92.4	7,300	--
Chloroethane	--	<0.528	<0.528	**1.01**	--	<0.528	<0.528	<0.528	--	**2.85**	<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	18	50,000
Chloromethane	--	<0.413	**0.591**	**3.74**	--	<0.413	**1.06**	<0.413	--	**3.53**	**0.554**	<0.413	13,000	100,000
2-Chlorotoluene	--	<1.03	<1.03	<1.03	--	<1.03	<1.03	<1.03	--	<1.03	<1.03	<1.03	--	--
Cyclohexane	<13.8	<0.689	<0.689	<0.689	<1.38	<0.689	<0.689	<0.689	<1.38	**1.69**	**8.16**	**1,540**	880,000	--
Chlorodibromomethane	--	<1.70	<1.70	<1.70	--	<1.70	<1.70	<1.70	--	<1.70	<1.70	<170	--	--
1,2-Dibromoethane	*<30.8*	*<1.54*	*<1.54*	*<1.54*	*<3.08*	*<1.54*	*<1.54*	*<1.54*	*<3.08*	*<1.54*	*<1.54*	*<154*	0.68	--
1,2-Dichlorobenzene	--	<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	--	--
1,4-Dichlorobenzene	--	<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	*<16.2*	<0.810	<0.810	<0.810	<1.62	<0.810	<0.810	<0.810	<1.62	<0.810	<0.810	*<81.0*	16	--
1,1-Dichloroethane	--	<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	29,000	20,000
cis-1,2-Dichloroethene	--	<0.793	<0.793	<0.793	--	<0.793	<0.793	<0.793	--	**2.14**	<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	5,800	80,000

Please see notes at end of table.

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

Sample Location	SG-7				SG-8				SG-10				RBCs - Commercial Soil Vapor (RBC_{sv})	
Date	5/23/2019	4/4/2023	11/7/2023	2/26/2024	5/23/2019	4/4/2023	11/7/2023	2/26/2024	5/23/2019	4/4/2023	11/7/2023	2/26/2024	Chronic	Acute
Volatile Organic Compounds (VOCs) by EPA Method TO-15 in µg/m^3														
1,2-Dichloropropane	--	<0.924	<0.924	<0.924	--	<0.924	<0.924	<0.924	--	<0.924	<0.924	<92.4	110	23,000
cis-1,3-Dichloropropene	--	<0.908	<0.908	<0.908	--	<0.908	<0.908	<0.908	--	<0.908	<0.908	<90.8	100	3,700
trans-1,3-Dichloropropene	--	<0.908	<0.908	<0.908	--	<0.908	<0.908	<0.908	--	<0.908	<0.908	<90.8	100	3,700
1,4-Dioxane	<14.4	<0.721	<0.721	<2.27	**3.52**	<0.721	<0.721	<2.27	<1.44	<0.721	<0.721	<227	82	730,000
Ethanol	**1,380**	**35.3**	**14.9**	**78.6**	**43.7**	**54.3**	**31.1**	**4.98 B**	**259**	<4.71	**58.6**	**7.94**	--	--
Ethylbenzene	**45.1**	**2.37**	**2.44**	**1.03**	<1.73	**5.20**	<0.867	<0.867	<1.73	<0.867	<0.867	<0.867	160	2,200,000
4-Ethyltoluene	**516**	<0.982	**6.43**	**4.61**	**3.75**	<0.982	<0.982	<0.982	<1.96	<0.982	<0.982	<0.982	--	--
Trichlorofluoromethane	<22.5	<1.12	**1.48**	**1.61**	**3.46**	<1.12	**1.17**	**1.46**	<3.07	**1.20**	<1.12	**1.20**	--	--
Dichlorodifluoromethane	<34.0	<0.989	**1.70**	**1.16**	**2.27**	**2.11**	**2.06**	**1.36**	**2.08**	**2.84**	**1.99**	**1.41**	15,000	--
1,1,2-Trichlorotrifluoroethane	--	<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	--	--
Heptane	<16.4	<0.818	<0.818	**0.830**	<1.64	<0.818	<0.818	<0.818	<1.64	**8.51**	**2.57**	**2,090**	58,000	--
Hexachloro-1,3-butadiene	--	<6.73	<6.73	<6.73	--	<6.73	<6.73	<6.73	--	<6.73	<6.73	<6.73	19	--
n-Hexane	<14.1	<2.22	<2.22	<2.22	<1.41	<2.22	<2.22	<2.22	**1.58**	**15.7**	<2.22	**2,240**	100,000	--
Isopropylbenzene	**60.6**	**3.24**	**4.09**	<0.983	<1.97	<0.983	<0.983	<0.983	<1.97	<0.983	<0.983	<0.983	58,000	--
Methylene Chloride	<13.9	<0.694	**1.50**	<0.694	**1.43**	<0.694	**3.09**	<0.694	**2.89**	<0.694	**5.17**	<0.694	41,000	210,000
Methyl Butyl Ketone	--	<5.11	<5.11	<5.11	--	<5.11	<5.11	<5.11	--	<5.11	<5.11	<511	4,400	--
2-Butanone (MEK)	**403**	<3.69	<3.69	**3.98**	**16.1**	**9.94**	<3.69	<3.69	**20.6**	<3.69	**12.7**	<3.69	730,000	500,000
4-Methyl-2-pentanone (MIBK)	--	<5.12	<5.12	<5.12	--	<5.12	<5.12	<5.12	--	<5.12	<5.12	<512	440,000	--
Methyl Methacrylate	--	<0.819	<0.819	<0.819	--	<0.819	<0.819	<0.819	--	<0.819	<0.819	<81.9	100,000	--
Methyl Tert Butyl Ether (MTBE)	<14.4	<0.721	<0.721	<0.721	<1.44	<0.721	<0.721	<0.721	<1.44	<0.721	<0.721	<0.721	1,600	800,000
Naphthalene	**146**	<3.30	**9.32**	**71.2**	<6.60	<3.30	<3.30	<3.30	<6.60	<3.30	<3.30	<3.30	12	20,000
2-Propanol	**263**	<3.07	**4.99**	**17.3**	**102**	**7.25**	**9.78**	**3.22**	**19.4**	<3.07	**49.9**	**5.19**	29,000	320,000
Propene	<13.8	<2.15	<2.15	<2.15	**1.43**	<2.15	<2.15	<2.15	**2.71**	<2.15	<2.15	<2.15	440,000	--
n-Propylbenzene	**134**	**6.97**	**8.2**	<0.982	<1.96	<0.982	<0.982	<0.982	<1.96	<0.982	<0.982	<0.982	150,000	--
Styrene	<17.0	<0.851	<0.851	<0.851	<1.70	<0.851	<0.851	<0.851	<1.70	<0.851	<0.851	<0.851	150,000	2,100,000

Please see notes at end of table.

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

Sample Location	SG-7				SG-8				SG-10				RBCs - Commercial Soil Vapor (RBC_{sv})	
Date	5/23/2019	4/4/2023	11/7/2023	2/26/2024	5/23/2019	4/4/2023	11/7/2023	2/26/2024	5/23/2019	4/4/2023	11/7/2023	2/26/2024	Chronic	Acute
Volatile Organic Compounds (VOCs) by EPA Method TO-15 in µg/m^3														
1,1,2,2-Tetrachloroethane	--	<1.37	<1.37	<1.37	--	<1.37	<1.37	<1.37	--	<1.37	<1.37	<1.37	7.1	--
Tetrachloroethylene	<27.2	<1.36	**2.96**	**1.84**	**5.31**	**6.22**	<1.36	<1.36	**3.14**	<1.36	<1.36	<136	1,600	4,000
Tetrahydrofuran	<11.8	<0.590	<0.590	<0.590	**3.88**	<0.590	<0.590	<0.590	<1.18	<0.590	**1.30**	<0.590	290,000	--
Toluene	**25.6**	**4.44**	**3.35**	<1.88	**3.04**	**10.1**	**3.09**	<1.88	**6.13**	<1.88	**6.55**	<188	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	290	--
1,1,1-Trichloroethane	--	<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	<1.09	--	<1.09	<1.09	<1.09	--	<1.09	<1.09	<109	26	--
Trichloroethylene	--	<1.07	<1.07	<1.07	--	<1.07	<1.07	**1.78**	--	**163**	<1.07	*<107*	100	210
1,2,4-Trimethylbenzene	**844**	**49.1**	**52.5**	**51.5**	**6.77**	**1.13**	<0.982	<0.982	<1.96	<0.982	<0.982	<0.982	8,800	--
1,3,5-Trimethylbenzene	**320**	**23.9**	**25.9**	**19.3**	<1.96	<0.982	<0.982	<0.982	<1.96	<0.982	<0.982	<0.982	8,800	--
2,2,4-Trimethylpentane	<18.7	**1.45**	<1.07	<0.934	<1.87	<0.934	<0.934	<0.934	<1.87	<0.934	<0.934	**2,210**	--	--
Vinyl Chloride	--	<0.511	<0.511	<0.511	--	<0.511	<0.511	<0.511	--	**1.85**	<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	27	--
Vinyl Acetate	<14.1	<0.704	<0.704	<2.22	<1.41	<0.704	<0.704	<2.22	<1.41	<0.704	<0.704	<2.22	29,000	20,000
m&p-Xylene	--	**12.0**	**12.1**	**6.07**	--	**10.0**	<1.73	<1.73	--	<1.73	**1.82**	<1.73	--	--
o-Xylene	--	**9.93**	**10.6**	**4.73**	--	**2.11**	<0.867	<0.867	--	<0.867	<0.867	<0.867	15,000	--
Total Xylenes	**377**	--	--	--	**7.67**	--	--	--	**3.81**	--	--	--	15,000	870,000
TPH (GC/MS) Low Fraction	**39,200**	**1,300 J+**	**1,400**	**967**	**531**	<826	<826	<826	<413	<826	**1,160**	<82,600	--	--

Notes:

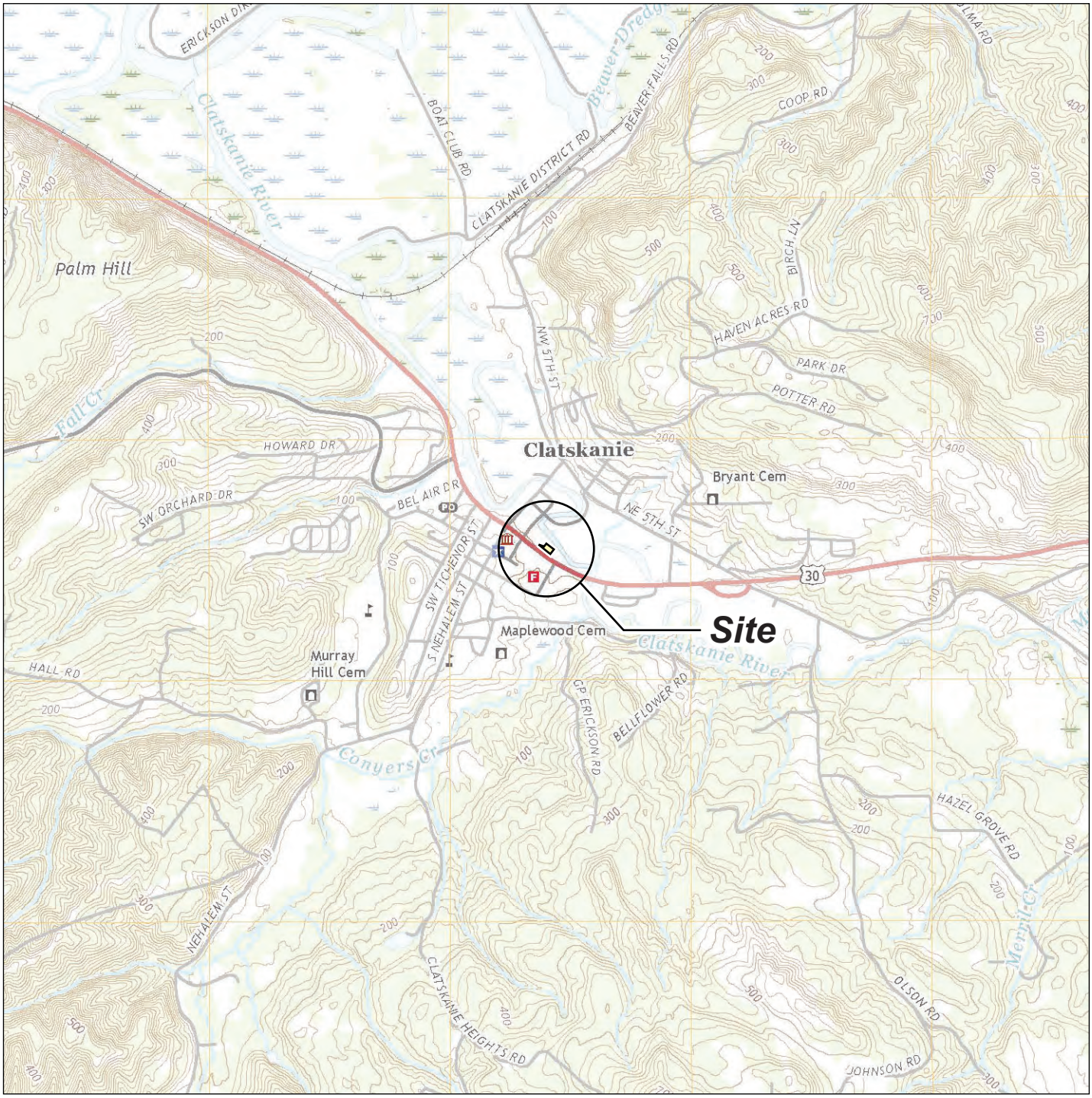
1. µg/m^3 = Micrograms per cubic meter.
2. **Bold** values indicate concentration detected above the minimum reporting limit.
3. Shaded values indicate concentrations detected above one or more applicable RBC.
4. *Italicized* values indicate a reporting limit above the applicable RBC
5. < = Concentration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

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

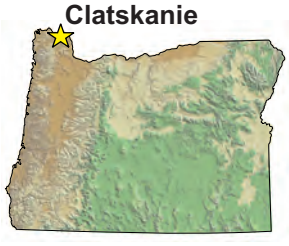
Sample Location	AMB-1 (TP)		AMB-2 (TP)		AMB-3 (OD)		AMB-4 (FS)		Ambient Air - Commercial (RBCair)	
Date	11/13/2023	2/26/2024	11/13/2023	2/26/2024	11/13/2023	2/26/2024	11/13/2023	2/26/2024	Chronic	Acute
Volatile Organic Compounds (VOCs) by EPA Method TO-17 Passive RAD145 in µg/m³										
Benzene	**2.1**	**1.0**	**1.8**	**1.2**	**1.1**	**0.67**	**0.79**	--	87	1.6
Cyclohexane	**0.91**	**0.72**	**0.73**	**0.67**	**0.19**	**0.86**	**0.076**	--	--	26,000
Ethylbenzene	**2.8**	**1.00**	**2.7**	**1.1**	**0.2**	**0.12**	**0.16**	--	66,000	4.9
Styrene	**0.62**	**0.36**	**0.66**	**0.52**	**0.25**	**0.085**	**0.19**	--	63,000	4,400
Tetrachloroethylene	**0.079**	**0.053**	**0.095**	**0.056**	**0.065**	**0.044**	**1.000**	--	120	47
Toluene	**18 E**	**6.7 E**	**18 E**	**>6.3 S**	**0.90**	**0.64**	**0.81**	--	23,000	22,000
1,1,1-Trichloroethane	<0.058	<0.05	<0.058	<0.05	<0.058	<0.05	<0.058	--	6.3	3
Trichloroethylene	<0.021	<0.018	<0.021	<0.018	<0.021	<0.018	**0.042**	--	6.3	3
m&p-Xylene	**11 E**	**3.8 E**	**0.550**	**3.900**	**0.55**	**0.34**	**0.5**	--	--	880
o-Xylene	**3.6**	**1.4**	**0.22**	**1.5**	**0.22**	**0.14**	**0.19**	--	--	440

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. DEQ RBCs = Risk-Based Concentrations from the DEQ's *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* (updated June 2023).
8. TP = Turning Point building, OD = outdoor, FS = former station building



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



0 2,000 4,000

Approximate Scale in Feet

Site Location Map

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

APEX Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-23005297	Drawn: JP	Approved: TC	Figure 1
	May 2024			

I:\Client\DEQ\Oregon\32-23005297 Johnson Oil\GW Monitoring\Q1 2024\32-23005297 01 (Site Location).des

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

Legend:

- Ambient Air Location
- Monitoring Well (Installed 2023)
- Historic Monitoring Well
- Sediment/Porewater Sample (Collected 2023)
- Historic Excavation Confirmation Sample
- Historic Soil Gas Sample
- Historic Soil And Groundwater Probe
- Historic Soil Probe
- Historic Decommissioned Monitoring Well
- Historic Groundwater Sample
- Historic Riverbank Porewater Sample
- Historic Soil Sample
- Historic Test Pit
- Gas Line
- Overhead Electrical Line
- Underground Electrical Line
- Sanitary Sewer Line
- Water Line
- Decommissioned Product Piping
- Asphalt Concrete Pad Installed June 22, 2022
- [10'] Extent Of Excavation and [Depth in Feet]
- Excavation Limits (2008)
- Underground Storage Tank (UST) Decommissioned in Place
- (4) Removed UST and Designation
- Property Boundary

0 20 40
Approximate Scale in Feet

Site Plan

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

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

Project Number:	Drawn:	Approved:	Figure
32-23005297	--	TC	2
May 2024			

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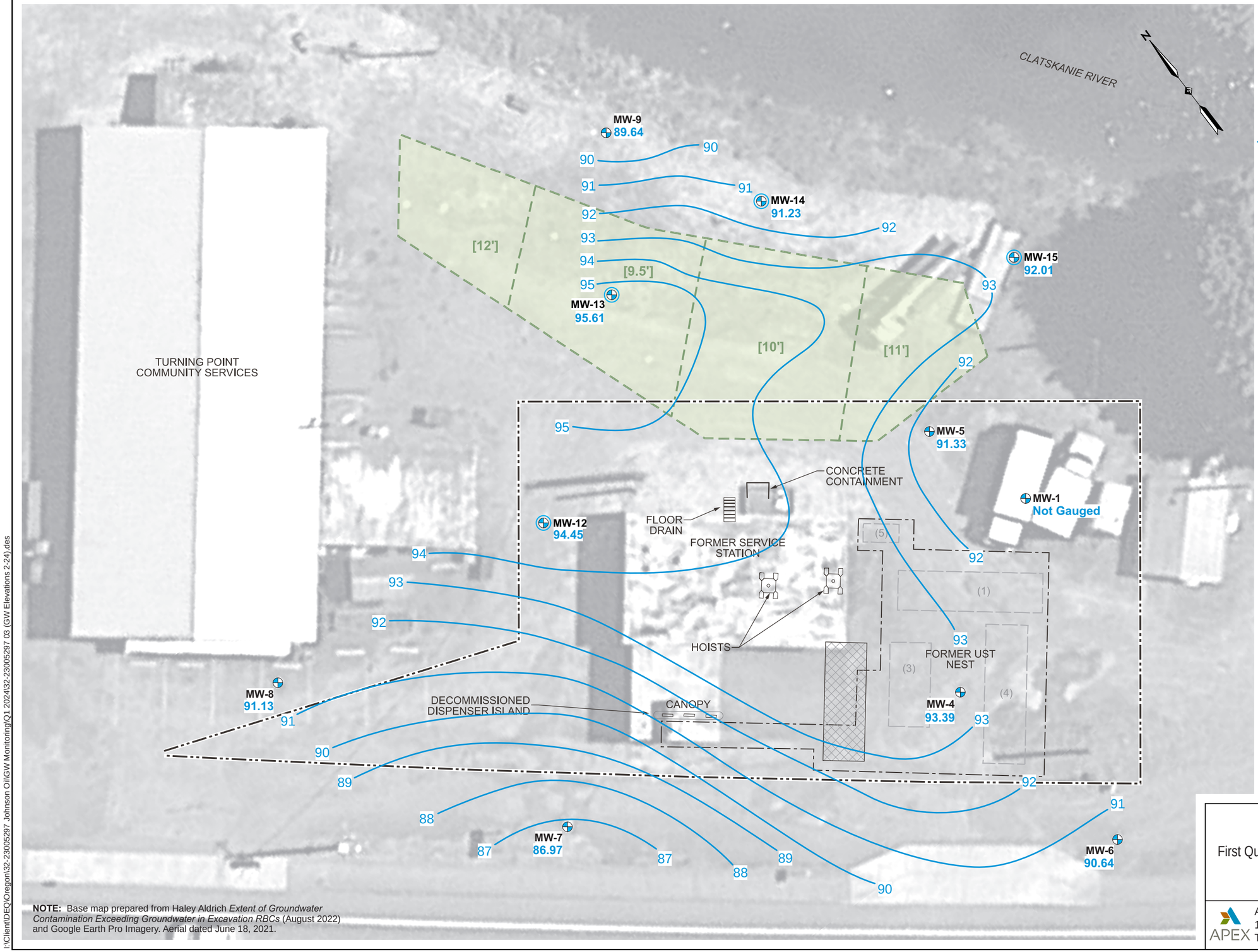

Legend:

- Monitoring Well (Installed 2023)
- Historic Monitoring Well
- 93.39 — 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 (February 2024)

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

APEX Apex Companies, LLC 15618 SW 72nd Avenue Tigard, Oregon 97224	Project Number: 32-23005297	Drawn: --	Approved: TC	Figure 3
	May 2024			

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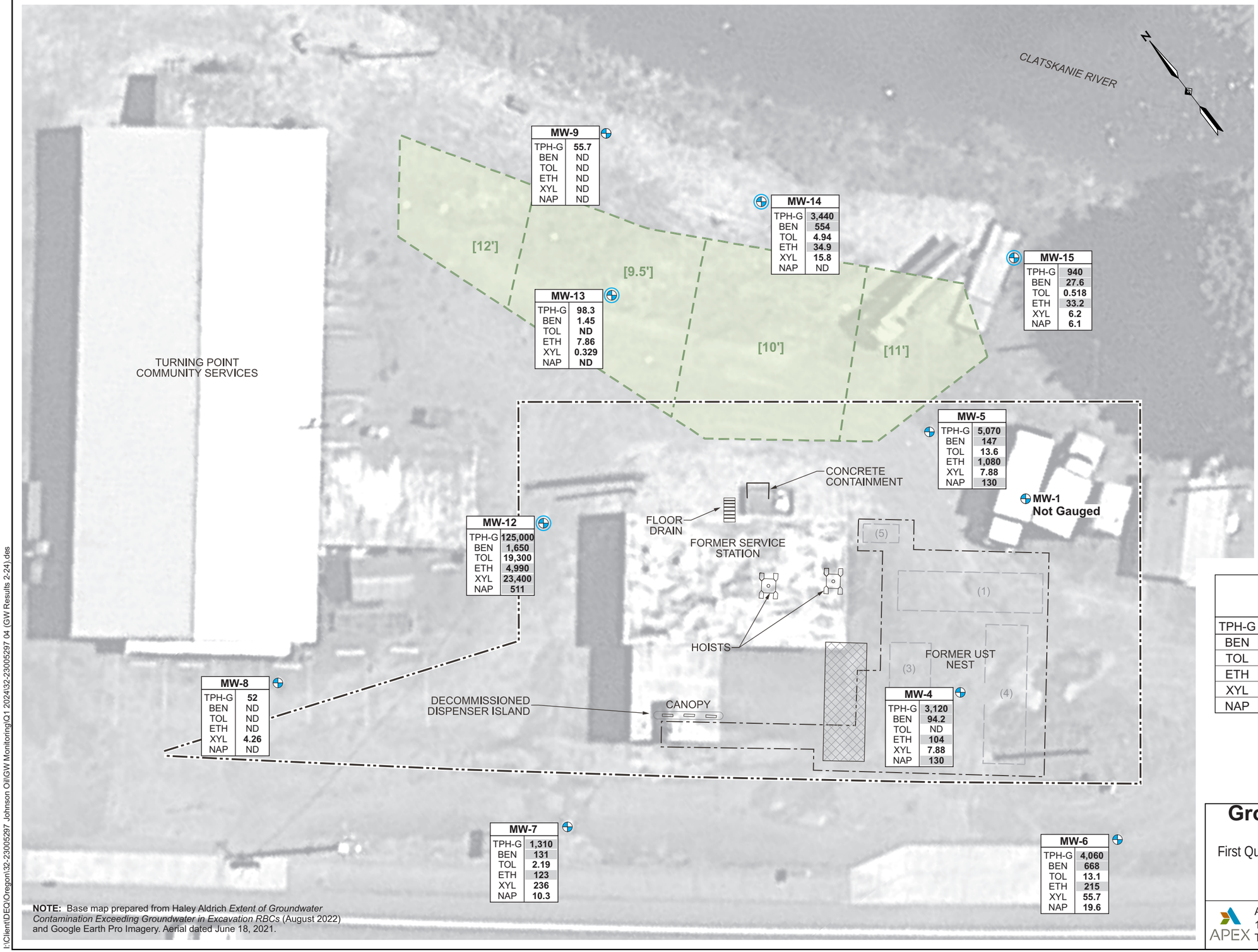

NOTE: Base map prepared from Haley Aldrich *Extent of Groundwater Contamination Exceeding Groundwater in Excavation RBCs* (August 2022) and Google Earth Pro Imagery. Aerial dated June 18, 2021.

Legend:

- Monitoring Well (Installed 2023)
- Historic Monitoring Well
- [10'] Extent of Excavation and [Depth in Feet]
- Excavation Limits (2008)
- Underground Storage Tank (UST) Decommissioned in Place
- (4) Removed UST and Designation
- Property Boundary

MW-15	
TPH-G	940
BEN	27.6
TOL	0.518
ETH	33.2
XYL	6.2
NAP	6.1

- Sample Identification
- Concentration in Micrograms Per Cubic Meter (µg/m^3)
- 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/m^3)
TPH-G	Gasoline-Range Organics	**520**
BEN	Benzene	**12**
TOL	Toluene	**150,000**
ETH	Ethylbenzene	**31**
XYL	Total Xylenes	**3,300**
NAP	Naphthalene	**50**

0 20 40

Approximate Scale in Feet

Groundwater Analytical Results (February 2024)

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

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

Project Number:	Drawn:	Approved:	Figure
32-23005297	--	TC	4

May 2024

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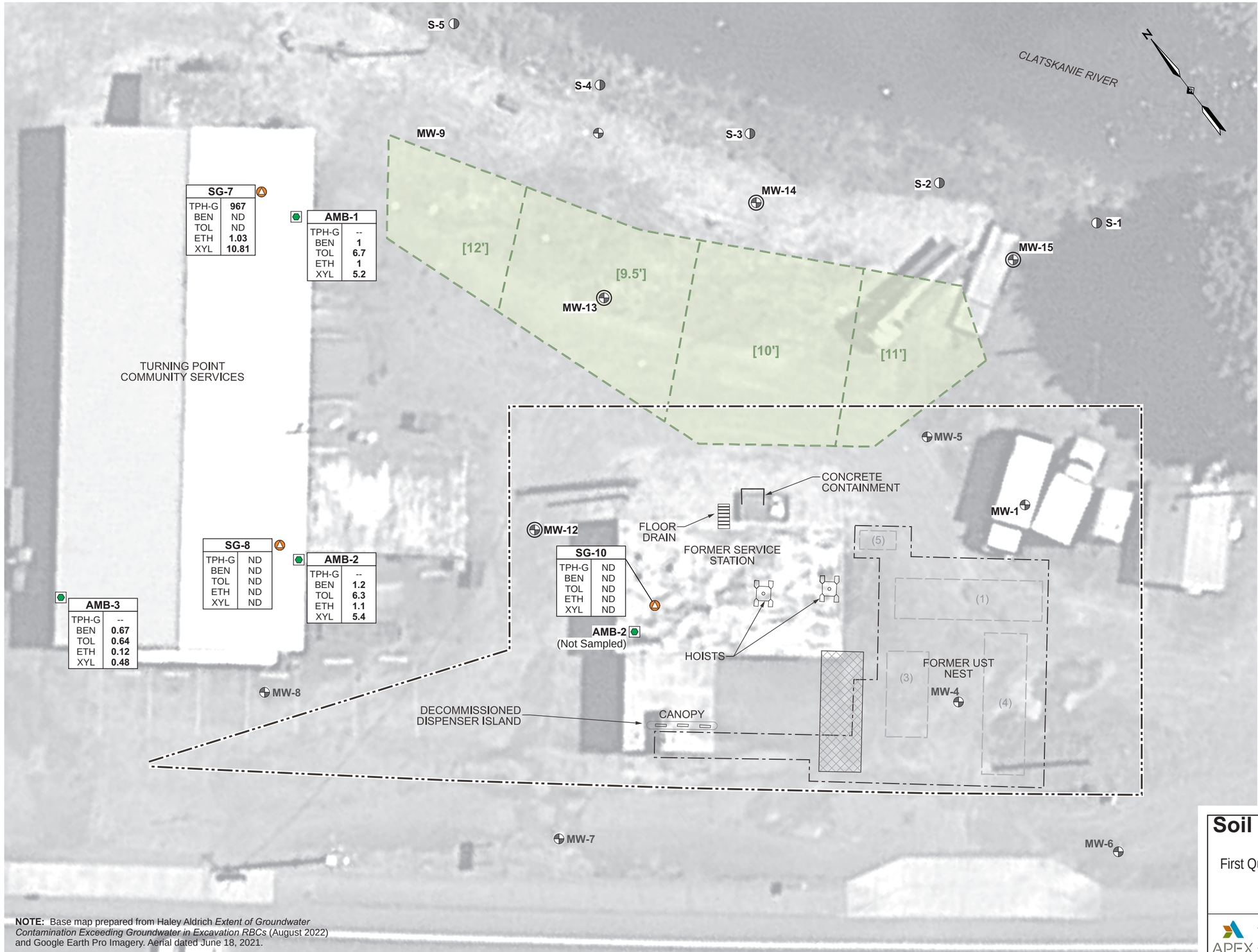

NOTE: Base map prepared from Haley Aldrich *Extent of Groundwater Contamination Exceeding Groundwater in Excavation RBCs* (August 2022) and Google Earth Pro Imagery. Aerial dated June 18, 2021.

Legend:

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

SG-7	
TPH-G	967
BEN	ND
TOL	ND
ETH	1.03
XYL	10.81

- Sample Identification
- Total Petroleum Hydrocarbons for Gasoline Range - Low Fraction Result in µg/m^3
- Benzene Result in Micrograms per Cubic Meter (µg/m^3)
- Toluene Result in µg/m^3
- Ethylbenzene Result in µg/m^3
- Total Xylenes Result in µg/m^3

ND = Not Detected Above Laboratory Reporting Limit

-- = Not Sampled

0 20 40

Approximate Scale in Feet

Soil Vapor and Ambient Air Results (February 2024)

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

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

Project Number: 32-23005297	Drawn: --	Approved: TC	Figure 5
May 2024			

I:\Client\DEQ\Oregon\32-23005297 Johnson Oil\GW Monitoring\Q1 2024\32-23005297 05 (Soil Gas Results 2-24).des

Appendix A

Sampling Documentation

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224			Job Number:	23005297
	Client:	DEQ	Date:	2/26/24
	Project:	Johnson Oil	Sampler:	Chris Weer
	Weather:	38° flurries	Time In/Out:	1045/1210

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~~ MW5	1151	-	2.97	20	-	17.03	odor
~~MW-5~~ MW4	1145	-	1.04	20	-	18.96	odor
MW-6	1157	-	4.88	20	-	15.12	odor
MW-7	1203	-	8.07	20	-	11.93	missing bolt
MW-8	1131	-	5.09	15	-	9.91	
MW-9	1136	-	4.90	15	-	10.10	
MW-12	1208	-	4.61	15	-	10.39	
MW-13	1141	-	2.67	17	-	14.33	
MW-14	1143	-	8.05	20	-	11.95	
MW-15	1138	-	8.32	20	-	11.68	

WELL MONITORING DATA SHEET

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-4	Job Number:	23005297
		Client:	DEQ	Date:	2/27/2024
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:	39°, Cloudy	Time In/Out:	1250/1323

WELL DATA

Well Depth:	20'	Well Diameter:	2"	Water Height	
Depth to Water:	1.00'	Screened Interval:		x Multiplier	
Water Column Length:	19.00'	Depth to Free Product:		x Casing Volumes	
Purge Volume:		Free Product Thickness:		= 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~~	Pump Intake Depth:		Comments	
Sampling Method:	low flow	Tubing Type:			

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
1305			1.00	0.25	6.18	11.99	533	0.41	-26.5		AC
1308			1.00	0.25	6.23	12.04	532	0.29	-35.2		AC
1311			1.00	0.25	6.27	11.77	532	0.36	-39.9		AC

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

SAMPLING DATA

Sample ID:	MW-4	Sampling Flow Rate	0.25	Analytical Laboratory:	Pace
Sample Time:	1315	Final Depth to Water:	1.00'	Did Well Dewater?	NO

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

COMMENTS

Sheen on top

WELL MONITORING DATA SHEET

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-5	Job Number:	23005297
		Client:	DEQ	Date:	2/27/24
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:	38° drizzle	Time In/Out:	1012/1040

WELL DATA

Well Depth:	20'		Well Diameter:	2"		Water Height	
Depth to Water:	2.92'		Screened Interval:			x Multiplier	
Water Column Length:	17.08		Depth to Free Product:			x Casing Volumes	
Purge Volume:			Free Product Thickness:			= 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:					Pump Intake Depth:					Comments	
Sampling Method:	Low flow				Tubing Type:						
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
1023			4.63	0.25	5.90	11.55	470	0.44	40.8		C, odor
1026			5.24	0.25	5.93	11.65	469	0.37	46.4		C, odor
1029			5.73	0.25	5.94	11.60	469	0.32	48.8		C, odor

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:	1033	Final Depth to Water:	5.35'	Did Well Dewater?	NO		
# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	NWTPH-Gx	yes (no)		—	—	—
3 VOA	HCl	VOCs	yes (no)		—	—	—
			yes no				
			yes no				
			yes no				
			yes no				

COMMENTS

WELL MONITORING DATA SHEET

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-6	Job Number:	23005297
		Client:	DEQ	Date:	2/27/24
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:	39° Cloudy	Time In/Out:	1045/1117

WELL DATA

Well Depth:	20'		Well Diameter:	2"		Water Height	
Depth to Water:	4.19		Screened Interval:			x Multiplier	
Water Column Length:	15.81		Depth to Free Product:			x Casing Volumes	
Purge Volume:			Free Product Thickness:			= 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:					Pump Intake Depth:						Comments
Sampling Method:		low flow			Tubing Type:						
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
1056			5.52	0.25	5.90	12.37	496	2.18	-28.1		C
1059			6.62	0.25	5.96	12.61	450	0.54	-32.4		C
1102			7.22	0.25	5.98	12.46	457	0.64	-33.0		C
1105			8.05	0.25	5.99	12.50	469	0.58	-33.8		C

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

SAMPLING DATA

Sample ID:	MW-6	Sampling Flow Rate	0.25	Analytical Laboratory:	Pace	
Sample Time:	1112	Final Depth to Water:	8.33'	Did Well Dewater?	NO	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	NWTPH-Gx	yes (no)	-	-	-
3 VOA	HCl	VOCs	yes (no)	-	-	-
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-7	Job Number:	23005297
		Client:	DEQ	Date:	2/27/24
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:	39° Cloudy	Time In/Out:	1130/1205

WELL DATA

Well Depth:	20'	Well Diameter:	2"	Water Height	
Depth to Water:	7.27'	Screened Interval:		x Multiplier	
Water Column Length:	12.73'	Depth to Free Product:		x Casing Volumes	
Purge Volume:		Free Product Thickness:		= 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:				Pump Intake Depth:						Comments	
Sampling Method:	Low Flow			Tubing Type:							
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
1145			8.39	0.30	5.89	13.98	577	0.73	-24.8		AC
1148			10.21	0.30	5.91	13.96	577	0.82	-28.6		AC
1151			10.95	0.30	5.93	13.81	578	0.77	-31.2		AC

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

SAMPLING DATA

Sample ID:	MW-7	Sampling Flow Rate	0.25	Analytical Laboratory:	Pace	
Sample Time:	1155	Final Depth to Water:	11.18'	Did Well Dewater?	NO	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	NWTPH-Gx	yes (no)	-	-	-
3 VOA	HCl	VOCs	yes (no)	-	-	-
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-8	Job Number:	23005297
		Client:	DEQ	Date:	2/26/24
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:	40° Cloudy	Time In/Out:	1235 / 1320

WELL DATA

Well Depth:	15'		Well Diameter:	2"		Water Height	
Depth to Water:	5.07'		Screened Interval:			x Multiplier	
Water Column Length:	9.93'		Depth to Free Product:			x Casing Volumes	
Purge Volume:			Free Product Thickness:			= 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:					Pump Intake Depth:						Comments
Sampling Method:		(low) flow			Tubing Type:						
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
1245			5.88	0.25	6.36	12.16	949	4.24	-73.4		AC
1248			6.28	0.25	6.28	12.23	945	3.16	-68.5		AC
1251			6.69	0.25	6.23	12.13	943	4.42	-64.6		AC
1254			7.04	0.25	6.20	12.08	945	4.70	-62.2		AC
1257			7.34	0.25	6.17	11.97	949	4.93	-60.3		AC
1300			7.74	0.25	6.12	12.25	953	1.00	-60.5		AC
1303			8.01	0.25	6.10	12.16	953	0.74	-58.9		AC
1306			8.31	0.25	6.07	12.18	953	0.75	-56.8		AC

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

SAMPLING DATA

Sample ID:	MW-8	Sampling Flow Rate	0.25	Analytical Laboratory:	Pace		
Sample Time:	1314	Final Depth to Water:	7.19'	Did Well Dewater?	NO		
# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	NWTPH-Gx	yes (no)		-	-	-
3 VOA	HCl	VOCs	yes (no)		-	-	-
			yes no				
			yes no				
			yes no				
			yes no				

COMMENTS

WELL MONITORING DATA SHEET

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-9	Job Number:	23005297
		Client:	DEQ	Date:	2/26/2024
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:	41° Mostly Cloudy	Time In/Out:	1328 / 1415

WELL DATA

Well Depth:	15'	Well Diameter:	2"	Water Height	
Depth to Water:	4.89'	Screened Interval:		x Multiplier	
Water Column Length:	10.11'	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:		Pump Intake Depth:		Comments	
Sampling Method:	low flow	Tubing Type:			

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
1340			5.67	0.25	5.44	10.16	55	4.60	119.9		C
1343			6.04	0.25	5.08	9.99	54	4.54	158.9		C
1346			6.50	0.25	4.84	9.90	53	4.81	189.7		C
1349			7.01	0.30	4.70	9.91	53	4.22	209.9		C
1352			7.71	0.30	4.61	9.84	51	4.04	226.2		C
1355			8.13	0.20	4.53	9.84	51	4.17	237.9		C
1358			8.49	0.20	4.47	9.95	51	4.36	247.2		C
1401			8.93	0.20	4.43	9.82	51	4.33	256.5		C

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

SAMPLING DATA

Sample ID:	MW-9	Sampling Flow Rate	0.25	Analytical Laboratory:	Pace	
Sample Time:	1403	Final Depth to Water:	7.89'	Did Well Dewater?	NO	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	NWTPH-Gx	yes (no)	-	-	-
3 VOA	HCl	VOCs	yes (no)	-	-	-
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-12	Job Number:	23005297
		Client:	DEQ	Date:	2/27/24
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:	40° cloudy	Time In/Out:	1330/1405

WELL DATA

Well Depth:	15'		Well Diameter:	2"		Water Height	
Depth to Water:	4.74'		Screened Interval:			x Multiplier	
Water Column Length:	10.26'		Depth to Free Product:			x Casing Volumes	
Purge Volume:			Free Product Thickness:			= 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:					Pump Intake Depth:					Comments	
Sampling Method:	low flow				Tubing Type:						
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
1340			5.60	0.25	5.90	11.91	356	0.44	-16.0		C, odor
1343			5.69	0.25	5.90	11.82	355	0.34	-18.9		C, odor
1346			5.79	0.25	5.89	11.71	355	0.31	-21.1		C, odor
1349			5.91	0.25	5.90	11.68	355	0.27	-23.3		C, odor
~~1352~~											

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:	1355	Final Depth to Water:	5.79	Did Well Dewater?	NO	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	NWTPH-Gx	yes (no)	-	-	-
3 VOA	HCl	VOCs	yes (no)	-	-	-
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-13	Job Number:	23005297
		Client:	DEQ	Date:	2/26/2024
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:	46° rain	Time In/Out:	1530/1612

WELL DATA

Well Depth:	17'	Well Diameter:	2"	Water Height	
Depth to Water:	2.66'	Screened Interval:		x Multiplier	
Water Column Length:	14.37'	Depth to Free Product:		x Casing Volumes	
Purge Volume:		Free Product Thickness:		= 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:				Pump Intake Depth:						Comments	
Sampling Method:	Low flow			Tubing Type:							
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
1545			2.68	0.25	6.50	9.92	355	0.54	0.6		C
1548			2.68	0.25	6.53	9.85	354	0.56	-2.1		C
1551			2.68	0.25	6.69	9.75	353	0.57	-4.4		C
1554			2.68	0.25	6.75	9.72	353	0.56	-6.1		C
1557			2.68	0.25	6.80	9.72	353	0.55	-7.9		C
1600			2.69	0.25	6.85	9.59	352	0.56	-9.4		C

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

SAMPLING DATA

Sample ID:	MW-13	Sampling Flow Rate	0.25	Analytical Laboratory:	Pace	
Sample Time:	1604	Final Depth to Water:	2.66'	Did Well Dewater?	NO	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	NWTPH-Gx	yes (no)	-	-	-
3 VOA	HCl	VOCs	yes (no)	-	-	-
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-14	Job Number:	23005297
		Client:	DEQ	Date:	2/27/2024
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:	37°, Drizzle	Time In/Out:	925 / 1002

WELL DATA

Well Depth:	20'		Well Diameter:	2"		Water Height	
Depth to Water:	7.76		Screened Interval:			x Multiplier	
Water Column Length:	12.24		Depth to Free Product:	-		x Casing Volumes	
Purge Volume:			Free Product Thickness:	-		= 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:					Pump Intake Depth:						Comments
Sampling Method:		low flow			Tubing Type:						
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
935			8.86	0.25	5.94	11.75	398	0.78	-29.2		C, odor
938			9.47	0.25	5.90	11.75	384	0.62	-30.2		C, odor
941			9.87	0.25	5.90	11.78	385	0.65	-30.6		C, odor

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

SAMPLING DATA

Sample ID:	MW-14	Sampling Flow Rate	0.25	Analytical Laboratory:	Pace		
Sample Time:	947, 955	Final Depth to Water:	9.97'	Did Well Dewater?	NO		
# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
6 VOA	HCl	NWTPH-Gx	yes (no)		-		Dup
6 VOA	HCl	VOCs	yes (no)		-		
			yes	no			
			yes	no			
			yes	no			
			yes	no			

COMMENTS

Duplicate

WELL MONITORING DATA SHEET

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-15	Job Number:	23005297
		Client:	DEQ	Date:	2/26/2024
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:	40° Rain	Time In/Out:	14:22/1513

WELL DATA

Well Depth:	20'		Well Diameter:	2"		Water Height	
Depth to Water:	7.69		Screened Interval:	-		x Multiplier	
Water Column Length:	12.31'		Depth to Free Product:	-		x Casing Volumes	
Purge Volume:			Free Product Thickness:	-		= 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:					Pump Intake Depth:						Comments
Sampling Method:		low flow			Tubing Type:						
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
1435			8.48	0.30	5.55	10.01	320	0.72	7.8		C
1438			8.60	0.25	5.63	9.69	320	0.71	-3.1		C
1441			8.63	0.25	5.69	9.47	319	0.68	-8.5		C
1444			8.63	0.25	5.75	9.22	319	0.61	-12.9		C
1447			8.67	0.25	5.77	9.08	320	0.54	-16.0		C

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

SAMPLING DATA

Sample ID:	MW-15	Sampling Flow Rate	0.25	Analytical Laboratory:	Pace		
Sample Time:	1503	Final Depth to Water:	7.69	Did Well Dewater?	ND		
# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	NWTPH-Gx	yes (no)		-	-	-
3 VOA	HCl	VOCs	yes (no)		-	-	-
			yes	no			
			yes	no			
			yes	no			
			yes	no			

COMMENTS

WELL MONITORING DATA SHEET

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.		Job Number:	23005297
		Client:	DEQ	Date:	
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:		Time In/Out:	

WELL DATA

Well Depth:		Well Diameter:		Water Height	
Depth to Water:		Screened Interval:		x Multiplier	
Water Column Length:		Depth to Free Product:		x Casing Volumes	
Purge Volume:		Free Product Thickness:		= 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:		Pump Intake Depth:		Comments	
Sampling Method:		Tubing Type:			

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

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

SAMPLING DATA

Sample ID:		Sampling Flow Rate		Analytical Laboratory:	Pace	
Sample Time:		Final Depth to Water:		Did Well Dewater?		
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
VOA	HCl	NWTPH-Gx	yes **no**			
VOA	HCl	VOCs	yes **no**			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.		Job Number:	23005297
		Client:	DEQ	Date:	
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:		Time In/Out:	

WELL DATA

Well Depth:		Well Diameter:		Water Height	
Depth to Water:		Screened Interval:		x Multiplier	
Water Column Length:		Depth to Free Product:		x Casing Volumes	
Purge Volume:		Free Product Thickness:		= 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:				Pump Intake Depth:						Comments	
Sampling Method:				Tubing Type:							
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

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

SAMPLING DATA

Sample ID:		Sampling Flow Rate		Analytical Laboratory:	Pace	
Sample Time:		Final Depth to Water:		Did Well Dewater?		
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
VOA	HCl	NWTPH-Gx	yes **no**			
VOA	HCl	VOCs	yes **no**			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.		Job Number:	23005297
		Client:	DEQ	Date:	
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:		Time In/Out:	

WELL DATA

Well Depth:		Well Diameter:		Water Height	
Depth to Water:		Screened Interval:		x Multiplier	
Water Column Length:		Depth to Free Product:		x Casing Volumes	
Purge Volume:		Free Product Thickness:		= 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:		Pump Intake Depth:		Comments	
Sampling Method:		Tubing Type:			

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

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

SAMPLING DATA

Sample ID:		Sampling Flow Rate		Analytical Laboratory:	Pace	
Sample Time:		Final Depth to Water:		Did Well Dewater?		
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
VOA	HCl	NWTPH-Gx	yes **no**			
VOA	HCl	VOCs	yes **no**			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.		Job Number:	23005297
		Client:	DEQ	Date:	
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:		Time In/Out:	

WELL DATA

Well Depth:		Well Diameter:		Water Height	
Depth to Water:		Screened Interval:		x Multiplier	
Water Column Length:		Depth to Free Product:		x Casing Volumes	
Purge Volume:		Free Product Thickness:		= 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:		Pump Intake Depth:		Comments	
Sampling Method:		Tubing Type:			

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

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

SAMPLING DATA

Sample ID:		Sampling Flow Rate		Analytical Laboratory:	Pace	
Sample Time:		Final Depth to Water:		Did Well Dewater?		
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
VOA	HCl	NWTPH-Gx	yes **no**			
VOA	HCl	VOCs	yes **no**			
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

WELL MONITORING DATA SHEET

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.		Job Number:	23005297
		Client:	DEQ	Date:	
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:		Time In/Out:	

WELL DATA

Well Depth:		Well Diameter:		Water Height	
Depth to Water:		Screened Interval:		x Multiplier	
Water Column Length:		Depth to Free Product:		x Casing Volumes	
Purge Volume:		Free Product Thickness:		= 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:		Pump Intake Depth:		Comments	
Sampling Method:		Tubing Type:			

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

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

SAMPLING DATA

Sample ID:		Sampling Flow Rate		Analytical Laboratory:	Pace
Sample Time:		Final Depth to Water:		Did Well Dewater?	

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

COMMENTS

WELL GAGING DATA SHEET

APEX	Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224			Job Number:	23005297
		Client:	DEQ	Date:	9/20/23
		Project:	Johnson Oil	Sampler:	Chris Weer
		Weather:	57° Partly Cloudy	Time In/Out:	830/1100

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	1101	-	4.27	20'	-	15.73	
MW-5	1053	-	6.79	20'	-	13.21	
MW-6	1055	-	7.68	20'	-	12.32	
MW-7	1058	-	6.20	20'	-	13.80	
~~MW-8~~	1041	-	6.80	~~14.9~~ 15'	-	8.20	
MW-9	1044	-	9.09	15'	-	5.91	Covered by vegetation
MW-12	1103	-	7.50	15'	-	7.5'	
MW-13	1049	-	5.67	17'	-	11.33'	
MW-14	1051	-	10.30	20'	-	9.70'	
MW-15	1047	-	9.67	20'	-	10.33	

Appendix B

Laboratory Analytical Reports and Data Quality Review

Appendix B – QA/QC Review

This appendix documents the results of a quality assurance/quality control (QA/QC) review of the analytical data for the first quarter 2024 monitoring event at the former Johnson Oil Site in Clatskanie, Oregon. The groundwater and soil vapor samples were submitted to Pace Analytical Services, LLC (Pace) in Mt. Juliet, Tennessee under their Price Agreement with the Oregon Department of Environmental Quality (DEQ). The ambient air (Radiello) samples were submitted to Eurofins Air Toxics of Folsom, California. Copies of the analytical laboratory reports are included in this appendix.

Laboratory Report	Date Reported
L1709927	February 28, 2024
L1710528	February 29, 2024
2403303	March 21, 2024

1.0 Analytical Methods

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

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

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

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

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

- VOCs by EPA Method TO-17 using Radiello 145 sorbent tubes.

2.0 Data Validation

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

- Analytical preparation and quantitation methods;
- Analytical method holding times;
- Sample handling;
- Chain of custody procedures;
- Detection and reporting limits;
- Method blank detections;
- Laboratory control samples, matrix spikes, and surrogates to assess accuracy; and

- Laboratory control sample duplicates and matrix spike duplicates.

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

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

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

2.1 Data Qualifiers

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

B	Same analyte present in the method blank at concentrations greater than the reporting limit.
J	Result is an estimated value.
J-	Result is an estimated value and may be biased low.

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 were identified by the laboratory at concentrations that were between the laboratory minimum reporting limit (MRL) and the method detection limit (MDL). These concentrations are estimated values and have been 'J' flagged accordingly.

3.2 Holding Times and Sample Receipt

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

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

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

3.3 Method Blanks

A method – or laboratory – blank is a sample prepared in the laboratory along with the actual samples and analyzed for the same parameters at the same time. It is used to assess if detected compounds may have been the result of contamination or background levels in the laboratory.

Groundwater. TPH-Gx was detected in the method blank of analytical batch WG2238768 at a concentration of 41.7 ug/L. The associated groundwater concentrations of TPH-Gx for the February 2024 event were generally greater than ten times the method blank concentration with the exception of groundwater samples from MW-8 and MW-13. The TPH-Gx results for well MW-8 (52 ug/L) and MW-13 (98.63 ug/L) may have had significant contribution from laboratory contamination and results are 'J' and 'B' flagged.

Soil Vapor. Tetrachloroethylene (PCE) was detected in the method blank of analytical batch WG2238619 at a concentration of 0.107 ug/L. The associated groundwater concentrations of PCE for the February 2024 event were generally greater than ten times the method blank concentration and have not likely been significantly influenced by the detection in the laboratory blank.

Ethanol was detected in the method blank of analytical batch WG2237738 (soil vapor samples SG-7, SG-8, and SG-10) at concentrations of 0.280 parts per billion by volume, and was detected in soil vapor sample SG-

8 at a concentration less than ten times the concentration in the method blank. These results may have had significant contribution from laboratory contamination and are 'B' flagged.

Ambient Air. There were no detections of VOCs in the method blank associated with the ambient air samples.

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 WG2238249 observed concentrations outside of recovery limits for acrolein, tert-butylbenzene, carbon tetrachloride and 1,3,5-Trimethylbenzene. Detections of these compounds in MW-4, MW-5, MW-6 and MW-7, if present, are J-flagged as estimated values. The LCS associated with WG2238583 observed concentrations outside of recovery limits for 1,1,2-trichlorotrifluoroethane, but it was not detected in samples collected during the February 2024 sampling event. The LCS associated with WG2239891 observed concentrations outside of recovery limits for acrolein, dichlorodifluoromethane and vinyl chloride, but were not detected in samples collected during the February 2024 sampling event.

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. No matrix samples (MS/MSD) were included in this laboratory data set.

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.

3.5 Precision

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

3.5.1 Laboratory Control Samples

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

3.5.2 Matrix Spike Duplicate

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

4.0 Conclusion

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

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3/21/2024
Mr. Steve Misner
Apex Companies, LLC (formerly Ash Creek Associates)
15618 SW 72nd Ave

Tigard OR 97224

Project Name: Johnson Oil
Project #: 23005297
Workorder #: 2403303

Dear Mr. Steve Misner

The following report includes the data for the above referenced project for sample(s) received on 3/7/2024 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by Passive RAD 145 (TD) are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

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

Regards,

Monica Tran

Project Manager

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WORK ORDER #: 2403303

Work Order Summary

CLIENT:	Mr. Steve Misner Apex Companies, LLC 15618 SW 72nd Ave Tigard, OR 97224	**BILL TO:**	Accounts Payable Apex Companies, LLC 15618 SW 72nd Ave Tigard, OR 97224
PHONE:	503-924-4704	**P.O. #**	23005297
FAX:	503-924-4707	**PROJECT #**	23005297 Johnson Oil
DATE RECEIVED:	03/07/2024	**CONTACT:**	Monica Tran
DATE COMPLETED:	03/21/2024		

FRACTION #	NAME	TEST
01A	Amb-1	Passive RAD 145 (TD)
02A	Amb-3	Passive RAD 145 (TD)
03A	Amb-2	Passive RAD 145 (TD)
04A	Lab Blank	Passive RAD 145 (TD)
04B	Lab Blank	Passive RAD 145 (TD)
05A	CCV	Passive RAD 145 (TD)
05B	CCV	Passive RAD 145 (TD)
06A	LCS	Passive RAD 145 (TD)
06AA	LCSD	Passive RAD 145 (TD)
06B	LCS	Passive RAD 145 (TD)
06BB	LCSD	Passive RAD 145 (TD)

CERTIFIED BY: Heidi Hayes DATE: 03/21/24

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA ELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-017
Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

LABORATORY NARRATIVE
Passive TO-17 GC/MS
Apex Companies, LLC (formerly Ash Creek Associates)
Workorder# 2403303

Three Radiello 145 (VOC TD) samples were received on March 07, 2024. The laboratory performed the analysis via EPA Method TO-17 using GC/MS in the full scan mode.

The mass of each target compound adsorbed by the sampler was converted to units of concentration using the sample deployment time and the sampling rate for each VOC. If sampling rates were calculated by the lab or the manufacturer, the concentration result has been flagged as an estimated value.

The modification to EPA Method TO-17 method is based on the sample collection procedures. Method TO-17 relies on active sample collection rather than passive sample collection.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

To calculate ug/m3 concentrations in the Lab Blanks, a sampling duration of 10,082 minutes was applied. The assumed temperature used for the uptake rate is listed on the data page. If the field temperatures were provided, the rate was adjusted in the same manner as the field samples.

If validated uptake rates were not available, rates were estimated using the chemical's diffusion coefficient in air and the geometric constant of the sampler. Chemicals that are poorly retained by the sorbent over the sampling duration may exhibit a low bias. All concentrations calculated using estimated rates are qualified with a "C" flag.

Results reported for Toluene in sample Amb-2 may be biased low due to extreme saturation.

Definition of Data Qualifying Flags

Nine qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV
CN - See case narrative explanation.
C - Estimated concentration due to calculated uptake rate

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
PASSIVE RAD 145 (TD)

Client Sample ID: Amb-1

Lab ID#: 2403303-01A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Cyclohexane	10	0.036	200	0.72
Benzene	20	0.071	300	1.0
Toluene	50	0.16	2000 E	6.7 E
Tetrachloroethene	5.0	0.020	14	0.053
Ethyl Benzene	10	0.038	270	1.0
m,p-Xylene	20	0.074	1000 E	3.8 E
o-Xylene	10	0.040	360	1.4
Styrene	10	0.037	97	0.36

Client Sample ID: Amb-3

Lab ID#: 2403303-02A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Cyclohexane	10	0.036	24	0.086
Benzene	20	0.071	190	0.67
Toluene	50	0.16	190	0.64
Tetrachloroethene	5.0	0.020	11	0.044
Ethyl Benzene	10	0.039	30	0.12
m,p-Xylene	20	0.075	92	0.34
o-Xylene	10	0.040	36	0.14
Styrene	10	0.037	23	0.085

Client Sample ID: Amb-2

Lab ID#: 2403303-03A

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
Cyclohexane	10	0.036	190	0.67
Benzene	20	0.071	330	1.2
Toluene	50	0.16	>1900 S	>6.3 S
Tetrachloroethene	5.0	0.020	14	0.056
Ethyl Benzene	10	0.039	280	1.1
m,p-Xylene	20	0.075	1000 E	3.9 E
o-Xylene	10	0.040	370	1.5

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Summary of Detected Compounds
PASSIVE RAD 145 (TD)

Client Sample ID: Amb-2

Lab ID#: 2403303-03A

Styrene	10	0.037	140	0.52

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Client Sample ID: Amb-1

Lab ID#: 2403303-01A

PASSIVE RAD 145 (TD)

File Name:	**6031809**	**Date of Extraction: NA**	**Date of Collection: 3/4/24 10:02:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 3/18/24 05:30 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
1,1,1-Trichloroethane	10	0.050	Not Detected	Not Detected
Cyclohexane	10	0.036	200	0.72
Benzene	20	0.071	300	1.0
Trichloroethene	5.0	0.018	Not Detected	Not Detected
Toluene	50	0.16	2000 E	6.7 E
Tetrachloroethene	5.0	0.020	14	0.053
Ethyl Benzene	10	0.038	270	1.0
m,p-Xylene	20	0.074	1000 E	3.8 E
o-Xylene	10	0.040	360	1.4
Styrene	10	0.037	97	0.36

E = Exceeds instrument calibration range.

Temperature = 77.0F , duration time = 10082 minutes.

Container Type: Radiello 145 (VOC TD)

Surrogates	%Recovery	Method Limits
4-Bromofluorobenzene	111	70-130

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Client Sample ID: Amb-3

Lab ID#: 2403303-02A

PASSIVE RAD 145 (TD)

File Name:	**6031810**	**Date of Extraction: NA**	**Date of Collection: 3/4/24 9:56:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 3/18/24 06:06 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
1,1,1-Trichloroethane	10	0.050	Not Detected	Not Detected
Cyclohexane	10	0.036	24	0.086
Benzene	20	0.071	190	0.67
Trichloroethene	5.0	0.018	Not Detected	Not Detected
Toluene	50	0.16	190	0.64
Tetrachloroethene	5.0	0.020	11	0.044
Ethyl Benzene	10	0.039	30	0.12
m,p-Xylene	20	0.075	92	0.34
o-Xylene	10	0.040	36	0.14
Styrene	10	0.037	23	0.085

Temperature = 77.0F , duration time = 10065 minutes.

Container Type: Radiello 145 (VOC TD)

Surrogates	%Recovery	Method Limits
4-Bromofluorobenzene	110	70-130

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Client Sample ID: Amb-2
Lab ID#: 2403303-03A
PASSIVE RAD 145 (TD)

File Name:	**6032125**	**Date of Extraction: NA**	**Date of Collection: 3/4/24 10:00:00 AM**
Dil. Factor:	**1.00**		**Date of Analysis: 3/21/24 10:26 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
1,1,1-Trichloroethane	10	0.050	Not Detected	Not Detected
Cyclohexane	10	0.036	190	0.67
Benzene	20	0.071	330	1.2
Trichloroethene	5.0	0.018	Not Detected	Not Detected
Toluene	50	0.16	>1900 S	>6.3 S
Tetrachloroethene	5.0	0.020	14	0.056
Ethyl Benzene	10	0.039	280	1.1
m,p-Xylene	20	0.075	1000 E	3.9 E
o-Xylene	10	0.040	370	1.5
Styrene	10	0.037	140	0.52

S = Saturated peak; data reported as estimated.
E = Exceeds instrument calibration range.

Temperature = 77.0F , duration time = 10077 minutes.
Container Type: Radiello 145 (VOC TD)

Surrogates	%Recovery	Method Limits
4-Bromofluorobenzene	120	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2403303-04A

PASSIVE RAD 145 (TD)

File Name:	**6031808**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 3/18/24 03:43 PM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
1,1,1-Trichloroethane	10	0.050	Not Detected	Not Detected
Cyclohexane	10	0.036	Not Detected	Not Detected
Benzene	20	0.071	Not Detected	Not Detected
Trichloroethene	5.0	0.018	Not Detected	Not Detected
Toluene	50	0.16	Not Detected	Not Detected
Tetrachloroethene	5.0	0.020	Not Detected	Not Detected
Ethyl Benzene	10	0.038	Not Detected	Not Detected
m,p-Xylene	20	0.074	Not Detected	Not Detected
o-Xylene	10	0.040	Not Detected	Not Detected
Styrene	10	0.037	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10082 minutes.

Container Type: Radiello 145 (VOC TD)

Surrogates	%Recovery	Method Limits
4-Bromofluorobenzene	106	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2403303-04B

PASSIVE RAD 145 (TD)

File Name:	**6032124**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 3/21/24 09:09 AM**

Compound	Rpt. Limit (ng)	Rpt. Limit (ug/m3)	Amount (ng)	Amount (ug/m3)
1,1,1-Trichloroethane	10	0.050	Not Detected	Not Detected
Cyclohexane	10	0.036	Not Detected	Not Detected
Benzene	20	0.071	Not Detected	Not Detected
Trichloroethene	5.0	0.018	Not Detected	Not Detected
Toluene	50	0.16	Not Detected	Not Detected
Tetrachloroethene	5.0	0.020	Not Detected	Not Detected
Ethyl Benzene	10	0.038	Not Detected	Not Detected
m,p-Xylene	20	0.074	Not Detected	Not Detected
o-Xylene	10	0.040	Not Detected	Not Detected
Styrene	10	0.037	Not Detected	Not Detected

Temperature = 77.0F , duration time = 10082 minutes.

Container Type: Radiello 145 (VOC TD)

Surrogates	%Recovery	Method Limits
4-Bromofluorobenzene	108	70-130

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Client Sample ID: CCV
Lab ID#: 2403303-05A
PASSIVE RAD 145 (TD)

File Name:	**6031802**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 3/18/24 11:09 AM**

Compound	%Recovery
1,1,1-Trichloroethane	120
Cyclohexane	129
Benzene	114
Trichloroethene	94
Toluene	118
Tetrachloroethene	115
Ethyl Benzene	115
m,p-Xylene	117
o-Xylene	117
Styrene	116

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
4-Bromofluorobenzene	107	70-130

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Client Sample ID: CCV
Lab ID#: 2403303-05B
PASSIVE RAD 145 (TD)

File Name:	**6032121**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 3/21/24 07:25 AM**

Compound	%Recovery
1,1,1-Trichloroethane	118
Cyclohexane	128
Benzene	111
Trichloroethene	94
Toluene	120
Tetrachloroethene	118
Ethyl Benzene	120
m,p-Xylene	122
o-Xylene	123
Styrene	124

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
4-Bromofluorobenzene	109	70-130

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Client Sample ID: LCS
Lab ID#: 2403303-06A
PASSIVE RAD 145 (TD)

File Name:	**6031806**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 3/18/24 02:35 PM**

Compound	%Recovery	Method Limits
1,1,1-Trichloroethane	113	60-140
Cyclohexane	128	70-130
Benzene	108	70-130
Trichloroethene	92	70-130
Toluene	124	70-130
Tetrachloroethene	121	70-130
Ethyl Benzene	121	70-130
m,p-Xylene	120	70-130
o-Xylene	121	70-130
Styrene	122	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
4-Bromofluorobenzene	106	70-130

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Client Sample ID: LCSD
Lab ID#: 2403303-06AA
PASSIVE RAD 145 (TD)

File Name:	**6031807**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 3/18/24 03:08 PM**

Compound	%Recovery	Method Limits
1,1,1-Trichloroethane	119	60-140
Cyclohexane	130	70-130
Benzene	114	70-130
Trichloroethene	92	70-130
Toluene	123	70-130
Tetrachloroethene	121	70-130
Ethyl Benzene	121	70-130
m,p-Xylene	124	70-130
o-Xylene	121	70-130
Styrene	123	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
4-Bromofluorobenzene	107	70-130

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Client Sample ID: LCS
Lab ID#: 2403303-06B
PASSIVE RAD 145 (TD)

File Name:	**6032122**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 3/21/24 08:02 AM**

Compound	%Recovery	Method Limits
1,1,1-Trichloroethane	114	60-140
Cyclohexane	125	70-130
Benzene	103	70-130
Trichloroethene	87	70-130
Toluene	119	70-130
Tetrachloroethene	115	70-130
Ethyl Benzene	119	70-130
m,p-Xylene	120	70-130
o-Xylene	122	70-130
Styrene	123	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
4-Bromofluorobenzene	108	70-130

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Client Sample ID: LCSD
Lab ID#: 2403303-06BB
PASSIVE RAD 145 (TD)

File Name:	**6032123**	**Date of Extraction: NA**	**Date of Collection: NA**
Dil. Factor:	**1.00**		**Date of Analysis: 3/21/24 08:35 AM**

Compound	%Recovery	Method Limits
1,1,1-Trichloroethane	115	60-140
Cyclohexane	126	70-130
Benzene	113	70-130
Trichloroethene	90	70-130
Toluene	121	70-130
Tetrachloroethene	118	70-130
Ethyl Benzene	120	70-130
m,p-Xylene	124	70-130
o-Xylene	122	70-130
Styrene	122	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
4-Bromofluorobenzene	109	70-130

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Passive Sorbent Chain of Custody

Page ____ of ____

Case Seal #: _____

WO# 2403303

Company: Apex Companies LLC Project #: 23005297 P.O. #: _____

Project Manager: Carmen Owens Project Name: Johnson Oil

Contact phone/email: _____ Collected by: Chris Weber

Lab I.D.	Sample Identification	Sampler ID	Date of Deployment (mm/dd/yy)	Time of Deployment (hr:min)	Date of Retrieval (mm/dd/yy)	Time of Retrieval (hr:min)	Sample Matrix (check one): Indoor/Outdoor Air	Soil Gas	Workplace Monitoring	Other ( )	Analysis Requested	Sample Comments:
01A	Amb - 1	CF807	02/26/24	10:00	03/04/24	10:02	X				VOC TD	
02A	Amb - 3	B#567	02/26/24	10:11	03/04/24	9:56	X				VOC TD	
03A	Amb - 2	CF806	02/26/24	10:03	03/04/24	10:00	X				VOC TD	

Reporting Units (circle): ppbv, µg/m3, ppmv, mg/m3, µg, ng

Turn Around Time: ☐ Normal ☐ Rush _____ Specify

Relinquished by: (signature)	Date	Time	Received by: (signature)	Date	Time	Notes to Lab:
Chris Weber	3/4/24	1600	[signature]	3/7/24	0959	
Relinquished by: (signature)	Date	Time	Received by: (signature)	Date	Time	

Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples.

Lab Use Only

Shipper Name: Fed Ex / Air Bill #:	Custody Seals Intact? Yes No None (circle) / Temperature (°C): NA	Sample Condition Upon Receipt: (circle) Good SDR

ANALYTICAL REPORT

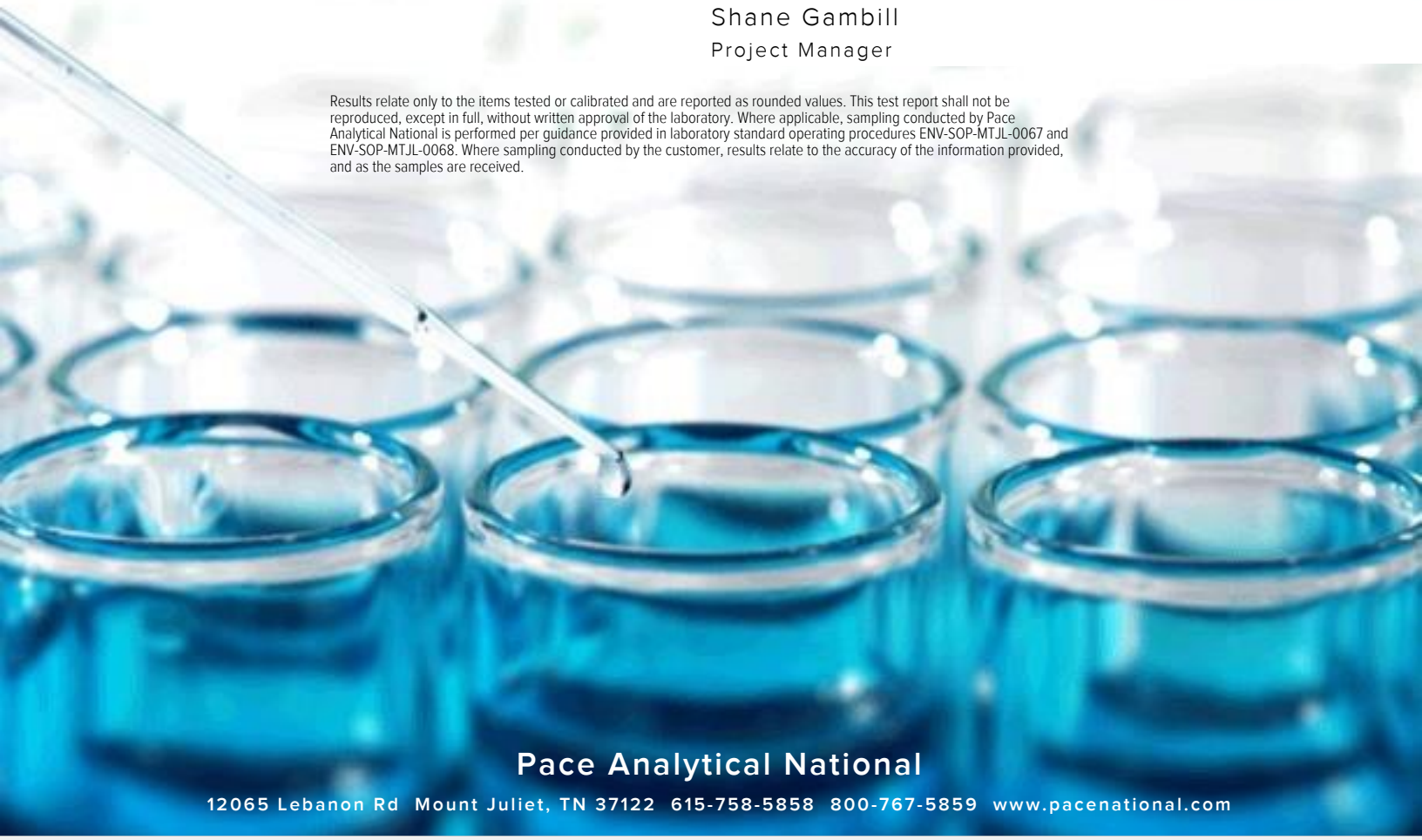
March 05, 2024

Oregon Dept. of Env. Quality - ODEQ

Sample Delivery Group:	L1709927
Samples Received:	02/28/2024
Project Number:	23005297
Description:	Johnson Oil
Site:	JOHNSON OIL
Report To:	Kara Master

Entire Report Reviewed By:

Shane Gambill
Project Manager



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

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SAMPLE SUMMARY

SG-7 L1709927-01 Air

Collected by: Christine Weer
Collected date/time: 02/26/24 09:41
Received date/time: 02/28/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2237738	1	03/01/24 14:05	03/01/24 14:05	MNP	Mt. Juliet, TN

SG-8 L1709927-02 Air

Collected by: Christine Weer
Collected date/time: 02/26/24 09:54
Received date/time: 02/28/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2237738	1	03/01/24 14:51	03/01/24 14:51	MNP	Mt. Juliet, TN

SG-10 L1709927-03 Air

Collected by: Christine Weer
Collected date/time: 02/26/24 11:03
Received date/time: 02/28/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2237738	1	03/01/24 15:37	03/01/24 15:37	MNP	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG2238619	100	03/03/24 22:53	03/03/24 22:53	DBB	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG2239118	100	03/04/24 15:28	03/04/24 15:28	JAP	Mt. Juliet, TN

CASE NARRATIVE

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

Shane Gambill
Project Manager

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	13.5	32.1		1	WG2237738
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2237738
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2237738
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2237738
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2237738
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2237738
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2237738
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2237738
Carbon disulfide	75-15-0	76.10	0.200	0.622	1.19	3.70		1	WG2237738
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2237738
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2237738
Chloroethane	75-00-3	64.50	0.200	0.528	0.383	1.01		1	WG2237738
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2237738
Chloromethane	74-87-3	50.50	0.200	0.413	1.81	3.74		1	WG2237738
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2237738
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2237738
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2237738
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2237738
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2237738
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2237738
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2237738
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2237738
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2237738
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2237738
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2237738
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2237738
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2237738
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2237738
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2237738
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2237738
Ethanol	64-17-5	46.10	2.50	4.71	41.7	78.6		1	WG2237738
Ethylbenzene	100-41-4	106	0.200	0.867	0.238	1.03		1	WG2237738
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.939	4.61		1	WG2237738
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.286	1.61		1	WG2237738
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.235	1.16		1	WG2237738
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2237738
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2237738
Heptane	142-82-5	100	0.200	0.818	0.203	0.830		1	WG2237738
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2237738
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2237738
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2237738
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG2237738
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2237738
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	1.35	3.98		1	WG2237738
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2237738
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2237738
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2237738
Naphthalene	91-20-3	128	0.630	3.30	13.6	71.2		1	WG2237738
2-Propanol	67-63-0	60.10	1.25	3.07	7.03	17.3		1	WG2237738
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2237738
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2237738
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2237738
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2237738
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.271	1.84		1	WG2237738
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2237738
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2237738

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2237738
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2237738
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2237738
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2237738
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	10.5	51.5		1	WG2237738
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	3.93	19.3		1	WG2237738
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG2237738
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2237738
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2237738
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2237738
m&p-Xylene	179601-23-1	106	0.400	1.73	1.40	6.07		1	WG2237738
o-Xylene	95-47-6	106	0.200	0.867	1.09	4.73		1	WG2237738
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	234	967		1	WG2237738
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*103*				WG2237738

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	1.37	3.26		1	WG2237738
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2237738
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG2237738
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2237738
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2237738
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2237738
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2237738
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2237738
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG2237738
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2237738
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2237738
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2237738
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2237738
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG2237738
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2237738
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG2237738
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2237738
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2237738
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2237738
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2237738
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2237738
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2237738
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2237738
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2237738
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2237738
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2237738
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2237738
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2237738
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2237738
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2237738
Ethanol	64-17-5	46.10	2.50	4.71	2.64	4.98	B	1	WG2237738
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2237738
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2237738
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.260	1.46		1	WG2237738
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.274	1.36		1	WG2237738
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2237738
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2237738
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG2237738
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2237738
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2237738
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2237738
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG2237738
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2237738
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2237738
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2237738
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2237738
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2237738
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2237738
2-Propanol	67-63-0	60.10	1.25	3.07	1.31	3.22		1	WG2237738
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2237738
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2237738
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2237738
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2237738
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG2237738
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2237738
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2237738

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2237738
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2237738
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2237738
Trichloroethylene	79-01-6	131	0.200	1.07	0.333	1.78		1	WG2237738
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG2237738
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2237738
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG2237738
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2237738
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2237738
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2237738
m&p-Xylene	179601-23-1	106	0.400	1.73	ND	ND		1	WG2237738
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2237738
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2237738
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*103*				WG2237738

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	3.82	9.08		1	WG2237738
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2237738
Benzene	71-43-2	78.10	20.0	63.9	ND	ND		100	WG2238619
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2237738
Bromodichloromethane	75-27-4	164	20.0	134	ND	ND		100	WG2238619
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2237738
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2237738
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2237738
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG2237738
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2237738
Chlorobenzene	108-90-7	113	20.0	92.4	ND	ND		100	WG2238619
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2237738
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2237738
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG2237738
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2237738
Cyclohexane	110-82-7	84.20	20.0	68.9	446	1540		100	WG2238619
Dibromochloromethane	124-48-1	208	20.0	170	ND	ND		100	WG2238619
1,2-Dibromoethane	106-93-4	188	20.0	154	ND	ND		100	WG2238619
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2237738
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2237738
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2237738
1,2-Dichloroethane	107-06-2	99	20.0	81.0	ND	ND		100	WG2238619
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2237738
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2237738
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2237738
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2237738
1,2-Dichloropropane	78-87-5	113	20.0	92.4	ND	ND		100	WG2238619
cis-1,3-Dichloropropene	10061-01-5	111	20.0	90.8	ND	ND		100	WG2238619
trans-1,3-Dichloropropene	10061-02-6	111	20.0	90.8	ND	ND		100	WG2238619
1,4-Dioxane	123-91-1	88.10	63.0	227	ND	ND		100	WG2238619
Ethanol	64-17-5	46.10	2.50	4.71	4.21	7.94		1	WG2237738
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2237738
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2237738
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.214	1.20		1	WG2237738
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.286	1.41		1	WG2237738
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2237738
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2237738
Heptane	142-82-5	100	20.0	81.8	510	2090		100	WG2238619
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2237738
n-Hexane	110-54-3	86.20	63.0	222	634	2240		100	WG2238619
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2237738
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG2237738
Methyl Butyl Ketone	591-78-6	100	125	511	ND	ND		100	WG2239118
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2237738
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	125	512	ND	ND		100	WG2238619
Methyl methacrylate	80-62-6	100.12	20.0	81.9	ND	ND		100	WG2238619
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2237738
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2237738
2-Propanol	67-63-0	60.10	1.25	3.07	2.11	5.19		1	WG2237738
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2237738
n-Propylbenzene	103-65-1	120	0.200	0.982	ND	ND		1	WG2237738
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2237738
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2237738
Tetrachloroethylene	127-18-4	166	20.0	136	ND	ND		100	WG2238619
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2237738
Toluene	108-88-3	92.10	50.0	188	ND	ND		100	WG2238619

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2237738
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2237738
1,1,2-Trichloroethane	79-00-5	133	20.0	109	ND	ND		100	WG2238619
Trichloroethylene	79-01-6	131	20.0	107	ND	ND		100	WG2238619
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG2237738
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2237738
2,2,4-Trimethylpentane	540-84-1	114.22	20.0	93.4	474	2210		100	WG2238619
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2237738
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2237738
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2237738
m&p-Xylene	179601-23-1	106	0.400	1.73	ND	ND		1	WG2237738
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG2237738
TPH (GC/MS) Low Fraction	8006-61-9	101	20000	82600	ND	ND		100	WG2238619
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*105*				WG2237738
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*87.6*				WG2238619
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*98.9*				WG2239118

Method Blank (MB)

(MB) R4040742-3 03/01/24 10:53

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.584	1.25
Allyl chloride	U		0.114	0.200
Benzene	U		0.0715	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0702	0.200
Bromoform	U		0.0732	0.600
Bromomethane	U		0.0982	0.200
1,3-Butadiene	U		0.104	2.00
Carbon disulfide	U		0.102	0.200
Carbon tetrachloride	U		0.0732	0.200
Chlorobenzene	U		0.0832	0.200
Chloroethane	U		0.0996	0.200
Chloroform	U		0.0717	0.200
Chloromethane	U		0.103	0.200
2-Chlorotoluene	U		0.0828	0.200
Cyclohexane	U		0.0753	0.200
Dibromochloromethane	U		0.0727	0.200
1,2-Dibromoethane	U		0.0721	0.200
1,2-Dichlorobenzene	U		0.128	0.200
1,3-Dichlorobenzene	U		0.182	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0700	0.200
1,1-Dichloroethane	U		0.0723	0.200
1,1-Dichloroethene	U		0.0762	0.200
cis-1,2-Dichloroethene	U		0.0784	0.200
trans-1,2-Dichloroethene	U		0.0673	0.200
1,2-Dichloropropane	U		0.0760	0.200
cis-1,3-Dichloropropene	U		0.0689	0.200
trans-1,3-Dichloropropene	U		0.0728	0.200
1,4-Dioxane	U		0.0833	0.630
Ethanol	0.280	J	0.265	2.50
Ethylbenzene	U		0.0835	0.200
4-Ethyltoluene	U		0.0783	0.200
Trichlorofluoromethane	U		0.0819	0.200
Dichlorodifluoromethane	U		0.137	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0793	0.200
1,2-Dichlorotetrafluoroethane	U		0.0890	0.200
Heptane	U		0.104	0.200
Hexachloro-1,3-butadiene	U		0.105	0.630
n-Hexane	U		0.206	0.630

Method Blank (MB)

(MB) R4040742-3 03/01/24 10:53

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Isopropylbenzene	U		0.0777	0.200
Methylene Chloride	U		0.0979	0.200
Methyl Butyl Ketone	U		0.133	1.25
2-Butanone (MEK)	U		0.0814	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0765	1.25
Methyl methacrylate	U		0.0876	0.200
MTBE	U		0.0647	0.200
Naphthalene	U		0.350	0.630
2-Propanol	U		0.264	1.25
Propene	U		0.0932	1.25
n-Propylbenzene	U		0.0773	0.200
Styrene	U		0.0788	0.200
1,1,2,2-Tetrachloroethane	U		0.0743	0.200
Tetrachloroethylene	U		0.0814	0.200
Tetrahydrofuran	U		0.0734	0.200
Toluene	U		0.0870	0.500
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0736	0.200
1,1,2-Trichloroethane	U		0.0775	0.200
Trichloroethylene	U		0.0680	0.200
1,2,4-Trimethylbenzene	U		0.0764	0.200
1,3,5-Trimethylbenzene	U		0.0779	0.200
2,2,4-Trimethylpentane	U		0.133	0.200
Vinyl chloride	U		0.0949	0.200
Vinyl Bromide	U		0.0852	0.200
Vinyl acetate	U		0.116	0.630
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*98.9*			*60.0-140*

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

(LCS) R4040742-1 03/01/24 09:18 • (LCSD) R4040742-2 03/01/24 10:07

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	3.75	4.19	4.38	112	117	70.0-130			4.43	25
Allyl chloride	3.75	4.22	4.08	113	109	70.0-130			3.37	25
Benzene	3.75	4.23	4.30	113	115	70.0-130			1.64	25

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

(LCS) R4040742-1 03/01/24 09:18 • (LCSD) R4040742-2 03/01/24 10:07

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzyl Chloride	3.75	4.07	4.13	109	110	70.0-152			1.46	25
Bromodichloromethane	3.75	4.26	4.18	114	111	70.0-130			1.90	25
Bromoform	3.75	4.05	4.05	108	108	70.0-130			0.000	25
Bromomethane	3.75	3.94	4.08	105	109	70.0-130			3.49	25
1,3-Butadiene	3.75	3.95	4.11	105	110	70.0-130			3.97	25
Carbon disulfide	3.75	4.08	4.07	109	109	70.0-130			0.245	25
Carbon tetrachloride	3.75	4.16	4.04	111	108	70.0-130			2.93	25
Chlorobenzene	3.75	4.24	4.25	113	113	70.0-130			0.236	25
Chloroethane	3.75	4.37	4.08	117	109	70.0-130			6.86	25
Chloroform	3.75	4.26	4.13	114	110	70.0-130			3.10	25
Chloromethane	3.75	4.17	4.12	111	110	70.0-130			1.21	25
2-Chlorotoluene	3.75	4.10	4.04	109	108	70.0-130			1.47	25
Cyclohexane	3.75	4.33	4.25	115	113	70.0-130			1.86	25
Dibromochloromethane	3.75	4.21	4.22	112	113	70.0-130			0.237	25
1,2-Dibromoethane	3.75	4.31	4.19	115	112	70.0-130			2.82	25
1,2-Dichlorobenzene	3.75	4.12	3.96	110	106	70.0-130			3.96	25
1,3-Dichlorobenzene	3.75	4.19	4.05	112	108	70.0-130			3.40	25
1,4-Dichlorobenzene	3.75	4.15	4.10	111	109	70.0-130			1.21	25
1,2-Dichloroethane	3.75	4.25	4.09	113	109	70.0-130			3.84	25
1,1-Dichloroethane	3.75	4.19	4.05	112	108	70.0-130			3.40	25
1,1-Dichloroethene	3.75	4.24	4.08	113	109	70.0-130			3.85	25
cis-1,2-Dichloroethene	3.75	4.23	4.17	113	111	70.0-130			1.43	25
trans-1,2-Dichloroethene	3.75	4.33	4.20	115	112	70.0-130			3.05	25
1,2-Dichloropropane	3.75	4.15	4.20	111	112	70.0-130			1.20	25
cis-1,3-Dichloropropene	3.75	4.26	4.27	114	114	70.0-130			0.234	25
trans-1,3-Dichloropropene	3.75	4.22	4.29	113	114	70.0-130			1.65	25
1,4-Dioxane	3.75	4.21	4.34	112	116	70.0-140			3.04	25
Ethanol	3.75	3.68	3.73	98.1	99.5	55.0-148			1.35	25
Ethylbenzene	3.75	4.19	4.20	112	112	70.0-130			0.238	25
4-Ethyltoluene	3.75	4.20	4.15	112	111	70.0-130			1.20	25
Trichlorofluoromethane	3.75	4.05	3.95	108	105	70.0-130			2.50	25
Dichlorodifluoromethane	3.75	3.64	3.69	97.1	98.4	64.0-139			1.36	25
1,1,2-Trichlorotrifluoroethane	3.75	4.27	4.10	114	109	70.0-130			4.06	25
1,2-Dichlorotetrafluoroethane	3.75	4.33	4.19	115	112	70.0-130			3.29	25
Heptane	3.75	4.34	4.38	116	117	70.0-130			0.917	25
Hexachloro-1,3-butadiene	3.75	3.95	3.94	105	105	70.0-151			0.253	25
n-Hexane	3.75	4.41	4.34	118	116	70.0-130			1.60	25
Isopropylbenzene	3.75	4.30	4.13	115	110	70.0-130			4.03	25
Methylene Chloride	3.75	4.11	3.99	110	106	70.0-130			2.96	25
Methyl Butyl Ketone	3.75	4.43	4.45	118	119	70.0-149			0.450	25

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

(LCS) R4040742-1 03/01/24 09:18 • (LCSD) R4040742-2 03/01/24 10:07

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2-Butanone (MEK)	3.75	4.32	4.32	115	115	70.0-130			0.000	25
4-Methyl-2-pentanone (MIBK)	3.75	4.30	4.36	115	116	70.0-139			1.39	25
Methyl methacrylate	3.75	4.23	4.26	113	114	70.0-130			0.707	25
MTBE	3.75	4.37	4.24	117	113	70.0-130			3.02	25
Naphthalene	3.75	4.23	4.17	113	111	70.0-159			1.43	25
2-Propanol	3.75	4.22	4.16	113	111	70.0-139			1.43	25
Propene	3.75	4.13	4.09	110	109	64.0-144			0.973	25
n-Propylbenzene	3.75	4.16	4.11	111	110	70.0-130			1.21	25
Styrene	3.75	4.19	4.28	112	114	70.0-130			2.13	25
1,1,2,2-Tetrachloroethane	3.75	4.14	4.12	110	110	70.0-130			0.484	25
Tetrachloroethylene	3.75	4.14	4.20	110	112	70.0-130			1.44	25
Tetrahydrofuran	3.75	4.32	4.24	115	113	70.0-137			1.87	25
Toluene	3.75	4.21	4.27	112	114	70.0-130			1.42	25
1,2,4-Trichlorobenzene	3.75	3.98	3.99	106	106	70.0-160			0.251	25
1,1,1-Trichloroethane	3.75	4.19	4.05	112	108	70.0-130			3.40	25
1,1,2-Trichloroethane	3.75	4.26	4.32	114	115	70.0-130			1.40	25
Trichloroethylene	3.75	4.20	4.15	112	111	70.0-130			1.20	25
1,2,4-Trimethylbenzene	3.75	4.23	4.19	113	112	70.0-130			0.950	25
1,3,5-Trimethylbenzene	3.75	4.24	4.12	113	110	70.0-130			2.87	25
2,2,4-Trimethylpentane	3.75	4.30	4.28	115	114	70.0-130			0.466	25
Vinyl chloride	3.75	4.18	4.02	111	107	70.0-130			3.90	25
Vinyl Bromide	3.75	4.01	3.87	107	103	70.0-130			3.55	25
Vinyl acetate	3.75	3.94	4.12	105	110	70.0-130			4.47	25
m&p-Xylene	7.50	8.48	8.57	113	114	70.0-130			1.06	25
o-Xylene	3.75	4.18	4.21	111	112	70.0-130			0.715	25
TPH (GC/MS) Low Fraction	188	189	186	101	98.9	70.0-130			1.60	25
(S) 1,4-Bromofluorobenzene				*98.5*	*96.7*	*60.0-140*				

Method Blank (MB)

(MB) R4040976-3 03/03/24 12:39

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Benzene	U		0.0715	0.200
Bromodichloromethane	U		0.0702	0.200
Chlorobenzene	U		0.0832	0.200
Cyclohexane	U		0.0753	0.200
Dibromochloromethane	U		0.0727	0.200
1,2-Dibromoethane	U		0.0721	0.200
1,2-Dichloroethane	U		0.0700	0.200
1,2-Dichloropropane	U		0.0760	0.200
cis-1,3-Dichloropropene	U		0.0689	0.200
trans-1,3-Dichloropropene	U		0.0728	0.200
1,4-Dioxane	U		0.0833	0.630
Heptane	U		0.104	0.200
n-Hexane	U		0.206	0.630
4-Methyl-2-pentanone (MIBK)	U		0.0765	1.25
Methyl methacrylate	U		0.0876	0.200
Tetrachloroethylene	0.107	J	0.0814	0.200
Toluene	U		0.0870	0.500
1,1,2-Trichloroethane	U		0.0775	0.200
Trichloroethylene	U		0.0680	0.200
2,2,4-Trimethylpentane	U		0.133	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*87.2*			*60.0-140*

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

(LCS) R4040976-1 03/03/24 08:15 • (LCSD) R4040976-2 03/03/24 08:47

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	3.75	3.92	3.84	105	102	70.0-130			2.06	25
Bromodichloromethane	3.75	3.91	3.83	104	102	70.0-130			2.07	25
Chlorobenzene	3.75	3.94	3.73	105	99.5	70.0-130			5.48	25
Cyclohexane	3.75	3.95	3.87	105	103	70.0-130			2.05	25
Dibromochloromethane	3.75	4.12	3.99	110	106	70.0-130			3.21	25
1,2-Dibromoethane	3.75	3.96	3.84	106	102	70.0-130			3.08	25
1,2-Dichloroethane	3.75	3.73	3.84	99.5	102	70.0-130			2.91	25
1,2-Dichloropropane	3.75	3.93	3.78	105	101	70.0-130			3.89	25
cis-1,3-Dichloropropene	3.75	4.28	4.20	114	112	70.0-130			1.89	25
trans-1,3-Dichloropropene	3.75	4.02	3.63	107	96.8	70.0-130			10.2	25
1,4-Dioxane	3.75	3.26	3.21	86.9	85.6	70.0-140			1.55	25

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

(LCS) R4040976-1 03/03/24 08:15 • (LCSD) R4040976-2 03/03/24 08:47

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Heptane	3.75	4.05	3.90	108	104	70.0-130			3.77	25
n-Hexane	3.75	3.80	3.77	101	101	70.0-130			0.793	25
4-Methyl-2-pentanone (MIBK)	3.75	3.76	3.82	100	102	70.0-139			1.58	25
Methyl methacrylate	3.75	3.92	3.83	105	102	70.0-130			2.32	25
Tetrachloroethylene	3.75	4.18	3.88	111	103	70.0-130			7.44	25
Toluene	3.75	3.99	3.91	106	104	70.0-130			2.03	25
1,1,2-Trichloroethane	3.75	4.08	3.95	109	105	70.0-130			3.24	25
Trichloroethylene	3.75	3.99	3.77	106	101	70.0-130			5.67	25
2,2,4-Trimethylpentane	3.75	3.98	3.94	106	105	70.0-130			1.01	25
TPH (GC/MS) Low Fraction	188	180	176	95.7	93.6	70.0-130			2.25	25
(S) 1,4-Bromofluorobenzene				*94.0*	*97.6*	*60.0-140*				

Method Blank (MB)

(MB) R4041274-3 03/04/24 11:21

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methyl Butyl Ketone	U		0.133	1.25
(S) 1,4-Bromofluorobenzene	*100*			*60.0-140*

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

(LCS) R4041274-1 03/04/24 09:46 • (LCSD) R4041274-2 03/04/24 10:35

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Methyl Butyl Ketone	3.75	4.57	4.58	122	122	70.0-149			0.219	25
(S) 1,4-Bromofluorobenzene				*99.2*	*100*	*60.0-140*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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

Pace® Location Requested (City/State):

Air CHAIN-OF-CUSTODY Analytical Request Document

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

LAB USE ONLY- Affix Workorder/Login Label Here

L1709927

J164

Scan QR code for instructions

Company Name: Apex Companies, LLC - Portland, OR	Contact/Report To: Kara Master
Street Address: 15618 SW 72nd Ave.	Phone #: 503-924-4704
	E-Mail: Kara.E.MASTER@deq.oregon.gov
City, State Zip: Tigard, OR 97224	Cc E-Mail: steve.misner@apexcos.com
Customer Project #: 23005297	Invoice to: Apex Companies, LLC
Project Name: Johnson Oil	Invoice E-Mail: steve.misner@apexcos.com
Site Collection Info/Facility ID (as applicable): Johnson Oil	Purchase Order # (if applicable):
	Quote #:
Time Zone Collected: [ ] AK [X] PT [ ] MT [ ] CT [ ] ET	State origin of sample(s): Oregon

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

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

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

Date Results Requested:

Permit # as applicable:

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

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

Customer Sample ID	Matrix *	Summa Canister ID	Flow Controller ID	Begin Collection Date	Begin Collection Time	End Collection Date	End Collection Time	Canister Pressure / Vacuum: Start Pressure / Vacuum (in Hg)	Canister Pressure / Vacuum: End Pressure / Vacuum (in Hg)	PUF / FILTER: Duration (minutes)	PUF / FILTER: Flow Rate m³/min or L/min	PUF / FILTER: Total Volume Sampled m³ or L	Analyses Requested: TO-15 Summa	Lab Use Only	Sample Comment
SG-7	SV	020535	022434	2/26	9:41	2/26	9:41	-28.0	-2.0	.10		1L	X	-01	Less than 2 secs. May have faulty conta
SG-8	SV	023584	022468	2/26	9:54	2/26	9:54	-8.0	0	.10		1L	X	-02	Less than 2 secs.
SG-10	SV	012789	021738	2/26	1103	2/26	1103	-22.0	-1.0	:10		1L	X	-03	

Sample Receipt Checklist

COC Seal Present/Intact: __Y__N
COC Signed/Accurate: __Y__N
Bottles arrive intact: __Y__N
Correct bottles used: __Y__N
Airs Size: 3 1L ____6L ____1.4L
Tage Color: G__ M__ P__ B__
Tubing ___ Shunt ___

T/P#: _____

Customer Remarks / Special Conditions / Possible Hazards:

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

Additional Instructions from Pace®:

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

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Chris Deer, Apex Companies, LLC	2/26/24; 1800			
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: In-Person Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature) Jamcem	Date/Time: 2-28-24 0900	FedEx UPS Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page:____ of:____

Proj. Manager:
AcctNum / Client ID:
Table #:
Profile / Template:
Prelog / Bottle Ord. ID: P1026203

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

ANALYTICAL REPORT

March 07, 2024

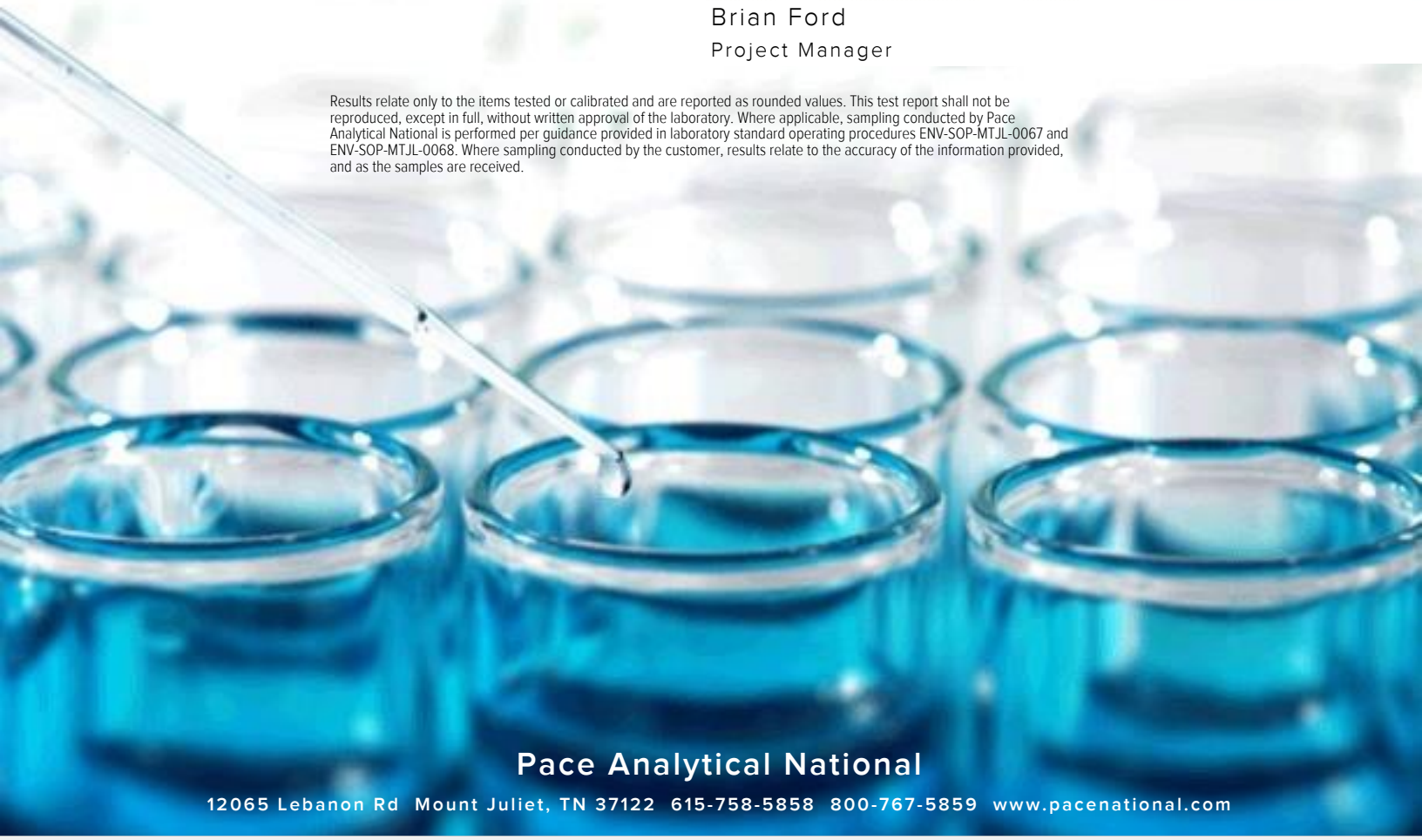
Oregon Dept. of Env. Quality - ODEQ

Sample Delivery Group:	L1710528
Samples Received:	02/29/2024
Project Number:	23005297
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 www.pacenational.com

TABLE OF CONTENTS

MW-4 L1710528-01 GW

Collected by	Collected date/time	Received date/time
	02/27/24 13:15	02/29/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2239062	1	03/04/24 18:06	03/04/24 18:06	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2238249	20	03/02/24 18:30	03/02/24 18:30	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2240214	20	03/06/24 04:41	03/06/24 04:41	JCP	Mt. Juliet, TN

MW-5 L1710528-02 GW

Collected by	Collected date/time	Received date/time
	02/27/24 10:33	02/29/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2239062	1	03/04/24 18:30	03/04/24 18:30	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2238249	10	03/02/24 18:49	03/02/24 18:49	JHH	Mt. Juliet, TN

MW-6 L1710528-03 GW

Collected by	Collected date/time	Received date/time
	02/27/24 11:12	02/29/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2239062	1	03/04/24 18:54	03/04/24 18:54	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2238249	10	03/02/24 19:08	03/02/24 19:08	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2240214	10	03/06/24 05:05	03/06/24 05:05	JCP	Mt. Juliet, TN

MW-7 L1710528-04 GW

Collected by	Collected date/time	Received date/time
	02/27/24 11:55	02/29/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2239062	1	03/04/24 19:17	03/04/24 19:17	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2238249	1	03/02/24 18:11	03/02/24 18:11	JHH	Mt. Juliet, TN

MW-8 L1710528-05 GW

Collected by	Collected date/time	Received date/time
	02/26/24 13:14	02/29/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2239062	1	03/04/24 19:41	03/04/24 19:41	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2238583	1	03/03/24 10:21	03/03/24 10:21	JCP	Mt. Juliet, TN

MW-9 L1710528-06 GW

Collected by	Collected date/time	Received date/time
	02/26/24 14:08	02/29/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2239062	1	03/04/24 20:04	03/04/24 20:04	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2238583	1	03/03/24 10:43	03/03/24 10:43	JCP	Mt. Juliet, TN

MW-12 L1710528-07 GW

Collected by	Collected date/time	Received date/time
	02/27/24 13:55	02/29/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2241038	100	03/06/24 20:41	03/06/24 20:41	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2238583	100	03/03/24 15:45	03/03/24 15:45	JCP	Mt. Juliet, TN

MW-13 L1710528-08 GW

Collected by	Collected date/time	Received date/time
	02/26/24 16:04	02/29/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2238768	1	03/03/24 21:54	03/03/24 21:54	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2238583	1	03/03/24 11:04	03/03/24 11:04	JCP	Mt. Juliet, TN

MW-14 L1710528-09 GW

Collected by	Collected date/time	Received date/time
	02/27/24 09:47	02/29/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2238768	1	03/03/24 22:17	03/03/24 22:17	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2239891	5	03/06/24 00:29	03/06/24 00:29	JCP	Mt. Juliet, TN

MW-15 L1710528-10 GW

Collected by	Collected date/time	Received date/time
	02/26/24 15:03	02/29/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2238768	1	03/03/24 22:40	03/03/24 22:40	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2238583	1	03/03/24 11:26	03/03/24 11:26	JCP	Mt. Juliet, TN

DUP L1710528-11 GW

Collected by	Collected date/time	Received date/time
	02/27/24 09:55	02/29/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2238768	1	03/03/24 23:03	03/03/24 23:03	CDD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2238583	1	03/03/24 11:48	03/03/24 11:48	JCP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2239891	20	03/06/24 00:49	03/06/24 00:49	JCP	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	3120		31.6	100	1	03/04/2024 18:06	WG2239062
(S) a,a,a-Trifluorotoluene(FID)	*94.4*			*78.0-120*		*03/04/2024 18:06*	WG2239062

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	03/02/2024 18:30	WG2238249
Acrolein	U	J4	50.8	1000	20	03/02/2024 18:30	WG2238249
Acrylonitrile	U		13.4	200	20	03/02/2024 18:30	WG2238249
Benzene	94.2		1.88	20.0	20	03/02/2024 18:30	WG2238249
Bromobenzene	U		2.36	20.0	20	03/02/2024 18:30	WG2238249
Bromodichloromethane	U		2.72	20.0	20	03/02/2024 18:30	WG2238249
Bromoform	U		2.58	20.0	20	03/02/2024 18:30	WG2238249
Bromomethane	U		12.1	100	20	03/02/2024 18:30	WG2238249
n-Butylbenzene	22.7		3.14	20.0	20	03/02/2024 18:30	WG2238249
sec-Butylbenzene	20.9	C5	2.50	20.0	20	03/02/2024 18:30	WG2238249
tert-Butylbenzene	U	J4	2.54	20.0	20	03/02/2024 18:30	WG2238249
Carbon disulfide	U		1.92	20.0	20	03/02/2024 18:30	WG2238249
Carbon tetrachloride	U	J4	2.56	20.0	20	03/02/2024 18:30	WG2238249
Chlorobenzene	U		2.32	20.0	20	03/02/2024 18:30	WG2238249
Chlorodibromomethane	U		2.80	20.0	20	03/02/2024 18:30	WG2238249
Chloroethane	U		3.84	100	20	03/02/2024 18:30	WG2238249
Chloroform	U		2.22	100	20	03/02/2024 18:30	WG2238249
Chloromethane	U		19.2	50.0	20	03/02/2024 18:30	WG2238249
2-Chlorotoluene	U		2.12	20.0	20	03/02/2024 18:30	WG2238249
4-Chlorotoluene	U		2.28	20.0	20	03/02/2024 18:30	WG2238249
1,2-Dibromo-3-Chloropropane	U		5.52	100	20	03/02/2024 18:30	WG2238249
1,2-Dibromoethane	U		2.52	20.0	20	03/02/2024 18:30	WG2238249
Dibromomethane	U		2.44	20.0	20	03/02/2024 18:30	WG2238249
1,2-Dichlorobenzene	U		2.14	20.0	20	03/02/2024 18:30	WG2238249
1,3-Dichlorobenzene	U		2.20	20.0	20	03/02/2024 18:30	WG2238249
1,4-Dichlorobenzene	U		2.40	20.0	20	03/02/2024 18:30	WG2238249
Dichlorodifluoromethane	U		7.48	100	20	03/02/2024 18:30	WG2238249
1,1-Dichloroethane	U		2.00	20.0	20	03/02/2024 18:30	WG2238249
1,2-Dichloroethane	U		1.64	20.0	20	03/02/2024 18:30	WG2238249
1,1-Dichloroethene	U		3.76	20.0	20	03/02/2024 18:30	WG2238249
cis-1,2-Dichloroethene	U		2.52	20.0	20	03/06/2024 04:41	WG2240214
trans-1,2-Dichloroethene	U		2.98	20.0	20	03/02/2024 18:30	WG2238249
1,2-Dichloropropane	U		2.98	20.0	20	03/02/2024 18:30	WG2238249
1,1-Dichloropropene	U		2.84	20.0	20	03/02/2024 18:30	WG2238249
1,3-Dichloropropane	U		2.20	20.0	20	03/02/2024 18:30	WG2238249
cis-1,3-Dichloropropene	U		2.22	20.0	20	03/02/2024 18:30	WG2238249
trans-1,3-Dichloropropene	U		2.36	20.0	20	03/02/2024 18:30	WG2238249
2,2-Dichloropropane	U		3.22	20.0	20	03/02/2024 18:30	WG2238249
Di-isopropyl ether	U		2.10	20.0	20	03/02/2024 18:30	WG2238249
Ethylbenzene	104		2.74	20.0	20	03/02/2024 18:30	WG2238249
Hexachloro-1,3-butadiene	U		6.74	20.0	20	03/02/2024 18:30	WG2238249
Isopropylbenzene	59.8		2.10	20.0	20	03/02/2024 18:30	WG2238249
p-Isopropyltoluene	U		2.40	20.0	20	03/02/2024 18:30	WG2238249
2-Butanone (MEK)	U		23.8	200	20	03/02/2024 18:30	WG2238249
Methylene Chloride	U		8.60	100	20	03/02/2024 18:30	WG2238249
4-Methyl-2-pentanone (MIBK)	U		9.56	200	20	03/02/2024 18:30	WG2238249
Methyl tert-butyl ether	U		2.02	20.0	20	03/02/2024 18:30	WG2238249
Naphthalene	130		20.0	100	20	03/02/2024 18:30	WG2238249

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	210		1.99	20.0	20	03/02/2024 18:30	WG2238249
Styrene	U		2.36	20.0	20	03/02/2024 18:30	WG2238249
1,1,1,2-Tetrachloroethane	U		2.94	20.0	20	03/02/2024 18:30	WG2238249
1,1,2,2-Tetrachloroethane	U		2.66	20.0	20	03/02/2024 18:30	WG2238249
1,1,2-Trichlorotrifluoroethane	U		3.60	20.0	20	03/02/2024 18:30	WG2238249
Tetrachloroethene	U		6.00	20.0	20	03/02/2024 18:30	WG2238249
Toluene	U		5.56	20.0	20	03/02/2024 18:30	WG2238249
1,2,3-Trichlorobenzene	U		4.60	20.0	20	03/02/2024 18:30	WG2238249
1,2,4-Trichlorobenzene	U		9.62	20.0	20	03/02/2024 18:30	WG2238249
1,1,1-Trichloroethane	U		2.98	20.0	20	03/02/2024 18:30	WG2238249
1,1,2-Trichloroethane	U		3.16	20.0	20	03/02/2024 18:30	WG2238249
Trichloroethene	U		3.80	20.0	20	03/02/2024 18:30	WG2238249
Trichlorofluoromethane	U		3.20	100	20	03/02/2024 18:30	WG2238249
1,2,3-Trichloropropane	U		4.74	50.0	20	03/02/2024 18:30	WG2238249
1,2,4-Trimethylbenzene	U		6.44	20.0	20	03/02/2024 18:30	WG2238249
1,2,3-Trimethylbenzene	4.57	J	2.08	20.0	20	03/02/2024 18:30	WG2238249
1,3,5-Trimethylbenzene	U	J4	2.08	20.0	20	03/02/2024 18:30	WG2238249
Vinyl chloride	U		4.68	20.0	20	03/02/2024 18:30	WG2238249
Xylenes, Total	7.88	J	3.48	60.0	20	03/02/2024 18:30	WG2238249
(S) Toluene-d8	*103*			*80.0-120*		*03/02/2024 18:30*	WG2238249
(S) Toluene-d8	*100*			*80.0-120*		*03/06/2024 04:41*	WG2240214
(S) 4-Bromofluorobenzene	*97.6*			*77.0-126*		*03/02/2024 18:30*	WG2238249
(S) 4-Bromofluorobenzene	*94.3*			*77.0-126*		*03/06/2024 04:41*	WG2240214
(S) 1,2-Dichloroethane-d4	*94.8*			*70.0-130*		*03/02/2024 18:30*	WG2238249
(S) 1,2-Dichloroethane-d4	*99.8*			*70.0-130*		*03/06/2024 04:41*	WG2240214

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	5070		31.6	100	1	03/04/2024 18:30	WG2239062
(S) a,a,a-Trifluorotoluene(FID)	*99.2*			*78.0-120*		*03/04/2024 18:30*	WG2239062

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	113	500	10	03/02/2024 18:49	WG2238249
Acrolein	U	J4	25.4	500	10	03/02/2024 18:49	WG2238249
Acrylonitrile	U		6.71	100	10	03/02/2024 18:49	WG2238249
Benzene	147		0.941	10.0	10	03/02/2024 18:49	WG2238249
Bromobenzene	U		1.18	10.0	10	03/02/2024 18:49	WG2238249
Bromodichloromethane	U		1.36	10.0	10	03/02/2024 18:49	WG2238249
Bromoform	U		1.29	10.0	10	03/02/2024 18:49	WG2238249
Bromomethane	U		6.05	50.0	10	03/02/2024 18:49	WG2238249
n-Butylbenzene	23.0		1.57	10.0	10	03/02/2024 18:49	WG2238249
sec-Butylbenzene	17.6	C5	1.25	10.0	10	03/02/2024 18:49	WG2238249
tert-Butylbenzene	U	J4	1.27	10.0	10	03/02/2024 18:49	WG2238249
Carbon disulfide	U		0.962	10.0	10	03/02/2024 18:49	WG2238249
Carbon tetrachloride	U	J4	1.28	10.0	10	03/02/2024 18:49	WG2238249
Chlorobenzene	U		1.16	10.0	10	03/02/2024 18:49	WG2238249
Chlorodibromomethane	U		1.40	10.0	10	03/02/2024 18:49	WG2238249
Chloroethane	U		1.92	50.0	10	03/02/2024 18:49	WG2238249
Chloroform	U		1.11	50.0	10	03/02/2024 18:49	WG2238249
Chloromethane	U		9.60	25.0	10	03/02/2024 18:49	WG2238249
2-Chlorotoluene	U		1.06	10.0	10	03/02/2024 18:49	WG2238249
4-Chlorotoluene	U		1.14	10.0	10	03/02/2024 18:49	WG2238249
1,2-Dibromo-3-Chloropropane	U		2.76	50.0	10	03/02/2024 18:49	WG2238249
1,2-Dibromoethane	U		1.26	10.0	10	03/02/2024 18:49	WG2238249
Dibromomethane	U		1.22	10.0	10	03/02/2024 18:49	WG2238249
1,2-Dichlorobenzene	U		1.07	10.0	10	03/02/2024 18:49	WG2238249
1,3-Dichlorobenzene	U		1.10	10.0	10	03/02/2024 18:49	WG2238249
1,4-Dichlorobenzene	U		1.20	10.0	10	03/02/2024 18:49	WG2238249
Dichlorodifluoromethane	U		3.74	50.0	10	03/02/2024 18:49	WG2238249
1,1-Dichloroethane	U		1.00	10.0	10	03/02/2024 18:49	WG2238249
1,2-Dichloroethane	U		0.819	10.0	10	03/02/2024 18:49	WG2238249
1,1-Dichloroethene	U		1.88	10.0	10	03/02/2024 18:49	WG2238249
cis-1,2-Dichloroethene	U		1.26	10.0	10	03/02/2024 18:49	WG2238249
trans-1,2-Dichloroethene	U		1.49	10.0	10	03/02/2024 18:49	WG2238249
1,2-Dichloropropane	U		1.49	10.0	10	03/02/2024 18:49	WG2238249
1,1-Dichloropropene	U		1.42	10.0	10	03/02/2024 18:49	WG2238249
1,3-Dichloropropane	U		1.10	10.0	10	03/02/2024 18:49	WG2238249
cis-1,3-Dichloropropene	U		1.11	10.0	10	03/02/2024 18:49	WG2238249
trans-1,3-Dichloropropene	U		1.18	10.0	10	03/02/2024 18:49	WG2238249
2,2-Dichloropropane	U		1.61	10.0	10	03/02/2024 18:49	WG2238249
Di-isopropyl ether	U		1.05	10.0	10	03/02/2024 18:49	WG2238249
Ethylbenzene	1080		1.37	10.0	10	03/02/2024 18:49	WG2238249
Hexachloro-1,3-butadiene	U		3.37	10.0	10	03/02/2024 18:49	WG2238249
Isopropylbenzene	130		1.05	10.0	10	03/02/2024 18:49	WG2238249
p-Isopropyltoluene	U		1.20	10.0	10	03/02/2024 18:49	WG2238249
2-Butanone (MEK)	U		11.9	100	10	03/02/2024 18:49	WG2238249
Methylene Chloride	U		4.30	50.0	10	03/02/2024 18:49	WG2238249
4-Methyl-2-pentanone (MIBK)	U		4.78	100	10	03/02/2024 18:49	WG2238249
Methyl tert-butyl ether	U		1.01	10.0	10	03/02/2024 18:49	WG2238249
Naphthalene	331		10.0	50.0	10	03/02/2024 18:49	WG2238249

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	432		0.993	10.0	10	03/02/2024 18:49	WG2238249
Styrene	U		1.18	10.0	10	03/02/2024 18:49	WG2238249
1,1,1,2-Tetrachloroethane	U		1.47	10.0	10	03/02/2024 18:49	WG2238249
1,1,2,2-Tetrachloroethane	U		1.33	10.0	10	03/02/2024 18:49	WG2238249
1,1,2-Trichlorotrifluoroethane	U		1.80	10.0	10	03/02/2024 18:49	WG2238249
Tetrachloroethene	U		3.00	10.0	10	03/02/2024 18:49	WG2238249
Toluene	13.6		2.78	10.0	10	03/02/2024 18:49	WG2238249
1,2,3-Trichlorobenzene	U		2.30	10.0	10	03/02/2024 18:49	WG2238249
1,2,4-Trichlorobenzene	U		4.81	10.0	10	03/02/2024 18:49	WG2238249
1,1,1-Trichloroethane	U		1.49	10.0	10	03/02/2024 18:49	WG2238249
1,1,2-Trichloroethane	U		1.58	10.0	10	03/02/2024 18:49	WG2238249
Trichloroethene	U		1.90	10.0	10	03/02/2024 18:49	WG2238249
Trichlorofluoromethane	U		1.60	50.0	10	03/02/2024 18:49	WG2238249
1,2,3-Trichloropropane	U		2.37	25.0	10	03/02/2024 18:49	WG2238249
1,2,4-Trimethylbenzene	6.38	J	3.22	10.0	10	03/02/2024 18:49	WG2238249
1,2,3-Trimethylbenzene	24.2		1.04	10.0	10	03/02/2024 18:49	WG2238249
1,3,5-Trimethylbenzene	3.07	J J4	1.04	10.0	10	03/02/2024 18:49	WG2238249
Vinyl chloride	U		2.34	10.0	10	03/02/2024 18:49	WG2238249
Xylenes, Total	61.4		1.74	30.0	10	03/02/2024 18:49	WG2238249
(S) Toluene-d8	*100*			*80.0-120*		*03/02/2024 18:49*	WG2238249
(S) 4-Bromofluorobenzene	*98.6*			*77.0-126*		*03/02/2024 18:49*	WG2238249
(S) 1,2-Dichloroethane-d4	*96.1*			*70.0-130*		*03/02/2024 18:49*	WG2238249

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	4060		31.6	100	1	03/04/2024 18:54	WG2239062
(S) a,a,a-Trifluorotoluene(FID)	*86.8*			*78.0-120*		*03/04/2024 18:54*	WG2239062

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	113	500	10	03/02/2024 19:08	WG2238249
Acrolein	U	J4	25.4	500	10	03/02/2024 19:08	WG2238249
Acrylonitrile	U		6.71	100	10	03/02/2024 19:08	WG2238249
Benzene	668		0.941	10.0	10	03/02/2024 19:08	WG2238249
Bromobenzene	U		1.18	10.0	10	03/02/2024 19:08	WG2238249
Bromodichloromethane	U		1.36	10.0	10	03/02/2024 19:08	WG2238249
Bromoform	U		1.29	10.0	10	03/02/2024 19:08	WG2238249
Bromomethane	U		6.05	50.0	10	03/02/2024 19:08	WG2238249
n-Butylbenzene	21.5		1.57	10.0	10	03/02/2024 19:08	WG2238249
sec-Butylbenzene	20.4	C5	1.25	10.0	10	03/02/2024 19:08	WG2238249
tert-Butylbenzene	U	J4	1.27	10.0	10	03/02/2024 19:08	WG2238249
Carbon disulfide	U		0.962	10.0	10	03/02/2024 19:08	WG2238249
Carbon tetrachloride	U	J4	1.28	10.0	10	03/02/2024 19:08	WG2238249
Chlorobenzene	U		1.16	10.0	10	03/02/2024 19:08	WG2238249
Chlorodibromomethane	U		1.40	10.0	10	03/02/2024 19:08	WG2238249
Chloroethane	U		1.92	50.0	10	03/02/2024 19:08	WG2238249
Chloroform	U		1.11	50.0	10	03/02/2024 19:08	WG2238249
Chloromethane	U		9.60	25.0	10	03/02/2024 19:08	WG2238249
2-Chlorotoluene	U		1.06	10.0	10	03/02/2024 19:08	WG2238249
4-Chlorotoluene	U		1.14	10.0	10	03/02/2024 19:08	WG2238249
1,2-Dibromo-3-Chloropropane	U		2.76	50.0	10	03/02/2024 19:08	WG2238249
1,2-Dibromoethane	U		1.26	10.0	10	03/02/2024 19:08	WG2238249
Dibromomethane	U		1.22	10.0	10	03/02/2024 19:08	WG2238249
1,2-Dichlorobenzene	U		1.07	10.0	10	03/02/2024 19:08	WG2238249
1,3-Dichlorobenzene	U		1.10	10.0	10	03/02/2024 19:08	WG2238249
1,4-Dichlorobenzene	U		1.20	10.0	10	03/02/2024 19:08	WG2238249
Dichlorodifluoromethane	U		3.74	50.0	10	03/02/2024 19:08	WG2238249
1,1-Dichloroethane	U		1.00	10.0	10	03/02/2024 19:08	WG2238249
1,2-Dichloroethane	U		0.819	10.0	10	03/02/2024 19:08	WG2238249
1,1-Dichloroethene	U		1.88	10.0	10	03/02/2024 19:08	WG2238249
cis-1,2-Dichloroethene	U		1.26	10.0	10	03/06/2024 05:05	WG2240214
trans-1,2-Dichloroethene	U		1.49	10.0	10	03/02/2024 19:08	WG2238249
1,2-Dichloropropane	U		1.49	10.0	10	03/02/2024 19:08	WG2238249
1,1-Dichloropropene	U		1.42	10.0	10	03/02/2024 19:08	WG2238249
1,3-Dichloropropane	U		1.10	10.0	10	03/02/2024 19:08	WG2238249
cis-1,3-Dichloropropene	U		1.11	10.0	10	03/02/2024 19:08	WG2238249
trans-1,3-Dichloropropene	U		1.18	10.0	10	03/02/2024 19:08	WG2238249
2,2-Dichloropropane	U		1.61	10.0	10	03/02/2024 19:08	WG2238249
Di-isopropyl ether	U		1.05	10.0	10	03/02/2024 19:08	WG2238249
Ethylbenzene	215		1.37	10.0	10	03/02/2024 19:08	WG2238249
Hexachloro-1,3-butadiene	U		3.37	10.0	10	03/02/2024 19:08	WG2238249
Isopropylbenzene	165		1.05	10.0	10	03/02/2024 19:08	WG2238249
p-Isopropyltoluene	U		1.20	10.0	10	03/02/2024 19:08	WG2238249
2-Butanone (MEK)	U		11.9	100	10	03/02/2024 19:08	WG2238249
Methylene Chloride	U		4.30	50.0	10	03/02/2024 19:08	WG2238249
4-Methyl-2-pentanone (MIBK)	U		4.78	100	10	03/02/2024 19:08	WG2238249
Methyl tert-butyl ether	U		1.01	10.0	10	03/02/2024 19:08	WG2238249
Naphthalene	19.6	J	10.0	50.0	10	03/02/2024 19:08	WG2238249

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
n-Propylbenzene	510		0.993	10.0	10	03/02/2024 19:08	WG2238249
Styrene	U		1.18	10.0	10	03/02/2024 19:08	WG2238249
1,1,1,2-Tetrachloroethane	U		1.47	10.0	10	03/02/2024 19:08	WG2238249
1,1,2,2-Tetrachloroethane	U		1.33	10.0	10	03/02/2024 19:08	WG2238249
1,1,2-Trichlorotrifluoroethane	U		1.80	10.0	10	03/02/2024 19:08	WG2238249
Tetrachloroethene	U		3.00	10.0	10	03/02/2024 19:08	WG2238249
Toluene	13.1		2.78	10.0	10	03/02/2024 19:08	WG2238249
1,2,3-Trichlorobenzene	U		2.30	10.0	10	03/02/2024 19:08	WG2238249
1,2,4-Trichlorobenzene	U		4.81	10.0	10	03/02/2024 19:08	WG2238249
1,1,1-Trichloroethane	U		1.49	10.0	10	03/02/2024 19:08	WG2238249
1,1,2-Trichloroethane	U		1.58	10.0	10	03/02/2024 19:08	WG2238249
Trichloroethene	U		1.90	10.0	10	03/02/2024 19:08	WG2238249
Trichlorofluoromethane	U		1.60	50.0	10	03/02/2024 19:08	WG2238249
1,2,3-Trichloropropane	U		2.37	25.0	10	03/02/2024 19:08	WG2238249
1,2,4-Trimethylbenzene	13.4		3.22	10.0	10	03/02/2024 19:08	WG2238249
1,2,3-Trimethylbenzene	3.09	J	1.04	10.0	10	03/02/2024 19:08	WG2238249
1,3,5-Trimethylbenzene	7.72	J J4	1.04	10.0	10	03/02/2024 19:08	WG2238249
Vinyl chloride	U		2.34	10.0	10	03/02/2024 19:08	WG2238249
Xylenes, Total	55.7		1.74	30.0	10	03/02/2024 19:08	WG2238249
(S) Toluene-d8	*103*			*80.0-120*		*03/02/2024 19:08*	WG2238249
(S) Toluene-d8	*105*			*80.0-120*		*03/06/2024 05:05*	WG2240214
(S) 4-Bromofluorobenzene	*98.3*			*77.0-126*		*03/02/2024 19:08*	WG2238249
(S) 4-Bromofluorobenzene	*108*			*77.0-126*		*03/06/2024 05:05*	WG2240214
(S) 1,2-Dichloroethane-d4	*96.7*			*70.0-130*		*03/02/2024 19:08*	WG2238249
(S) 1,2-Dichloroethane-d4	*92.7*			*70.0-130*		*03/06/2024 05:05*	WG2240214

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	1310		31.6	100	1	03/04/2024 19:17	WG2239062
(S) a,a,a-Trifluorotoluene(FID)	*85.0*			*78.0-120*		*03/04/2024 19:17*	WG2239062

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	03/02/2024 18:11	WG2238249
Acrolein	U	J4	2.54	50.0	1	03/02/2024 18:11	WG2238249
Acrylonitrile	U		0.671	10.0	1	03/02/2024 18:11	WG2238249
Benzene	131		0.0941	1.00	1	03/02/2024 18:11	WG2238249
Bromobenzene	U		0.118	1.00	1	03/02/2024 18:11	WG2238249
Bromodichloromethane	U		0.136	1.00	1	03/02/2024 18:11	WG2238249
Bromoform	U		0.129	1.00	1	03/02/2024 18:11	WG2238249
Bromomethane	U		0.605	5.00	1	03/02/2024 18:11	WG2238249
n-Butylbenzene	0.835	J	0.157	1.00	1	03/02/2024 18:11	WG2238249
sec-Butylbenzene	1.18	C5	0.125	1.00	1	03/02/2024 18:11	WG2238249
tert-Butylbenzene	0.195	J J4	0.127	1.00	1	03/02/2024 18:11	WG2238249
Carbon disulfide	U		0.0962	1.00	1	03/02/2024 18:11	WG2238249
Carbon tetrachloride	U	J4	0.128	1.00	1	03/02/2024 18:11	WG2238249
Chlorobenzene	U		0.116	1.00	1	03/02/2024 18:11	WG2238249
Chlorodibromomethane	U		0.140	1.00	1	03/02/2024 18:11	WG2238249
Chloroethane	U		0.192	5.00	1	03/02/2024 18:11	WG2238249
Chloroform	U		0.111	5.00	1	03/02/2024 18:11	WG2238249
Chloromethane	U		0.960	2.50	1	03/02/2024 18:11	WG2238249
2-Chlorotoluene	U		0.106	1.00	1	03/02/2024 18:11	WG2238249
4-Chlorotoluene	U		0.114	1.00	1	03/02/2024 18:11	WG2238249
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/02/2024 18:11	WG2238249
1,2-Dibromoethane	U		0.126	1.00	1	03/02/2024 18:11	WG2238249
Dibromomethane	U		0.122	1.00	1	03/02/2024 18:11	WG2238249
1,2-Dichlorobenzene	U		0.107	1.00	1	03/02/2024 18:11	WG2238249
1,3-Dichlorobenzene	U		0.110	1.00	1	03/02/2024 18:11	WG2238249
1,4-Dichlorobenzene	U		0.120	1.00	1	03/02/2024 18:11	WG2238249
Dichlorodifluoromethane	U		0.374	5.00	1	03/02/2024 18:11	WG2238249
1,1-Dichloroethane	U		0.100	1.00	1	03/02/2024 18:11	WG2238249
1,2-Dichloroethane	U		0.0819	1.00	1	03/02/2024 18:11	WG2238249
1,1-Dichloroethene	U		0.188	1.00	1	03/02/2024 18:11	WG2238249
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/02/2024 18:11	WG2238249
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/02/2024 18:11	WG2238249
1,2-Dichloropropane	U		0.149	1.00	1	03/02/2024 18:11	WG2238249
1,1-Dichloropropene	U		0.142	1.00	1	03/02/2024 18:11	WG2238249
1,3-Dichloropropane	U		0.110	1.00	1	03/02/2024 18:11	WG2238249
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/02/2024 18:11	WG2238249
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/02/2024 18:11	WG2238249
2,2-Dichloropropane	U		0.161	1.00	1	03/02/2024 18:11	WG2238249
Di-isopropyl ether	U		0.105	1.00	1	03/02/2024 18:11	WG2238249
Ethylbenzene	123		0.137	1.00	1	03/02/2024 18:11	WG2238249
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/02/2024 18:11	WG2238249
Isopropylbenzene	18.1		0.105	1.00	1	03/02/2024 18:11	WG2238249
p-Isopropyltoluene	U		0.120	1.00	1	03/02/2024 18:11	WG2238249
2-Butanone (MEK)	U		1.19	10.0	1	03/02/2024 18:11	WG2238249
Methylene Chloride	U		0.430	5.00	1	03/02/2024 18:11	WG2238249
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/02/2024 18:11	WG2238249
Methyl tert-butyl ether	17.4		0.101	1.00	1	03/02/2024 18:11	WG2238249
Naphthalene	10.3		1.00	5.00	1	03/02/2024 18:11	WG2238249

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	36.0		0.0993	1.00	1	03/02/2024 18:11	WG2238249
Styrene	U		0.118	1.00	1	03/02/2024 18:11	WG2238249
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/02/2024 18:11	WG2238249
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/02/2024 18:11	WG2238249
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/02/2024 18:11	WG2238249
Tetrachloroethene	U		0.300	1.00	1	03/02/2024 18:11	WG2238249
Toluene	2.19		0.278	1.00	1	03/02/2024 18:11	WG2238249
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/02/2024 18:11	WG2238249
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/02/2024 18:11	WG2238249
1,1,1-Trichloroethane	U		0.149	1.00	1	03/02/2024 18:11	WG2238249
1,1,2-Trichloroethane	U		0.158	1.00	1	03/02/2024 18:11	WG2238249
Trichloroethene	U		0.190	1.00	1	03/02/2024 18:11	WG2238249
Trichlorofluoromethane	U		0.160	5.00	1	03/02/2024 18:11	WG2238249
1,2,3-Trichloropropane	U		0.237	2.50	1	03/02/2024 18:11	WG2238249
1,2,4-Trimethylbenzene	37.4		0.322	1.00	1	03/02/2024 18:11	WG2238249
1,2,3-Trimethylbenzene	19.4		0.104	1.00	1	03/02/2024 18:11	WG2238249
1,3,5-Trimethylbenzene	11.8	C5 J4	0.104	1.00	1	03/02/2024 18:11	WG2238249
Vinyl chloride	U		0.234	1.00	1	03/02/2024 18:11	WG2238249
Xylenes, Total	236		0.174	3.00	1	03/02/2024 18:11	WG2238249
(S) Toluene-d8	*99.5*			*80.0-120*		*03/02/2024 18:11*	WG2238249
(S) 4-Bromofluorobenzene	*102*			*77.0-126*		*03/02/2024 18:11*	WG2238249
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*		*03/02/2024 18:11*	WG2238249

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	52.0	B J	31.6	100	1	03/04/2024 19:41	WG2239062
(S) a,a,a-Trifluorotoluene(FID)	*89.3*			*78.0-120*		*03/04/2024 19:41*	WG2239062

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	03/03/2024 10:21	WG2238583
Acrolein	U		2.54	50.0	1	03/03/2024 10:21	WG2238583
Acrylonitrile	U		0.671	10.0	1	03/03/2024 10:21	WG2238583
Benzene	U		0.0941	1.00	1	03/03/2024 10:21	WG2238583
Bromobenzene	U		0.118	1.00	1	03/03/2024 10:21	WG2238583
Bromodichloromethane	U		0.136	1.00	1	03/03/2024 10:21	WG2238583
Bromoform	U		0.129	1.00	1	03/03/2024 10:21	WG2238583
Bromomethane	U		0.605	5.00	1	03/03/2024 10:21	WG2238583
n-Butylbenzene	U		0.157	1.00	1	03/03/2024 10:21	WG2238583
sec-Butylbenzene	U		0.125	1.00	1	03/03/2024 10:21	WG2238583
tert-Butylbenzene	U		0.127	1.00	1	03/03/2024 10:21	WG2238583
Carbon disulfide	U		0.0962	1.00	1	03/03/2024 10:21	WG2238583
Carbon tetrachloride	U		0.128	1.00	1	03/03/2024 10:21	WG2238583
Chlorobenzene	U		0.116	1.00	1	03/03/2024 10:21	WG2238583
Chlorodibromomethane	U		0.140	1.00	1	03/03/2024 10:21	WG2238583
Chloroethane	U		0.192	5.00	1	03/03/2024 10:21	WG2238583
Chloroform	U		0.111	5.00	1	03/03/2024 10:21	WG2238583
Chloromethane	U		0.960	2.50	1	03/03/2024 10:21	WG2238583
2-Chlorotoluene	U		0.106	1.00	1	03/03/2024 10:21	WG2238583
4-Chlorotoluene	U		0.114	1.00	1	03/03/2024 10:21	WG2238583
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/03/2024 10:21	WG2238583
1,2-Dibromoethane	U		0.126	1.00	1	03/03/2024 10:21	WG2238583
Dibromomethane	U		0.122	1.00	1	03/03/2024 10:21	WG2238583
1,2-Dichlorobenzene	U		0.107	1.00	1	03/03/2024 10:21	WG2238583
1,3-Dichlorobenzene	U		0.110	1.00	1	03/03/2024 10:21	WG2238583
1,4-Dichlorobenzene	U		0.120	1.00	1	03/03/2024 10:21	WG2238583
Dichlorodifluoromethane	U		0.374	5.00	1	03/03/2024 10:21	WG2238583
1,1-Dichloroethane	U		0.100	1.00	1	03/03/2024 10:21	WG2238583
1,2-Dichloroethane	U		0.0819	1.00	1	03/03/2024 10:21	WG2238583
1,1-Dichloroethene	U		0.188	1.00	1	03/03/2024 10:21	WG2238583
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/03/2024 10:21	WG2238583
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/03/2024 10:21	WG2238583
1,2-Dichloropropane	U		0.149	1.00	1	03/03/2024 10:21	WG2238583
1,1-Dichloropropene	U		0.142	1.00	1	03/03/2024 10:21	WG2238583
1,3-Dichloropropane	U		0.110	1.00	1	03/03/2024 10:21	WG2238583
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/03/2024 10:21	WG2238583
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/03/2024 10:21	WG2238583
2,2-Dichloropropane	U		0.161	1.00	1	03/03/2024 10:21	WG2238583
Di-isopropyl ether	U		0.105	1.00	1	03/03/2024 10:21	WG2238583
Ethylbenzene	U		0.137	1.00	1	03/03/2024 10:21	WG2238583
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/03/2024 10:21	WG2238583
Isopropylbenzene	0.177	J	0.105	1.00	1	03/03/2024 10:21	WG2238583
p-Isopropyltoluene	U		0.120	1.00	1	03/03/2024 10:21	WG2238583
2-Butanone (MEK)	U		1.19	10.0	1	03/03/2024 10:21	WG2238583
Methylene Chloride	U		0.430	5.00	1	03/03/2024 10:21	WG2238583
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/03/2024 10:21	WG2238583
Methyl tert-butyl ether	0.296	J	0.101	1.00	1	03/03/2024 10:21	WG2238583
Naphthalene	U		1.00	5.00	1	03/03/2024 10:21	WG2238583

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	0.247	J	0.0993	1.00	1	03/03/2024 10:21	WG2238583
Styrene	U		0.118	1.00	1	03/03/2024 10:21	WG2238583
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/03/2024 10:21	WG2238583
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/03/2024 10:21	WG2238583
1,1,2-Trichlorotrifluoroethane	U	J4	0.180	1.00	1	03/03/2024 10:21	WG2238583
Tetrachloroethene	U		0.300	1.00	1	03/03/2024 10:21	WG2238583
Toluene	U		0.278	1.00	1	03/03/2024 10:21	WG2238583
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/03/2024 10:21	WG2238583
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/03/2024 10:21	WG2238583
1,1,1-Trichloroethane	U		0.149	1.00	1	03/03/2024 10:21	WG2238583
1,1,2-Trichloroethane	U		0.158	1.00	1	03/03/2024 10:21	WG2238583
Trichloroethene	U		0.190	1.00	1	03/03/2024 10:21	WG2238583
Trichlorofluoromethane	U		0.160	5.00	1	03/03/2024 10:21	WG2238583
1,2,3-Trichloropropane	U		0.237	2.50	1	03/03/2024 10:21	WG2238583
1,2,4-Trimethylbenzene	1.56		0.322	1.00	1	03/03/2024 10:21	WG2238583
1,2,3-Trimethylbenzene	0.400	J	0.104	1.00	1	03/03/2024 10:21	WG2238583
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/03/2024 10:21	WG2238583
Vinyl chloride	U		0.234	1.00	1	03/03/2024 10:21	WG2238583
Xylenes, Total	4.26		0.174	3.00	1	03/03/2024 10:21	WG2238583
(S) Toluene-d8	*101*			*80.0-120*		*03/03/2024 10:21*	WG2238583
(S) 4-Bromofluorobenzene	*102*			*77.0-126*		*03/03/2024 10:21*	WG2238583
(S) 1,2-Dichloroethane-d4	*91.5*			*70.0-130*		*03/03/2024 10:21*	WG2238583

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	03/04/2024 20:04	WG2239062
(S) a,a,a-Trifluorotoluene(FID)	*89.5*			*78.0-120*		*03/04/2024 20:04*	WG2239062

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	03/03/2024 10:43	WG2238583
Acrolein	U		2.54	50.0	1	03/03/2024 10:43	WG2238583
Acrylonitrile	U		0.671	10.0	1	03/03/2024 10:43	WG2238583
Benzene	U		0.0941	1.00	1	03/03/2024 10:43	WG2238583
Bromobenzene	U		0.118	1.00	1	03/03/2024 10:43	WG2238583
Bromodichloromethane	U		0.136	1.00	1	03/03/2024 10:43	WG2238583
Bromoform	U		0.129	1.00	1	03/03/2024 10:43	WG2238583
Bromomethane	U		0.605	5.00	1	03/03/2024 10:43	WG2238583
n-Butylbenzene	U		0.157	1.00	1	03/03/2024 10:43	WG2238583
sec-Butylbenzene	U		0.125	1.00	1	03/03/2024 10:43	WG2238583
tert-Butylbenzene	U		0.127	1.00	1	03/03/2024 10:43	WG2238583
Carbon disulfide	U		0.0962	1.00	1	03/03/2024 10:43	WG2238583
Carbon tetrachloride	U		0.128	1.00	1	03/03/2024 10:43	WG2238583
Chlorobenzene	U		0.116	1.00	1	03/03/2024 10:43	WG2238583
Chlorodibromomethane	U		0.140	1.00	1	03/03/2024 10:43	WG2238583
Chloroethane	U		0.192	5.00	1	03/03/2024 10:43	WG2238583
Chloroform	U		0.111	5.00	1	03/03/2024 10:43	WG2238583
Chloromethane	U		0.960	2.50	1	03/03/2024 10:43	WG2238583
2-Chlorotoluene	U		0.106	1.00	1	03/03/2024 10:43	WG2238583
4-Chlorotoluene	U		0.114	1.00	1	03/03/2024 10:43	WG2238583
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/03/2024 10:43	WG2238583
1,2-Dibromoethane	U		0.126	1.00	1	03/03/2024 10:43	WG2238583
Dibromomethane	U		0.122	1.00	1	03/03/2024 10:43	WG2238583
1,2-Dichlorobenzene	U		0.107	1.00	1	03/03/2024 10:43	WG2238583
1,3-Dichlorobenzene	U		0.110	1.00	1	03/03/2024 10:43	WG2238583
1,4-Dichlorobenzene	U		0.120	1.00	1	03/03/2024 10:43	WG2238583
Dichlorodifluoromethane	U		0.374	5.00	1	03/03/2024 10:43	WG2238583
1,1-Dichloroethane	U		0.100	1.00	1	03/03/2024 10:43	WG2238583
1,2-Dichloroethane	U		0.0819	1.00	1	03/03/2024 10:43	WG2238583
1,1-Dichloroethene	U		0.188	1.00	1	03/03/2024 10:43	WG2238583
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/03/2024 10:43	WG2238583
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/03/2024 10:43	WG2238583
1,2-Dichloropropane	U		0.149	1.00	1	03/03/2024 10:43	WG2238583
1,1-Dichloropropene	U		0.142	1.00	1	03/03/2024 10:43	WG2238583
1,3-Dichloropropane	U		0.110	1.00	1	03/03/2024 10:43	WG2238583
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/03/2024 10:43	WG2238583
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/03/2024 10:43	WG2238583
2,2-Dichloropropane	U		0.161	1.00	1	03/03/2024 10:43	WG2238583
Di-isopropyl ether	U		0.105	1.00	1	03/03/2024 10:43	WG2238583
Ethylbenzene	U		0.137	1.00	1	03/03/2024 10:43	WG2238583
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/03/2024 10:43	WG2238583
Isopropylbenzene	U		0.105	1.00	1	03/03/2024 10:43	WG2238583
p-Isopropyltoluene	U		0.120	1.00	1	03/03/2024 10:43	WG2238583
2-Butanone (MEK)	U		1.19	10.0	1	03/03/2024 10:43	WG2238583
Methylene Chloride	U		0.430	5.00	1	03/03/2024 10:43	WG2238583
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/03/2024 10:43	WG2238583
Methyl tert-butyl ether	U		0.101	1.00	1	03/03/2024 10:43	WG2238583
Naphthalene	U		1.00	5.00	1	03/03/2024 10:43	WG2238583

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	03/03/2024 10:43	WG2238583
Styrene	U		0.118	1.00	1	03/03/2024 10:43	WG2238583
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/03/2024 10:43	WG2238583
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/03/2024 10:43	WG2238583
1,1,2-Trichlorotrifluoroethane	U	J4	0.180	1.00	1	03/03/2024 10:43	WG2238583
Tetrachloroethene	U		0.300	1.00	1	03/03/2024 10:43	WG2238583
Toluene	U		0.278	1.00	1	03/03/2024 10:43	WG2238583
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/03/2024 10:43	WG2238583
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/03/2024 10:43	WG2238583
1,1,1-Trichloroethane	U		0.149	1.00	1	03/03/2024 10:43	WG2238583
1,1,2-Trichloroethane	U		0.158	1.00	1	03/03/2024 10:43	WG2238583
Trichloroethene	U		0.190	1.00	1	03/03/2024 10:43	WG2238583
Trichlorofluoromethane	U		0.160	5.00	1	03/03/2024 10:43	WG2238583
1,2,3-Trichloropropane	U		0.237	2.50	1	03/03/2024 10:43	WG2238583
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/03/2024 10:43	WG2238583
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/03/2024 10:43	WG2238583
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/03/2024 10:43	WG2238583
Vinyl chloride	U		0.234	1.00	1	03/03/2024 10:43	WG2238583
Xylenes, Total	U		0.174	3.00	1	03/03/2024 10:43	WG2238583
(S) Toluene-d8	*104*			*80.0-120*		*03/03/2024 10:43*	WG2238583
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*03/03/2024 10:43*	WG2238583
(S) 1,2-Dichloroethane-d4	*92.6*			*70.0-130*		*03/03/2024 10:43*	WG2238583

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	125000		3160	10000	100	03/06/2024 20:41	WG2241038
(S) a,a,a-Trifluorotoluene(FID)	*99.7*			*78.0-120*		*03/06/2024 20:41*	WG2241038

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		1130	5000	100	03/03/2024 15:45	WG2238583
Acrolein	U		254	5000	100	03/03/2024 15:45	WG2238583
Acrylonitrile	U		67.1	1000	100	03/03/2024 15:45	WG2238583
Benzene	1650		9.41	100	100	03/03/2024 15:45	WG2238583
Bromobenzene	U		11.8	100	100	03/03/2024 15:45	WG2238583
Bromodichloromethane	U		13.6	100	100	03/03/2024 15:45	WG2238583
Bromoform	U		12.9	100	100	03/03/2024 15:45	WG2238583
Bromomethane	U		60.5	500	100	03/03/2024 15:45	WG2238583
n-Butylbenzene	U		15.7	100	100	03/03/2024 15:45	WG2238583
sec-Butylbenzene	23.0	J	12.5	100	100	03/03/2024 15:45	WG2238583
tert-Butylbenzene	U		12.7	100	100	03/03/2024 15:45	WG2238583
Carbon disulfide	U		9.62	100	100	03/03/2024 15:45	WG2238583
Carbon tetrachloride	U		12.8	100	100	03/03/2024 15:45	WG2238583
Chlorobenzene	U		11.6	100	100	03/03/2024 15:45	WG2238583
Chlorodibromomethane	U		14.0	100	100	03/03/2024 15:45	WG2238583
Chloroethane	U		19.2	500	100	03/03/2024 15:45	WG2238583
Chloroform	U		11.1	500	100	03/03/2024 15:45	WG2238583
Chloromethane	U		96.0	250	100	03/03/2024 15:45	WG2238583
2-Chlorotoluene	U		10.6	100	100	03/03/2024 15:45	WG2238583
4-Chlorotoluene	U		11.4	100	100	03/03/2024 15:45	WG2238583
1,2-Dibromo-3-Chloropropane	U		27.6	500	100	03/03/2024 15:45	WG2238583
1,2-Dibromoethane	U		12.6	100	100	03/03/2024 15:45	WG2238583
Dibromomethane	U		12.2	100	100	03/03/2024 15:45	WG2238583
1,2-Dichlorobenzene	U		10.7	100	100	03/03/2024 15:45	WG2238583
1,3-Dichlorobenzene	U		11.0	100	100	03/03/2024 15:45	WG2238583
1,4-Dichlorobenzene	U		12.0	100	100	03/03/2024 15:45	WG2238583
Dichlorodifluoromethane	U		37.4	500	100	03/03/2024 15:45	WG2238583
1,1-Dichloroethane	U		10.0	100	100	03/03/2024 15:45	WG2238583
1,2-Dichloroethane	U		8.19	100	100	03/03/2024 15:45	WG2238583
1,1-Dichloroethene	U		18.8	100	100	03/03/2024 15:45	WG2238583
cis-1,2-Dichloroethene	U		12.6	100	100	03/03/2024 15:45	WG2238583
trans-1,2-Dichloroethene	U		14.9	100	100	03/03/2024 15:45	WG2238583
1,2-Dichloropropane	U		14.9	100	100	03/03/2024 15:45	WG2238583
1,1-Dichloropropene	U		14.2	100	100	03/03/2024 15:45	WG2238583
1,3-Dichloropropane	U		11.0	100	100	03/03/2024 15:45	WG2238583
cis-1,3-Dichloropropene	U		11.1	100	100	03/03/2024 15:45	WG2238583
trans-1,3-Dichloropropene	U		11.8	100	100	03/03/2024 15:45	WG2238583
2,2-Dichloropropane	U		16.1	100	100	03/03/2024 15:45	WG2238583
Di-isopropyl ether	U		10.5	100	100	03/03/2024 15:45	WG2238583
Ethylbenzene	4990		13.7	100	100	03/03/2024 15:45	WG2238583
Hexachloro-1,3-butadiene	U		33.7	100	100	03/03/2024 15:45	WG2238583
Isopropylbenzene	136		10.5	100	100	03/03/2024 15:45	WG2238583
p-Isopropyltoluene	30.8	J	12.0	100	100	03/03/2024 15:45	WG2238583
2-Butanone (MEK)	U		119	1000	100	03/03/2024 15:45	WG2238583
Methylene Chloride	U		43.0	500	100	03/03/2024 15:45	WG2238583
4-Methyl-2-pentanone (MIBK)	U		47.8	1000	100	03/03/2024 15:45	WG2238583
Methyl tert-butyl ether	U		10.1	100	100	03/03/2024 15:45	WG2238583
Naphthalene	511		100	500	100	03/03/2024 15:45	WG2238583

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	462		9.93	100	100	03/03/2024 15:45	WG2238583
Styrene	U		11.8	100	100	03/03/2024 15:45	WG2238583
1,1,1,2-Tetrachloroethane	U		14.7	100	100	03/03/2024 15:45	WG2238583
1,1,2,2-Tetrachloroethane	U		13.3	100	100	03/03/2024 15:45	WG2238583
1,1,2-Trichlorotrifluoroethane	U	J4	18.0	100	100	03/03/2024 15:45	WG2238583
Tetrachloroethene	U		30.0	100	100	03/03/2024 15:45	WG2238583
Toluene	19300		27.8	100	100	03/03/2024 15:45	WG2238583
1,2,3-Trichlorobenzene	U		23.0	100	100	03/03/2024 15:45	WG2238583
1,2,4-Trichlorobenzene	U		48.1	100	100	03/03/2024 15:45	WG2238583
1,1,1-Trichloroethane	U		14.9	100	100	03/03/2024 15:45	WG2238583
1,1,2-Trichloroethane	U		15.8	100	100	03/03/2024 15:45	WG2238583
Trichloroethene	U		19.0	100	100	03/03/2024 15:45	WG2238583
Trichlorofluoromethane	U		16.0	500	100	03/03/2024 15:45	WG2238583
1,2,3-Trichloropropane	U		23.7	250	100	03/03/2024 15:45	WG2238583
1,2,4-Trimethylbenzene	2970		32.2	100	100	03/03/2024 15:45	WG2238583
1,2,3-Trimethylbenzene	724		10.4	100	100	03/03/2024 15:45	WG2238583
1,3,5-Trimethylbenzene	797		10.4	100	100	03/03/2024 15:45	WG2238583
Vinyl chloride	U		23.4	100	100	03/03/2024 15:45	WG2238583
Xylenes, Total	23400		17.4	300	100	03/03/2024 15:45	WG2238583
(S) Toluene-d8	*99.4*			*80.0-120*		*03/03/2024 15:45*	WG2238583
(S) 4-Bromofluorobenzene	*102*			*77.0-126*		*03/03/2024 15:45*	WG2238583
(S) 1,2-Dichloroethane-d4	*91.1*			*70.0-130*		*03/03/2024 15:45*	WG2238583

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	98.3	B J	31.6	100	1	03/03/2024 21:54	WG2238768
(S) a,a,a-Trifluorotoluene(FID)	*88.3*			*78.0-120*		*03/03/2024 21:54*	WG2238768

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	03/03/2024 11:04	WG2238583
Acrolein	U		2.54	50.0	1	03/03/2024 11:04	WG2238583
Acrylonitrile	U		0.671	10.0	1	03/03/2024 11:04	WG2238583
Benzene	1.45		0.0941	1.00	1	03/03/2024 11:04	WG2238583
Bromobenzene	U		0.118	1.00	1	03/03/2024 11:04	WG2238583
Bromodichloromethane	U		0.136	1.00	1	03/03/2024 11:04	WG2238583
Bromoform	U		0.129	1.00	1	03/03/2024 11:04	WG2238583
Bromomethane	U		0.605	5.00	1	03/03/2024 11:04	WG2238583
n-Butylbenzene	U		0.157	1.00	1	03/03/2024 11:04	WG2238583
sec-Butylbenzene	0.184	J	0.125	1.00	1	03/03/2024 11:04	WG2238583
tert-Butylbenzene	U		0.127	1.00	1	03/03/2024 11:04	WG2238583
Carbon disulfide	U		0.0962	1.00	1	03/03/2024 11:04	WG2238583
Carbon tetrachloride	U		0.128	1.00	1	03/03/2024 11:04	WG2238583
Chlorobenzene	U		0.116	1.00	1	03/03/2024 11:04	WG2238583
Chlorodibromomethane	U		0.140	1.00	1	03/03/2024 11:04	WG2238583
Chloroethane	U		0.192	5.00	1	03/03/2024 11:04	WG2238583
Chloroform	U		0.111	5.00	1	03/03/2024 11:04	WG2238583
Chloromethane	U		0.960	2.50	1	03/03/2024 11:04	WG2238583
2-Chlorotoluene	U		0.106	1.00	1	03/03/2024 11:04	WG2238583
4-Chlorotoluene	U		0.114	1.00	1	03/03/2024 11:04	WG2238583
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/03/2024 11:04	WG2238583
1,2-Dibromoethane	U		0.126	1.00	1	03/03/2024 11:04	WG2238583
Dibromomethane	U		0.122	1.00	1	03/03/2024 11:04	WG2238583
1,2-Dichlorobenzene	U		0.107	1.00	1	03/03/2024 11:04	WG2238583
1,3-Dichlorobenzene	U		0.110	1.00	1	03/03/2024 11:04	WG2238583
1,4-Dichlorobenzene	U		0.120	1.00	1	03/03/2024 11:04	WG2238583
Dichlorodifluoromethane	U		0.374	5.00	1	03/03/2024 11:04	WG2238583
1,1-Dichloroethane	U		0.100	1.00	1	03/03/2024 11:04	WG2238583
1,2-Dichloroethane	U		0.0819	1.00	1	03/03/2024 11:04	WG2238583
1,1-Dichloroethene	U		0.188	1.00	1	03/03/2024 11:04	WG2238583
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/03/2024 11:04	WG2238583
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/03/2024 11:04	WG2238583
1,2-Dichloropropane	U		0.149	1.00	1	03/03/2024 11:04	WG2238583
1,1-Dichloropropene	U		0.142	1.00	1	03/03/2024 11:04	WG2238583
1,3-Dichloropropane	U		0.110	1.00	1	03/03/2024 11:04	WG2238583
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/03/2024 11:04	WG2238583
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/03/2024 11:04	WG2238583
2,2-Dichloropropane	U		0.161	1.00	1	03/03/2024 11:04	WG2238583
Di-isopropyl ether	U		0.105	1.00	1	03/03/2024 11:04	WG2238583
Ethylbenzene	7.86		0.137	1.00	1	03/03/2024 11:04	WG2238583
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/03/2024 11:04	WG2238583
Isopropylbenzene	0.488	J	0.105	1.00	1	03/03/2024 11:04	WG2238583
p-Isopropyltoluene	U		0.120	1.00	1	03/03/2024 11:04	WG2238583
2-Butanone (MEK)	U		1.19	10.0	1	03/03/2024 11:04	WG2238583
Methylene Chloride	U		0.430	5.00	1	03/03/2024 11:04	WG2238583
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/03/2024 11:04	WG2238583
Methyl tert-butyl ether	U		0.101	1.00	1	03/03/2024 11:04	WG2238583
Naphthalene	U		1.00	5.00	1	03/03/2024 11:04	WG2238583

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	1.57		0.0993	1.00	1	03/03/2024 11:04	WG2238583
Styrene	U		0.118	1.00	1	03/03/2024 11:04	WG2238583
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/03/2024 11:04	WG2238583
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/03/2024 11:04	WG2238583
1,1,2-Trichlorotrifluoroethane	U	J4	0.180	1.00	1	03/03/2024 11:04	WG2238583
Tetrachloroethene	U		0.300	1.00	1	03/03/2024 11:04	WG2238583
Toluene	U		0.278	1.00	1	03/03/2024 11:04	WG2238583
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/03/2024 11:04	WG2238583
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/03/2024 11:04	WG2238583
1,1,1-Trichloroethane	U		0.149	1.00	1	03/03/2024 11:04	WG2238583
1,1,2-Trichloroethane	U		0.158	1.00	1	03/03/2024 11:04	WG2238583
Trichloroethene	U		0.190	1.00	1	03/03/2024 11:04	WG2238583
Trichlorofluoromethane	U		0.160	5.00	1	03/03/2024 11:04	WG2238583
1,2,3-Trichloropropane	U		0.237	2.50	1	03/03/2024 11:04	WG2238583
1,2,4-Trimethylbenzene	0.753	J	0.322	1.00	1	03/03/2024 11:04	WG2238583
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/03/2024 11:04	WG2238583
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/03/2024 11:04	WG2238583
Vinyl chloride	U		0.234	1.00	1	03/03/2024 11:04	WG2238583
Xylenes, Total	0.329	J	0.174	3.00	1	03/03/2024 11:04	WG2238583
(S) Toluene-d8	*103*			*80.0-120*		*03/03/2024 11:04*	WG2238583
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*03/03/2024 11:04*	WG2238583
(S) 1,2-Dichloroethane-d4	*90.2*			*70.0-130*		*03/03/2024 11:04*	WG2238583

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	3440		31.6	100	1	03/03/2024 22:17	WG2238768
(S) a,a,a-Trifluorotoluene(FID)	*93.3*			*78.0-120*		*03/03/2024 22:17*	WG2238768

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	03/06/2024 00:29	WG2239891
Acrolein	U	J4	12.7	250	5	03/06/2024 00:29	WG2239891
Acrylonitrile	U		3.36	50.0	5	03/06/2024 00:29	WG2239891
Benzene	554		0.471	5.00	5	03/06/2024 00:29	WG2239891
Bromobenzene	U		0.590	5.00	5	03/06/2024 00:29	WG2239891
Bromodichloromethane	U		0.680	5.00	5	03/06/2024 00:29	WG2239891
Bromoform	U		0.645	5.00	5	03/06/2024 00:29	WG2239891
Bromomethane	U		3.03	25.0	5	03/06/2024 00:29	WG2239891
n-Butylbenzene	U		0.785	5.00	5	03/06/2024 00:29	WG2239891
sec-Butylbenzene	4.37	J	0.625	5.00	5	03/06/2024 00:29	WG2239891
tert-Butylbenzene	U		0.635	5.00	5	03/06/2024 00:29	WG2239891
Carbon disulfide	0.606	J	0.481	5.00	5	03/06/2024 00:29	WG2239891
Carbon tetrachloride	U		0.640	5.00	5	03/06/2024 00:29	WG2239891
Chlorobenzene	U		0.580	5.00	5	03/06/2024 00:29	WG2239891
Chlorodibromomethane	U		0.700	5.00	5	03/06/2024 00:29	WG2239891
Chloroethane	U		0.960	25.0	5	03/06/2024 00:29	WG2239891
Chloroform	U		0.555	25.0	5	03/06/2024 00:29	WG2239891
Chloromethane	U		4.80	12.5	5	03/06/2024 00:29	WG2239891
2-Chlorotoluene	U		0.530	5.00	5	03/06/2024 00:29	WG2239891
4-Chlorotoluene	U		0.570	5.00	5	03/06/2024 00:29	WG2239891
1,2-Dibromo-3-Chloropropane	U	C3	1.38	25.0	5	03/06/2024 00:29	WG2239891
1,2-Dibromoethane	U		0.630	5.00	5	03/06/2024 00:29	WG2239891
Dibromomethane	U		0.610	5.00	5	03/06/2024 00:29	WG2239891
1,2-Dichlorobenzene	U		0.535	5.00	5	03/06/2024 00:29	WG2239891
1,3-Dichlorobenzene	U		0.550	5.00	5	03/06/2024 00:29	WG2239891
1,4-Dichlorobenzene	U		0.600	5.00	5	03/06/2024 00:29	WG2239891
Dichlorodifluoromethane	U	J3	1.87	25.0	5	03/06/2024 00:29	WG2239891
1,1-Dichloroethane	U		0.500	5.00	5	03/06/2024 00:29	WG2239891
1,2-Dichloroethane	U		0.409	5.00	5	03/06/2024 00:29	WG2239891
1,1-Dichloroethene	U		0.940	5.00	5	03/06/2024 00:29	WG2239891
cis-1,2-Dichloroethene	U		0.630	5.00	5	03/06/2024 00:29	WG2239891
trans-1,2-Dichloroethene	U		0.745	5.00	5	03/06/2024 00:29	WG2239891
1,2-Dichloropropane	U		0.745	5.00	5	03/06/2024 00:29	WG2239891
1,1-Dichloropropene	U		0.710	5.00	5	03/06/2024 00:29	WG2239891
1,3-Dichloropropane	U		0.550	5.00	5	03/06/2024 00:29	WG2239891
cis-1,3-Dichloropropene	U		0.555	5.00	5	03/06/2024 00:29	WG2239891
trans-1,3-Dichloropropene	U		0.590	5.00	5	03/06/2024 00:29	WG2239891
2,2-Dichloropropane	U		0.805	5.00	5	03/06/2024 00:29	WG2239891
Di-isopropyl ether	U		0.525	5.00	5	03/06/2024 00:29	WG2239891
Ethylbenzene	34.9		0.685	5.00	5	03/06/2024 00:29	WG2239891
Hexachloro-1,3-butadiene	U		1.69	5.00	5	03/06/2024 00:29	WG2239891
Isopropylbenzene	17.1		0.525	5.00	5	03/06/2024 00:29	WG2239891
p-Isopropyltoluene	1.16	J	0.600	5.00	5	03/06/2024 00:29	WG2239891
2-Butanone (MEK)	U		5.95	50.0	5	03/06/2024 00:29	WG2239891
Methylene Chloride	U		2.15	25.0	5	03/06/2024 00:29	WG2239891
4-Methyl-2-pentanone (MIBK)	U		2.39	50.0	5	03/06/2024 00:29	WG2239891
Methyl tert-butyl ether	U		0.505	5.00	5	03/06/2024 00:29	WG2239891
Naphthalene	U	C3	5.00	25.0	5	03/06/2024 00:29	WG2239891

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	67.4		0.497	5.00	5	03/06/2024 00:29	WG2239891
Styrene	U		0.590	5.00	5	03/06/2024 00:29	WG2239891
1,1,1,2-Tetrachloroethane	U		0.735	5.00	5	03/06/2024 00:29	WG2239891
1,1,2,2-Tetrachloroethane	U		0.665	5.00	5	03/06/2024 00:29	WG2239891
1,1,2-Trichlorotrifluoroethane	U		0.900	5.00	5	03/06/2024 00:29	WG2239891
Tetrachloroethene	U		1.50	5.00	5	03/06/2024 00:29	WG2239891
Toluene	4.94	J	1.39	5.00	5	03/06/2024 00:29	WG2239891
1,2,3-Trichlorobenzene	U		1.15	5.00	5	03/06/2024 00:29	WG2239891
1,2,4-Trichlorobenzene	U		2.41	5.00	5	03/06/2024 00:29	WG2239891
1,1,1-Trichloroethane	U		0.745	5.00	5	03/06/2024 00:29	WG2239891
1,1,2-Trichloroethane	U		0.790	5.00	5	03/06/2024 00:29	WG2239891
Trichloroethene	U		0.950	5.00	5	03/06/2024 00:29	WG2239891
Trichlorofluoromethane	U		0.800	25.0	5	03/06/2024 00:29	WG2239891
1,2,3-Trichloropropane	U		1.19	12.5	5	03/06/2024 00:29	WG2239891
1,2,4-Trimethylbenzene	3.59	J	1.61	5.00	5	03/06/2024 00:29	WG2239891
1,2,3-Trimethylbenzene	9.57		0.520	5.00	5	03/06/2024 00:29	WG2239891
1,3,5-Trimethylbenzene	4.87	J	0.520	5.00	5	03/06/2024 00:29	WG2239891
Vinyl chloride	U	J4	1.17	5.00	5	03/06/2024 00:29	WG2239891
Xylenes, Total	15.8		0.870	15.0	5	03/06/2024 00:29	WG2239891
(S) Toluene-d8	*101*			*80.0-120*		*03/06/2024 00:29*	WG2239891
(S) 4-Bromofluorobenzene	*101*			*77.0-126*		*03/06/2024 00:29*	WG2239891
(S) 1,2-Dichloroethane-d4	*93.3*			*70.0-130*		*03/06/2024 00:29*	WG2239891

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	940		31.6	100	1	03/03/2024 22:40	WG2238768
(S) a,a,a-Trifluorotoluene(FID)	*90.0*			*78.0-120*		*03/03/2024 22:40*	WG2238768

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	03/03/2024 11:26	WG2238583
Acrolein	U		2.54	50.0	1	03/03/2024 11:26	WG2238583
Acrylonitrile	U		0.671	10.0	1	03/03/2024 11:26	WG2238583
Benzene	27.6		0.0941	1.00	1	03/03/2024 11:26	WG2238583
Bromobenzene	U		0.118	1.00	1	03/03/2024 11:26	WG2238583
Bromodichloromethane	U		0.136	1.00	1	03/03/2024 11:26	WG2238583
Bromoform	U		0.129	1.00	1	03/03/2024 11:26	WG2238583
Bromomethane	U		0.605	5.00	1	03/03/2024 11:26	WG2238583
n-Butylbenzene	2.14		0.157	1.00	1	03/03/2024 11:26	WG2238583
sec-Butylbenzene	2.74		0.125	1.00	1	03/03/2024 11:26	WG2238583
tert-Butylbenzene	U		0.127	1.00	1	03/03/2024 11:26	WG2238583
Carbon disulfide	U		0.0962	1.00	1	03/03/2024 11:26	WG2238583
Carbon tetrachloride	U		0.128	1.00	1	03/03/2024 11:26	WG2238583
Chlorobenzene	U		0.116	1.00	1	03/03/2024 11:26	WG2238583
Chlorodibromomethane	U		0.140	1.00	1	03/03/2024 11:26	WG2238583
Chloroethane	U		0.192	5.00	1	03/03/2024 11:26	WG2238583
Chloroform	U		0.111	5.00	1	03/03/2024 11:26	WG2238583
Chloromethane	U		0.960	2.50	1	03/03/2024 11:26	WG2238583
2-Chlorotoluene	U		0.106	1.00	1	03/03/2024 11:26	WG2238583
4-Chlorotoluene	U		0.114	1.00	1	03/03/2024 11:26	WG2238583
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/03/2024 11:26	WG2238583
1,2-Dibromoethane	U		0.126	1.00	1	03/03/2024 11:26	WG2238583
Dibromomethane	U		0.122	1.00	1	03/03/2024 11:26	WG2238583
1,2-Dichlorobenzene	U		0.107	1.00	1	03/03/2024 11:26	WG2238583
1,3-Dichlorobenzene	U		0.110	1.00	1	03/03/2024 11:26	WG2238583
1,4-Dichlorobenzene	U		0.120	1.00	1	03/03/2024 11:26	WG2238583
Dichlorodifluoromethane	U		0.374	5.00	1	03/03/2024 11:26	WG2238583
1,1-Dichloroethane	U		0.100	1.00	1	03/03/2024 11:26	WG2238583
1,2-Dichloroethane	U		0.0819	1.00	1	03/03/2024 11:26	WG2238583
1,1-Dichloroethene	U		0.188	1.00	1	03/03/2024 11:26	WG2238583
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/03/2024 11:26	WG2238583
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/03/2024 11:26	WG2238583
1,2-Dichloropropane	U		0.149	1.00	1	03/03/2024 11:26	WG2238583
1,1-Dichloropropene	U		0.142	1.00	1	03/03/2024 11:26	WG2238583
1,3-Dichloropropane	U		0.110	1.00	1	03/03/2024 11:26	WG2238583
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/03/2024 11:26	WG2238583
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/03/2024 11:26	WG2238583
2,2-Dichloropropane	U		0.161	1.00	1	03/03/2024 11:26	WG2238583
Di-isopropyl ether	U		0.105	1.00	1	03/03/2024 11:26	WG2238583
Ethylbenzene	33.2		0.137	1.00	1	03/03/2024 11:26	WG2238583
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/03/2024 11:26	WG2238583
Isopropylbenzene	12.2		0.105	1.00	1	03/03/2024 11:26	WG2238583
p-Isopropyltoluene	U		0.120	1.00	1	03/03/2024 11:26	WG2238583
2-Butanone (MEK)	U		1.19	10.0	1	03/03/2024 11:26	WG2238583
Methylene Chloride	U		0.430	5.00	1	03/03/2024 11:26	WG2238583
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/03/2024 11:26	WG2238583
Methyl tert-butyl ether	U		0.101	1.00	1	03/03/2024 11:26	WG2238583
Naphthalene	6.10		1.00	5.00	1	03/03/2024 11:26	WG2238583

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	34.3		0.0993	1.00	1	03/03/2024 11:26	WG2238583
Styrene	U		0.118	1.00	1	03/03/2024 11:26	WG2238583
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/03/2024 11:26	WG2238583
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/03/2024 11:26	WG2238583
1,1,2-Trichlorotrifluoroethane	U	J4	0.180	1.00	1	03/03/2024 11:26	WG2238583
Tetrachloroethene	U		0.300	1.00	1	03/03/2024 11:26	WG2238583
Toluene	0.518	J	0.278	1.00	1	03/03/2024 11:26	WG2238583
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/03/2024 11:26	WG2238583
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/03/2024 11:26	WG2238583
1,1,1-Trichloroethane	U		0.149	1.00	1	03/03/2024 11:26	WG2238583
1,1,2-Trichloroethane	U		0.158	1.00	1	03/03/2024 11:26	WG2238583
Trichloroethene	U		0.190	1.00	1	03/03/2024 11:26	WG2238583
Trichlorofluoromethane	U		0.160	5.00	1	03/03/2024 11:26	WG2238583
1,2,3-Trichloropropane	U		0.237	2.50	1	03/03/2024 11:26	WG2238583
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/03/2024 11:26	WG2238583
1,2,3-Trimethylbenzene	10.4		0.104	1.00	1	03/03/2024 11:26	WG2238583
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/03/2024 11:26	WG2238583
Vinyl chloride	U		0.234	1.00	1	03/03/2024 11:26	WG2238583
Xylenes, Total	6.20		0.174	3.00	1	03/03/2024 11:26	WG2238583
(S) Toluene-d8	*102*			*80.0-120*		*03/03/2024 11:26*	WG2238583
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*03/03/2024 11:26*	WG2238583
(S) 1,2-Dichloroethane-d4	*88.1*			*70.0-130*		*03/03/2024 11:26*	WG2238583

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	4690		31.6	100	1	03/03/2024 23:03	WG2238768
(S) a,a,a-Trifluorotoluene(FID)	*93.9*			*78.0-120*		*03/03/2024 23:03*	WG2238768

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	03/03/2024 11:48	WG2238583
Acrolein	U		2.54	50.0	1	03/03/2024 11:48	WG2238583
Acrylonitrile	U		0.671	10.0	1	03/03/2024 11:48	WG2238583
Benzene	686		1.88	20.0	20	03/06/2024 00:49	WG2239891
Bromobenzene	U		0.118	1.00	1	03/03/2024 11:48	WG2238583
Bromodichloromethane	U		0.136	1.00	1	03/03/2024 11:48	WG2238583
Bromoform	U		0.129	1.00	1	03/03/2024 11:48	WG2238583
Bromomethane	U		0.605	5.00	1	03/03/2024 11:48	WG2238583
n-Butylbenzene	U		0.157	1.00	1	03/03/2024 11:48	WG2238583
sec-Butylbenzene	7.41		0.125	1.00	1	03/03/2024 11:48	WG2238583
tert-Butylbenzene	U		0.127	1.00	1	03/03/2024 11:48	WG2238583
Carbon disulfide	U		0.0962	1.00	1	03/03/2024 11:48	WG2238583
Carbon tetrachloride	U		0.128	1.00	1	03/03/2024 11:48	WG2238583
Chlorobenzene	U		0.116	1.00	1	03/03/2024 11:48	WG2238583
Chlorodibromomethane	U		0.140	1.00	1	03/03/2024 11:48	WG2238583
Chloroethane	U		0.192	5.00	1	03/03/2024 11:48	WG2238583
Chloroform	U		0.111	5.00	1	03/03/2024 11:48	WG2238583
Chloromethane	U		0.960	2.50	1	03/03/2024 11:48	WG2238583
2-Chlorotoluene	U		0.106	1.00	1	03/03/2024 11:48	WG2238583
4-Chlorotoluene	U		0.114	1.00	1	03/03/2024 11:48	WG2238583
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/03/2024 11:48	WG2238583
1,2-Dibromoethane	U		0.126	1.00	1	03/03/2024 11:48	WG2238583
Dibromomethane	U		0.122	1.00	1	03/03/2024 11:48	WG2238583
1,2-Dichlorobenzene	U		0.107	1.00	1	03/03/2024 11:48	WG2238583
1,3-Dichlorobenzene	U		0.110	1.00	1	03/03/2024 11:48	WG2238583
1,4-Dichlorobenzene	U		0.120	1.00	1	03/03/2024 11:48	WG2238583
Dichlorodifluoromethane	U		0.374	5.00	1	03/03/2024 11:48	WG2238583
1,1-Dichloroethane	U		0.100	1.00	1	03/03/2024 11:48	WG2238583
1,2-Dichloroethane	U		0.0819	1.00	1	03/03/2024 11:48	WG2238583
1,1-Dichloroethene	U		0.188	1.00	1	03/03/2024 11:48	WG2238583
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/03/2024 11:48	WG2238583
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/03/2024 11:48	WG2238583
1,2-Dichloropropane	U		0.149	1.00	1	03/03/2024 11:48	WG2238583
1,1-Dichloropropene	U		0.142	1.00	1	03/03/2024 11:48	WG2238583
1,3-Dichloropropane	U		0.110	1.00	1	03/03/2024 11:48	WG2238583
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/03/2024 11:48	WG2238583
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/03/2024 11:48	WG2238583
2,2-Dichloropropane	U		0.161	1.00	1	03/03/2024 11:48	WG2238583
Di-isopropyl ether	U		0.105	1.00	1	03/03/2024 11:48	WG2238583
Ethylbenzene	54.2		0.137	1.00	1	03/03/2024 11:48	WG2238583
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/03/2024 11:48	WG2238583
Isopropylbenzene	28.3		0.105	1.00	1	03/03/2024 11:48	WG2238583
p-Isopropyltoluene	U		0.120	1.00	1	03/03/2024 11:48	WG2238583
2-Butanone (MEK)	U		1.19	10.0	1	03/03/2024 11:48	WG2238583
Methylene Chloride	U		0.430	5.00	1	03/03/2024 11:48	WG2238583
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/03/2024 11:48	WG2238583
Methyl tert-butyl ether	U		0.101	1.00	1	03/03/2024 11:48	WG2238583
Naphthalene	3.88	J	1.00	5.00	1	03/03/2024 11:48	WG2238583

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	103		0.0993	1.00	1	03/03/2024 11:48	WG2238583
Styrene	U		0.118	1.00	1	03/03/2024 11:48	WG2238583
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/03/2024 11:48	WG2238583
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/03/2024 11:48	WG2238583
1,1,2-Trichlorotrifluoroethane	U	J4	0.180	1.00	1	03/03/2024 11:48	WG2238583
Tetrachloroethene	U		0.300	1.00	1	03/03/2024 11:48	WG2238583
Toluene	6.20		0.278	1.00	1	03/03/2024 11:48	WG2238583
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/03/2024 11:48	WG2238583
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/03/2024 11:48	WG2238583
1,1,1-Trichloroethane	U		0.149	1.00	1	03/03/2024 11:48	WG2238583
1,1,2-Trichloroethane	U		0.158	1.00	1	03/03/2024 11:48	WG2238583
Trichloroethene	U		0.190	1.00	1	03/03/2024 11:48	WG2238583
Trichlorofluoromethane	U		0.160	5.00	1	03/03/2024 11:48	WG2238583
1,2,3-Trichloropropane	U		0.237	2.50	1	03/03/2024 11:48	WG2238583
1,2,4-Trimethylbenzene	5.56		0.322	1.00	1	03/03/2024 11:48	WG2238583
1,2,3-Trimethylbenzene	13.9		0.104	1.00	1	03/03/2024 11:48	WG2238583
1,3,5-Trimethylbenzene	7.33		0.104	1.00	1	03/03/2024 11:48	WG2238583
Vinyl chloride	U		0.234	1.00	1	03/03/2024 11:48	WG2238583
Xylenes, Total	20.1		0.174	3.00	1	03/03/2024 11:48	WG2238583
(S) Toluene-d8	*98.8*			*80.0-120*		*03/03/2024 11:48*	WG2238583
(S) Toluene-d8	*102*			*80.0-120*		*03/06/2024 00:49*	WG2239891
(S) 4-Bromofluorobenzene	*102*			*77.0-126*		*03/03/2024 11:48*	WG2238583
(S) 4-Bromofluorobenzene	*99.2*			*77.0-126*		*03/06/2024 00:49*	WG2239891
(S) 1,2-Dichloroethane-d4	*85.2*			*70.0-130*		*03/03/2024 11:48*	WG2238583
(S) 1,2-Dichloroethane-d4	*92.3*			*70.0-130*		*03/06/2024 00:49*	WG2239891

Method Blank (MB)

(MB) R4042276-2 03/03/24 21:09

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	41.7	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*89.7*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R4042276-1 03/03/24 20:24

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5000	4790	95.8	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*93.9*	*78.0-120*	

Method Blank (MB)

(MB) R4042339-3 03/04/24 13:58

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	32.4	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*93.5*			*78.0-120*

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

(LCS) R4042339-1 03/04/24 12:08 • (LCSD) R4042339-2 03/04/24 12:52

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	3950	4050	79.0	81.0	70.0-124			2.50	20
(S) a,a,a-Trifluorotoluene(FID)				*100*	*101*	*78.0-120*				

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

Method Blank (MB)

(MB) R4042636-2 03/06/24 16:29

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)	*99.5*			*78.0-120*

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

(LCS) R4042636-1 03/06/24 15:14 • (LCSD) R4042636-3 03/06/24 18:21

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	5400	6070	108	121	70.0-124			11.7	20
(S) a,a,a-Trifluorotoluene(FID)				*105*	*106*	*78.0-120*				

Method Blank (MB)

(MB) R4041813-2 03/02/24 10:19

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) R4041813-2 03/02/24 10:19

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	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*98.0*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*95.8*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R4041813-1 03/02/24 09:41

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	25.0	17.0	68.0	19.0-160	
Acrolein	25.0	42.1	168	10.0-160	J4
Acrylonitrile	25.0	23.5	94.0	55.0-149	

Laboratory Control Sample (LCS)

(LCS) R4041813-1 03/02/24 09:41

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	5.00	5.56	111	70.0-123	
Bromobenzene	5.00	5.39	108	73.0-121	
Bromodichloromethane	5.00	5.36	107	75.0-120	
Bromoform	5.00	5.48	110	68.0-132	
Bromomethane	5.00	5.57	111	10.0-160	
n-Butylbenzene	5.00	5.93	119	73.0-125	
sec-Butylbenzene	5.00	6.23	125	75.0-125	
tert-Butylbenzene	5.00	6.33	127	76.0-124	J4
Carbon disulfide	5.00	5.92	118	61.0-128	
Carbon tetrachloride	5.00	6.39	128	68.0-126	J4
Chlorobenzene	5.00	5.63	113	80.0-121	
Chlorodibromomethane	5.00	5.58	112	77.0-125	
Chloroethane	5.00	5.78	116	47.0-150	
Chloroform	5.00	5.06	101	73.0-120	
Chloromethane	5.00	5.40	108	41.0-142	
2-Chlorotoluene	5.00	5.66	113	76.0-123	
4-Chlorotoluene	5.00	5.81	116	75.0-122	
1,2-Dibromo-3-Chloropropane	5.00	4.70	94.0	58.0-134	
1,2-Dibromoethane	5.00	5.54	111	80.0-122	
Dibromomethane	5.00	5.33	107	80.0-120	
1,2-Dichlorobenzene	5.00	5.80	116	79.0-121	
1,3-Dichlorobenzene	5.00	5.89	118	79.0-120	
1,4-Dichlorobenzene	5.00	5.85	117	79.0-120	
Dichlorodifluoromethane	5.00	5.86	117	51.0-149	
1,1-Dichloroethane	5.00	5.76	115	70.0-126	
1,2-Dichloroethane	5.00	5.45	109	70.0-128	
1,1-Dichloroethene	5.00	5.34	107	71.0-124	
cis-1,2-Dichloroethene	5.00	5.50	110	73.0-120	
trans-1,2-Dichloroethene	5.00	5.72	114	73.0-120	
1,2-Dichloropropane	5.00	5.56	111	77.0-125	
1,1-Dichloropropene	5.00	5.89	118	74.0-126	
1,3-Dichloropropane	5.00	5.51	110	80.0-120	
cis-1,3-Dichloropropene	5.00	5.31	106	80.0-123	
trans-1,3-Dichloropropene	5.00	5.52	110	78.0-124	
2,2-Dichloropropane	5.00	5.94	119	58.0-130	
Di-isopropyl ether	5.00	4.94	98.8	58.0-138	
Ethylbenzene	5.00	5.66	113	79.0-123	
Hexachloro-1,3-butadiene	5.00	5.04	101	54.0-138	
Isopropylbenzene	5.00	5.87	117	76.0-127	
p-Isopropyltoluene	5.00	6.20	124	76.0-125	

Laboratory Control Sample (LCS)

(LCS) R4041813-1 03/02/24 09:41

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2-Butanone (MEK)	25.0	24.4	97.6	44.0-160	
Methylene Chloride	5.00	5.23	105	67.0-120	
4-Methyl-2-pentanone (MIBK)	25.0	26.3	105	68.0-142	
Methyl tert-butyl ether	5.00	4.97	99.4	68.0-125	
Naphthalene	5.00	4.24	84.8	54.0-135	
n-Propylbenzene	5.00	5.93	119	77.0-124	
Styrene	5.00	5.52	110	73.0-130	
1,1,1,2-Tetrachloroethane	5.00	5.51	110	75.0-125	
1,1,2,2-Tetrachloroethane	5.00	5.75	115	65.0-130	
1,1,2-Trichlorotrifluoroethane	5.00	6.25	125	69.0-132	
Tetrachloroethene	5.00	5.99	120	72.0-132	
Toluene	5.00	5.22	104	79.0-120	
1,2,3-Trichlorobenzene	5.00	4.04	80.8	50.0-138	
1,2,4-Trichlorobenzene	5.00	4.02	80.4	57.0-137	
1,1,1-Trichloroethane	5.00	5.99	120	73.0-124	
1,1,2-Trichloroethane	5.00	5.47	109	80.0-120	
Trichloroethene	5.00	5.48	110	78.0-124	
Trichlorofluoromethane	5.00	6.17	123	59.0-147	
1,2,3-Trichloropropane	5.00	6.00	120	73.0-130	
1,2,4-Trimethylbenzene	5.00	5.69	114	76.0-121	
1,2,3-Trimethylbenzene	5.00	5.71	114	77.0-120	
1,3,5-Trimethylbenzene	5.00	6.13	123	76.0-122	J4
Vinyl chloride	5.00	6.18	124	67.0-131	
Xylenes, Total	15.0	17.1	114	79.0-123	
(S) Toluene-d8			*100*	*80.0-120*	
(S) 4-Bromofluorobenzene			*99.9*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*98.3*	*70.0-130*	

Method Blank (MB)

(MB) R4041585-3 03/03/24 08:59

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) R4041585-3 03/03/24 08:59

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	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*105*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*91.4*			*70.0-130*

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

(LCS) R4041585-1 03/03/24 07:54 • (LCSD) R4041585-2 03/03/24 08:16

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	24.5	24.9	98.0	99.6	19.0-160			1.62	27
Acrolein	25.0	37.6	35.3	150	141	10.0-160			6.31	26
Acrylonitrile	25.0	26.4	26.6	106	106	55.0-149			0.755	20

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

(LCS) R4041585-1 03/03/24 07:54 • (LCSD) R4041585-2 03/03/24 08:16

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	5.33	5.47	107	109	70.0-123			2.59	20
Bromobenzene	5.00	5.11	5.37	102	107	73.0-121			4.96	20
Bromodichloromethane	5.00	5.00	5.10	100	102	75.0-120			1.98	20
Bromoform	5.00	4.20	4.49	84.0	89.8	68.0-132			6.67	20
Bromomethane	5.00	6.14	6.62	123	132	10.0-160			7.52	25
n-Butylbenzene	5.00	5.19	5.40	104	108	73.0-125			3.97	20
sec-Butylbenzene	5.00	5.29	5.44	106	109	75.0-125			2.80	20
tert-Butylbenzene	5.00	5.33	5.45	107	109	76.0-124			2.23	20
Carbon disulfide	5.00	5.48	5.58	110	112	61.0-128			1.81	20
Carbon tetrachloride	5.00	5.29	5.59	106	112	68.0-126			5.51	20
Chlorobenzene	5.00	5.17	5.23	103	105	80.0-121			1.15	20
Chlorodibromomethane	5.00	4.61	4.61	92.2	92.2	77.0-125			0.000	20
Chloroethane	5.00	5.76	6.15	115	123	47.0-150			6.55	20
Chloroform	5.00	5.29	5.29	106	106	73.0-120			0.000	20
Chloromethane	5.00	5.08	5.09	102	102	41.0-142			0.197	20
2-Chlorotoluene	5.00	5.30	5.67	106	113	76.0-123			6.75	20
4-Chlorotoluene	5.00	4.94	5.24	98.8	105	75.0-122			5.89	20
1,2-Dibromo-3-Chloropropane	5.00	4.45	4.98	89.0	99.6	58.0-134			11.2	20
1,2-Dibromoethane	5.00	4.94	5.31	98.8	106	80.0-122			7.22	20
Dibromomethane	5.00	5.27	5.40	105	108	80.0-120			2.44	20
1,2-Dichlorobenzene	5.00	5.26	5.38	105	108	79.0-121			2.26	20
1,3-Dichlorobenzene	5.00	5.17	5.33	103	107	79.0-120			3.05	20
1,4-Dichlorobenzene	5.00	5.03	5.12	101	102	79.0-120			1.77	20
Dichlorodifluoromethane	5.00	5.45	5.71	109	114	51.0-149			4.66	20
1,1-Dichloroethane	5.00	5.24	5.51	105	110	70.0-126			5.02	20
1,2-Dichloroethane	5.00	4.73	4.99	94.6	99.8	70.0-128			5.35	20
1,1-Dichloroethene	5.00	6.10	6.02	122	120	71.0-124			1.32	20
cis-1,2-Dichloroethene	5.00	5.33	5.39	107	108	73.0-120			1.12	20
trans-1,2-Dichloroethene	5.00	5.58	5.44	112	109	73.0-120			2.54	20
1,2-Dichloropropane	5.00	5.57	5.44	111	109	77.0-125			2.36	20
1,1-Dichloropropene	5.00	5.63	5.55	113	111	74.0-126			1.43	20
1,3-Dichloropropane	5.00	5.00	5.32	100	106	80.0-120			6.20	20
cis-1,3-Dichloropropene	5.00	5.16	5.12	103	102	80.0-123			0.778	20
trans-1,3-Dichloropropene	5.00	4.72	4.93	94.4	98.6	78.0-124			4.35	20
2,2-Dichloropropane	5.00	5.97	6.02	119	120	58.0-130			0.834	20
Di-isopropyl ether	5.00	5.17	5.46	103	109	58.0-138			5.46	20
Ethylbenzene	5.00	5.08	5.26	102	105	79.0-123			3.48	20
Hexachloro-1,3-butadiene	5.00	5.18	5.25	104	105	54.0-138			1.34	20
Isopropylbenzene	5.00	5.22	5.29	104	106	76.0-127			1.33	20
p-Isopropyltoluene	5.00	5.64	5.81	113	116	76.0-125			2.97	20

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

(LCS) R4041585-1 03/03/24 07:54 • (LCSD) R4041585-2 03/03/24 08:16

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	23.8	25.1	95.2	100	44.0-160			5.32	20
Methylene Chloride	5.00	5.40	5.67	108	113	67.0-120			4.88	20
4-Methyl-2-pentanone (MIBK)	25.0	26.7	26.8	107	107	68.0-142			0.374	20
Methyl tert-butyl ether	5.00	5.30	5.48	106	110	68.0-125			3.34	20
Naphthalene	5.00	4.13	4.56	82.6	91.2	54.0-135			9.90	20
n-Propylbenzene	5.00	5.43	5.66	109	113	77.0-124			4.15	20
Styrene	5.00	4.55	4.90	91.0	98.0	73.0-130			7.41	20
1,1,1,2-Tetrachloroethane	5.00	5.05	5.18	101	104	75.0-125			2.54	20
1,1,2,2-Tetrachloroethane	5.00	5.85	5.90	117	118	65.0-130			0.851	20
1,1,2-Trichlorotrifluoroethane	5.00	6.34	6.67	127	133	69.0-132		J4	5.07	20
Tetrachloroethene	5.00	5.54	5.47	111	109	72.0-132			1.27	20
Toluene	5.00	5.17	5.35	103	107	79.0-120			3.42	20
1,2,3-Trichlorobenzene	5.00	5.03	5.30	101	106	50.0-138			5.23	20
1,2,4-Trichlorobenzene	5.00	4.77	5.23	95.4	105	57.0-137			9.20	20
1,1,1-Trichloroethane	5.00	5.16	5.52	103	110	73.0-124			6.74	20
1,1,2-Trichloroethane	5.00	4.92	5.27	98.4	105	80.0-120			6.87	20
Trichloroethene	5.00	4.90	5.39	98.0	108	78.0-124			9.52	20
Trichlorofluoromethane	5.00	5.78	5.96	116	119	59.0-147			3.07	20
1,2,3-Trichloropropane	5.00	5.13	5.40	103	108	73.0-130			5.13	20
1,2,4-Trimethylbenzene	5.00	5.19	5.40	104	108	76.0-121			3.97	20
1,2,3-Trimethylbenzene	5.00	5.20	5.40	104	108	77.0-120			3.77	20
1,3,5-Trimethylbenzene	5.00	5.18	5.69	104	114	76.0-122			9.38	20
Vinyl chloride	5.00	5.84	5.85	117	117	67.0-131			0.171	20
Xylenes, Total	15.0	15.6	16.0	104	107	79.0-123			2.53	20
(S) Toluene-d8				*102*	*103*	*80.0-120*				
(S) 4-Bromofluorobenzene				*103*	*102*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*85.2*	*90.6*	*70.0-130*				

Method Blank (MB)

(MB) R4042165-3 03/05/24 20:35

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) R4042165-3 03/05/24 20:35

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	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*101*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*96.9*			*70.0-130*

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

(LCS) R4042165-1 03/05/24 18:54 • (LCSD) R4042165-2 03/05/24 19:14

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	24.8	19.3	99.2	77.2	19.0-160			24.9	27
Acrolein	25.0	111	104	444	416	10.0-160	J4	J4	6.51	26
Acrylonitrile	25.0	27.0	25.8	108	103	55.0-149			4.55	20

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

(LCS) R4042165-1 03/05/24 18:54 • (LCSD) R4042165-2 03/05/24 19:14

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	5.00	5.68	5.18	114	104	70.0-123			9.21	20
Bromobenzene	5.00	4.83	4.58	96.6	91.6	73.0-121			5.31	20
Bromodichloromethane	5.00	5.26	4.95	105	99.0	75.0-120			6.07	20
Bromoform	5.00	4.47	4.16	89.4	83.2	68.0-132			7.18	20
Bromomethane	5.00	4.17	4.24	83.4	84.8	10.0-160			1.66	25
n-Butylbenzene	5.00	4.13	3.98	82.6	79.6	73.0-125			3.70	20
sec-Butylbenzene	5.00	4.79	4.34	95.8	86.8	75.0-125			9.86	20
tert-Butylbenzene	5.00	4.66	4.27	93.2	85.4	76.0-124			8.73	20
Carbon disulfide	5.00	5.44	4.50	109	90.0	61.0-128			18.9	20
Carbon tetrachloride	5.00	5.77	4.97	115	99.4	68.0-126			14.9	20
Chlorobenzene	5.00	4.89	4.50	97.8	90.0	80.0-121			8.31	20
Chlorodibromomethane	5.00	4.56	4.29	91.2	85.8	77.0-125			6.10	20
Chloroethane	5.00	7.50	7.00	150	140	47.0-150			6.90	20
Chloroform	5.00	5.52	5.06	110	101	73.0-120			8.70	20
Chloromethane	5.00	6.21	5.38	124	108	41.0-142			14.3	20
2-Chlorotoluene	5.00	4.94	4.53	98.8	90.6	76.0-123			8.66	20
4-Chlorotoluene	5.00	4.65	4.33	93.0	86.6	75.0-122			7.13	20
1,2-Dibromo-3-Chloropropane	5.00	3.86	3.89	77.2	77.8	58.0-134			0.774	20
1,2-Dibromoethane	5.00	4.77	4.50	95.4	90.0	80.0-122			5.83	20
Dibromomethane	5.00	5.30	5.01	106	100	80.0-120			5.63	20
1,2-Dichlorobenzene	5.00	4.57	4.39	91.4	87.8	79.0-121			4.02	20
1,3-Dichlorobenzene	5.00	4.62	4.31	92.4	86.2	79.0-120			6.94	20
1,4-Dichlorobenzene	5.00	4.57	4.35	91.4	87.0	79.0-120			4.93	20
Dichlorodifluoromethane	5.00	7.18	5.86	144	117	51.0-149		J3	20.2	20
1,1-Dichloroethane	5.00	5.62	5.11	112	102	70.0-126			9.51	20
1,2-Dichloroethane	5.00	5.48	5.13	110	103	70.0-128			6.60	20
1,1-Dichloroethene	5.00	5.81	4.97	116	99.4	71.0-124			15.6	20
cis-1,2-Dichloroethene	5.00	5.57	4.94	111	98.8	73.0-120			12.0	20
trans-1,2-Dichloroethene	5.00	5.64	4.96	113	99.2	73.0-120			12.8	20
1,2-Dichloropropane	5.00	5.58	5.09	112	102	77.0-125			9.18	20
1,1-Dichloropropene	5.00	5.86	5.05	117	101	74.0-126			14.8	20
1,3-Dichloropropane	5.00	5.04	4.75	101	95.0	80.0-120			5.92	20
cis-1,3-Dichloropropene	5.00	5.42	5.15	108	103	80.0-123			5.11	20
trans-1,3-Dichloropropene	5.00	4.78	4.52	95.6	90.4	78.0-124			5.59	20
2,2-Dichloropropane	5.00	5.62	5.12	112	102	58.0-130			9.31	20
Di-isopropyl ether	5.00	5.10	4.77	102	95.4	58.0-138			6.69	20
Ethylbenzene	5.00	4.91	4.50	98.2	90.0	79.0-123			8.71	20
Hexachloro-1,3-butadiene	5.00	4.66	4.45	93.2	89.0	54.0-138			4.61	20
Isopropylbenzene	5.00	4.79	4.39	95.8	87.8	76.0-127			8.71	20
p-Isopropyltoluene	5.00	4.69	4.35	93.8	87.0	76.0-125			7.52	20

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

(LCS) R4042165-1 03/05/24 18:54 • (LCSD) R4042165-2 03/05/24 19:14

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	24.3	22.2	97.2	88.8	44.0-160			9.03	20
Methylene Chloride	5.00	5.49	5.02	110	100	67.0-120			8.94	20
4-Methyl-2-pentanone (MIBK)	25.0	24.3	23.3	97.2	93.2	68.0-142			4.20	20
Methyl tert-butyl ether	5.00	5.47	5.03	109	101	68.0-125			8.38	20
Naphthalene	5.00	3.73	3.81	74.6	76.2	54.0-135			2.12	20
n-Propylbenzene	5.00	4.87	4.42	97.4	88.4	77.0-124			9.69	20
Styrene	5.00	4.44	4.17	88.8	83.4	73.0-130			6.27	20
1,1,1,2-Tetrachloroethane	5.00	4.73	4.35	94.6	87.0	75.0-125			8.37	20
1,1,2,2-Tetrachloroethane	5.00	5.15	4.87	103	97.4	65.0-130			5.59	20
1,1,2-Trichlorotrifluoroethane	5.00	5.34	4.56	107	91.2	69.0-132			15.8	20
Tetrachloroethene	5.00	5.16	4.52	103	90.4	72.0-132			13.2	20
Toluene	5.00	4.93	4.51	98.6	90.2	79.0-120			8.90	20
1,2,3-Trichlorobenzene	5.00	5.04	5.13	101	103	50.0-138			1.77	20
1,2,4-Trichlorobenzene	5.00	4.47	4.52	89.4	90.4	57.0-137			1.11	20
1,1,1-Trichloroethane	5.00	5.57	4.91	111	98.2	73.0-124			12.6	20
1,1,2-Trichloroethane	5.00	4.95	4.77	99.0	95.4	80.0-120			3.70	20
Trichloroethene	5.00	5.47	4.87	109	97.4	78.0-124			11.6	20
Trichlorofluoromethane	5.00	6.23	5.36	125	107	59.0-147			15.0	20
1,2,3-Trichloropropane	5.00	4.97	4.59	99.4	91.8	73.0-130			7.95	20
1,2,4-Trimethylbenzene	5.00	4.58	4.23	91.6	84.6	76.0-121			7.95	20
1,2,3-Trimethylbenzene	5.00	4.63	4.39	92.6	87.8	77.0-120			5.32	20
1,3,5-Trimethylbenzene	5.00	4.69	4.38	93.8	87.6	76.0-122			6.84	20
Vinyl chloride	5.00	6.89	5.87	138	117	67.0-131	J4		16.0	20
Xylenes, Total	15.0	14.2	13.0	94.7	86.7	79.0-123			8.82	20
(S) Toluene-d8				*99.8*	*99.0*	*80.0-120*				
(S) 4-Bromofluorobenzene				*100*	*99.4*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*96.4*	*96.4*	*70.0-130*				

Method Blank (MB)

(MB) R4042124-3 03/05/24 22:21

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
cis-1,2-Dichloroethene	U		0.126	1.00
(S) Toluene-d8	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*99.1*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*99.3*			*70.0-130*

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

(LCS) R4042124-1 03/05/24 21:10 • (LCSD) R4042124-2 03/05/24 21:34

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
cis-1,2-Dichloroethene	5.00	4.90	4.97	98.0	99.4	73.0-120			1.42	20
(S) Toluene-d8				*98.1*	*98.1*	*80.0-120*				
(S) 4-Bromofluorobenzene				*104*	*102*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*101*	*99.1*	*70.0-130*				

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

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.
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.
C5	The reported concentration is an estimate. The continuing calibration standard associated with this data responded high. Data is likely to show a high bias concerning the result.
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.

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.

D236

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 ☒ Cost (for anticipated analyses) ☐ Other labs disqualified or unable to perform requested services ☐ Emergency work	**Turn Around Time:** ☒ 10 days (std.) ☐ 5 days ☐ 72 hours ☐ 48 hours ☐ 24 hours ☐ Other
Send Lab Report To: Kara Master Address: Department of Environmental Quality, 700 NE Multnomah St, Suite 600, Portland, OR 97232 E-mail: Kara.E.MASTER@deq.oregon.gov	Lab Batch #: **Invoice To:** ODEQ/Business Office Address: 700 NE Multnomah Street, Suite 600, Portland, OR. 97232 Tel. #: (800) 452-4011		
Project Name: **Johnson Oil** Project #: **23005297**			L1710528

Sample ID#	Collection Date/Time	Matrix	Number of Containers	Sample Preservative: HCl	HCl								Comments
				Requested Analyses: NWTPH-Gx	VOCs – EPA 8260B								
MW-4	2/27/24; 1315	GW	6	X	X								-01
MW-5	2/27/24; 1033	GW	6	X	X								-02
MW-6	2/27/24; 1112	GW	6	X	X								-03
MW-7	2/27/24; 1155	GW	6	X	X								-04
MW-8	2/26/24; 1314	GW	6	X	X								-05
MW-9	2/26/24; 1408	GW	6	X	X								-06
MW-12	2/27/24; 1355	GW	6	X	X								-07
MW-13	2/26/24; 1604	GW	6	X	X								-08
MW-14	2/27/24; 947	GW	6	X	X								-09
MW-15	2/26/24; 1503	GW	6	X	X								-10
Dup	2/27/24; 955	GW	6	X	X								-11

Notes: Report Results to: MStevens@apexcos.com;carmen.owens@apexcos.com; Kara.E.MASTER@deq.oregon.gov

Relinquished By: Chris Weer	Agency/Agent: Apex Companies	Received By: Alexa Mitchell	Agency: PACE
Signature: Chris Weer	Time & Date: 2/27/24, 17:20	Signature: Alexa Mitchell	Time & Date: 2/29/24 09:00
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 IMPLIED.

Sample Receipt Checklist

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

TT# 6727 1916 0906