Third Quarter 2023 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

December 1, 2023
32-23005297/Task 3

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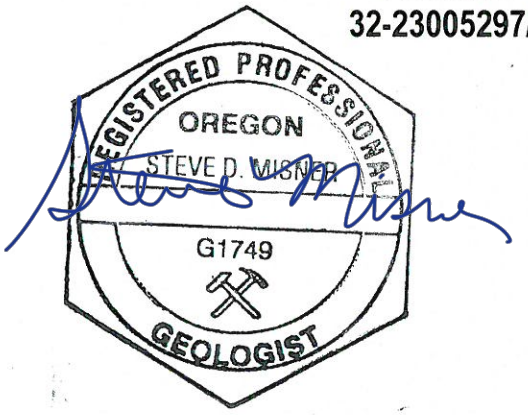

Steve Misner, R.G.
Senior Associate

Michael Stevens, P.E.
Principal Engineer

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1.0 Introduction

This Third Quarter Monitoring Report (QMR) describes the field activities and presents the results of a groundwater monitoring event completed in September 2023 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.

1.1 Scope of Work

The scope of work was completed in accordance with the Supplemental Site Investigation Work Plan (Work Plan; Apex, 2022). The scope of work for this monitoring event includes collection and analysis of groundwater samples from ten existing monitoring wells (soil gas and ambient air sampling were not included in the scope of the third quarter 2023 monitoring event).

2.0 Background

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

2.1 Site Location and Description

The Site is located on an approximately 0.26-acre parcel (Figures 1 and 2) near the center of the City of Clatskanie on the south bank of the Clatskanie River and is bounded to the south by the Columbia River Highway (Hwy 30). The Site is currently occupied by a vacant former gasoline 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 Community Services 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 includes the former gas station property and the adjacent property currently occupied by Turning Point.

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 2023.

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 on site 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.

3.2 Groundwater Monitoring

Groundwater Levels. On September 20, 2023, 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 September 2023 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 0.02 feet per foot (ft/ft). The groundwater flow direction adjacent to the Clatskanie River is towards the river under a gradient of approximately 0.2 ft/ft and may be tidally influenced. The groundwater flow direction and gradients observed during the September 2023 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.

It is noted that 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 markedly lower groundwater elevation observed in MW-9 suggest that the well may be influenced by an aquifer interchange with the adjacent Clatskanie River, though 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.

3.3 Handling of 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 station building, pending characterization and disposal. 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 samples were submitted to Pace Analytical National located in Mount Juliet, Tennessee for analysis on standard turnaround time. 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

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.

4.2 Chemical Results

Groundwater analytical results are presented in Table 2 and summarized on Figure 4 for the September 2023 groundwater monitoring event. The risk screening of the groundwater analytical data collected during the September 2023 monitoring event is summarized below. The concentrations were screened against the risk-based concentrations (RBCs) that correspond to the potentially complete exposure pathways including groundwater to indoor air (occupational receptor) and groundwater in excavations (construction and

excavation worker receptor) published in *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* (DEQ, updated June 2023).

Contaminant	Groundwater Exposure Pathways	
	Vapor Intrusion	Groundwater in Excavations
TPH-G	**Com**	**Ex**
Benzene	**Com**	**Ex**
Ethylbenzene	**Com**	No
Xylenes	**Com**	No
Naphthalene	**Com**	No

Notes: Ex = Exceeds Excavation Worker RBC; Com = Exceeds Commercial RBC; No = Does not exceed referenced RBC.

Total Petroleum Hydrocarbons. TPH-G was detected in nine of the 10 groundwater samples collected during the September 2023 monitoring event. TPH-G was not detected in the groundwater sample collected from monitoring well MW-9. The detected concentrations of TPH-G ranged from 54.5 micrograms per liter (µg/L; MW-8) to 31,000 µg/L (MW-12) and exceeded the RBC of 520 µg/L in eight of the 10 samples in which TPH-G was detected. The TPH-G concentration in the sample collected from MW-12 also exceeded the RBC for groundwater in excavations for construction and excavation workers. The TPH-G concentrations in samples collected from monitoring wells MW-4, MW-5, MW-6, MW-7, MW-9 and MW-12 are generally lower than in recent monitoring events. The TPH-G concentrations detected in the samples collected from monitoring wells MW-13, MW-14, and MW-15 are generally consistent with previous monitoring events.

Volatile Organic Compounds. Several petroleum VOCs (benzene, ethylbenzene, xylenes, and naphthalene) were detected in nine of the 10 groundwater samples collected in September 2023. No VOCs were detected in the groundwater sample collected from monitoring well MW-9. The benzene and ethylbenzene RBCs (12 µg/L and 31 µg/L, respectively) for the groundwater to indoor air pathway were exceeded in eight of the 10 groundwater samples with the highest concentrations observed in the groundwater sample collected from monitoring well MW-12 (4,540 ug/L for benzene and 1,490 ug/L for ethylbenzene), which was an order of magnitude higher than the other RBC exceedances for benzene and ethylbenzene and exceeds the groundwater in excavation RBC for benzene. The total xylenes RBC (3,300 µg/L) was exceeded in the sample collected from monitoring well MW-12 (3,870 µg/L) but not in any of the other samples and at a lower concentration than in previous monitoring events. The naphthalene RBC (50 µg/L) was exceeded in the groundwater sample collected from monitoring well MW-4 (363 µg/L) but not in any of the other samples and at a concentration generally consistent with previous monitoring events. Benzene was the only VOC detection that exceeded its respective RBCs for the groundwater in excavation pathway.

The detected benzene concentrations are relatively consistent with previous monitoring events in samples collected from monitoring wells MW-4 and MW-5. They generally decrease in samples collected from monitoring wells MW-6 and MW-7, slightly increase in samples collected from monitoring wells MW-12 and MW-13, and show variability in samples collected from monitoring wells MW-14 and MW-15.

The detected ethylbenzene concentrations generally decrease from previous monitoring events in samples collected from monitoring wells MW-4, MW-5, MW-6, MW-7, MW-12, and MW-15, and are relatively consistent in samples collected from monitoring wells MW-13 and MW-14.

5.0 Conclusions

Based on the third quarter 2023 groundwater monitoring event and previous events, impacts from gasoline-range hydrocarbons and petroleum-related VOCs continue to be present at the Site and extend beneath the former gasoline station and the Turning Point building. The presence of observed concentrations of TPH-G and VOCs (benzene, ethylbenzene, total xylenes, and naphthalene) above the commercial vapor intrusion RBCs suggest that exposures to vapors in indoor air may be complete at unacceptable concentrations. However, soil vapor sample data from the April 2023 monitoring event does not indicate an indoor air risk to Turning Point occupants. TCE detected in the soil vapor sample collected from within the former Johnson Oil building during the April 2023 sampling event was slightly elevated compared to its commercial risk screening level but the building is not occupied. Groundwater, soil gas, and ambient air monitoring will continue through at least the first quarter of 2024.

6.0 References

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

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

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

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

Monitoring Well	Well Information						Field Parameters				
	Date	Top of Casing Elevation (Feet[1])	Depth to Groundwater (Feet BTOC)	Depth to Product (Feet BTOC)	Product Thickness (Feet)	Groundwater Elevation (Feet[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	94.43	2.61	--	--	91.82	--	--	--	--	--
	10/17/2019		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
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	94.30	4.59	--	--	89.71	--	--	--	--	--
	3/29/2023		3.76	--	--	90.54	6.92	11.50	448	0.50	-137.5
	5/22/2023		3.94	--	--	90.36	6.64	13.00	339	0.80	-120.7
	9/21/2023		6.79	--	--	87.51	5.37	16.51	324	0.66	-98.5
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	95.57	7.48	--	--	88.09	--	--	--	--	--
	3/29/2023		4.61	--	--	90.96	6.94	12.30	576	0.30	-118.6
	5/22/2023		6.66	--	--	88.91	6.62	13.50	479	0.28	-84.8
	9/21/2023		7.68	--	--	87.89	5.64	17.73	452	0.62	-117.5
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	95.04	10.39	--	--	84.65	--	--	--	--	--
	3/29/2023		5.37	--	--	89.67	6.79	13.60	673	0.07	-111.0
	5/22/2023		10.62	--	--	84.42	6.53	14.80	708	1.28	-73.2
	9/20/2023		6.20	--	--	88.84	5.35	19.00	491	0.61	-92.6

Please see notes at end of table.

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

Monitoring Well	Well Information						Field Parameters				
	Date	Top of Casing Elevation (Feet[1])	Depth to Groundwater (Feet BTOC)	Depth to Product (Feet BTOC)	Product Thickness (Feet)	Groundwater Elevation (Feet[1])	pH	Temperature (°C)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)
MW-8	5/24/2019	96.22	5.43	--	--	90.79	6.25	14.55	886	--	-72.4
	7/10/2019		6.01	--	--	90.21	--	--	--	--	--
	9/16/2019		6.32	--	--	89.90	--	--	--	--	--
	10/17/2019		6.43	--	--	89.79	--	--	--	--	--
	3/29/2023		5.17	--	--	91.05	6.65	12.30	946	0.68	-99.6
	5/22/2023		5.74	--	--	90.48	6.41	14.20	827	0.23	-76.0
	9/20/2023		6.80	--	--	89.42	5.44	19.53	868	0.07	-130.4
MW-9	5/23/2019	94.54	10.41	--	--	84.13	4.62	12.90	610	2.88	34.1
	7/10/2019		10.28	--	--	84.26	--	--	--	--	--
	9/16/2019		8.21	--	--	86.33	--	--	--	--	--
	10/17/2019		4.68	--	--	89.86	--	--	--	--	--
	9/20/2023		9.09	--	--	85.45	3.71	15.44	146	3.77	256.0
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
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
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
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

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. BTOC = Below Top of Casing.
2. NS = Not surveyed.
3. °C = Degrees Celsius.
4. µS/cm = MicroSiemens per centimeter
5. mg/L = Milligrams per liter.
6. 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
	5/10/2018 DUP	14,000	17.1	4.19 J	590	1,570	<0.367	278 J	1,170	392
	5/23/2019	7,340	117	2.07	436	43.2	<0.0367	284	58.3	22.9
	5/23/2019 DUP	7,600	115	1.67	444	38.5	<0.367	291	52.6	21.8
	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
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
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
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
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
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
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

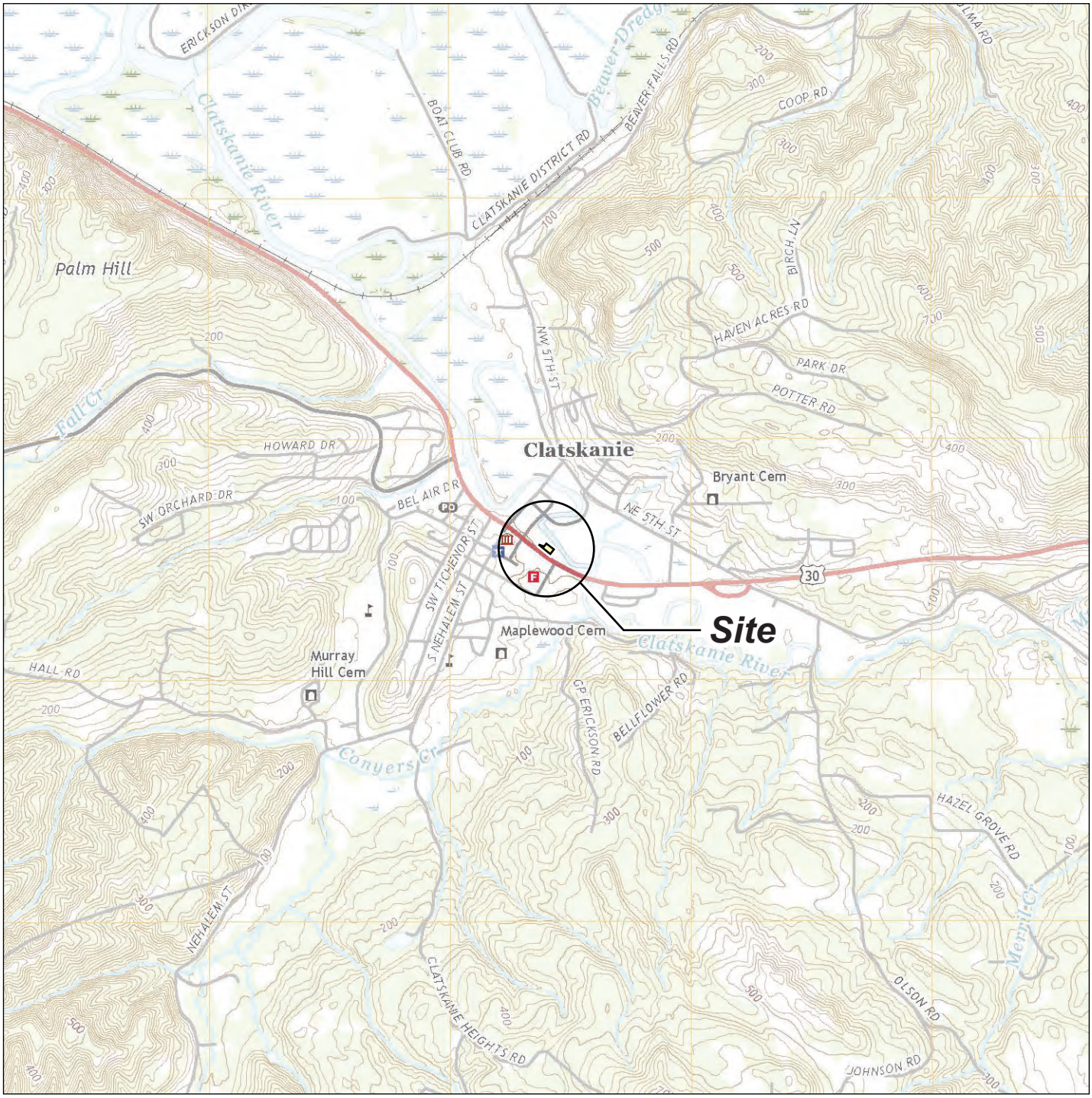
See notes at end of table.

Table 2
Groundwater Analytical Results
Former Johnson Oil
Clatskanie, Oregon

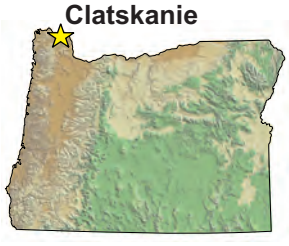
Monitoring Well Number	Sample Date	Concentrations in µg/L								
		TPH-G	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert-butyl ether	Naphthalene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene
MW-13	3/30/2023	**2,300**	**59.7**	**5.48**	**217**	**264**	<0.101	**53.5**	**205**	**117**
	5/23/2023	**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**
	9/20/2023 DUP	**4,050**	**157**	**1.39**	**284**	**21.3**	<1.00	**5.90**	**99.4**	**33.6**
MW-14	3/30/2023	**4,190**	**107**	**1.64**	**58.7**	**18.1**	<0.101	**15.3**	**9.54**	**1.68**
	3/30/2023 DUP	**4,490**	**103**	**1.37**	**48.4**	**14.1**	<0.101	**8.95**	**6.64**	**1.20**
	5/23/2023	**6,080**	**1,230**	**8.69**	**34.6**	**15.6**	<1.00	**6.45 J-**	**38.0**	**23.8**
	5/23/2023 DUP	**5,920**	**1,220**	**8.82**	**41.6**	**17.9**	<1.00	**8.55 J-**	**47.7**	**26.9**
	9/20/2023	**4,570**	**703**	**4.08**	**46.7**	**7.73 J**	<1.01	**7.83**	<25.0	**22.4**
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	
DEQ Human Health RBCs										
Groundwater to Indoor Air	Commercial/Chronic	520	12	150,000	31	3,300	3,200	50	2,400	1,700
Groundwater in Excavation	Construciton/Excavation Worker	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. J = Result is an estimated value.
8. J- = Result is an estimated value and may be biased low.
9. UJ = The analyte was not detected but the reporting limit may be inaccurate or imprecise.
10. DEQ Human Health RBC = Risk-Based Concentrations from the DEQ's *Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites* (updated June 2023).
11. Shaded values represent exceedances of applicable RBCs:
    = Exceedance of Groundwater to Indoor Air RBC
    = Exceedance of Groundwater in Excavation RBC



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

Third 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: JP	Approved: MWS/CW	Figure 1
	December 2023			

I:\Client\DEQ\Oregon\32-23005297 Johnson Oil\GW Monitoring\Q3 2023\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:

- 2023 Monitoring Well
- Historic Monitoring Well
- 2023 Sediment/Porewater Sample
- 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
- G- Gas Line
- ELE Overhead Electrical Line
- ELE Underground Electrical Line
- SS Sanitary Sewer Line
- W- 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

Third 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	--	MWS/CW	2

December 2023

I:\Client\DEQ\Oregon\32-23005297 Johnson Oil\GW Monitoring\Q3 2023\32-23005297 02 (Site Plan).des

CLATSKANIE RIVER

TURNING POINT
COMMUNITY SERVICES

MW-9
85.45

MW-14
89.28

MW-15
90.65

MW-13
92.61

MW-5
90.36

MW-1
Not Gauged

MW-12
91.56

MW-8
89.42

MW-4
90.16

MW-7
88.84

MW-6
87.89

86
87
88
89
90
91
92

[12']
[9.5']
[10']
[11']

CONCRETE
CONTAINMENT

FLOOR
DRAIN

FORMER SERVICE
STATION

HOISTS

FORMER UST
NEST

(1)
(3)
(4)
(5)

DECOMMISSIONED
DISPENSER ISLAND

CANOPY

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:

- 2023 Monitoring Well
- Historic Monitoring Well
- 90.65 — Groundwater Elevation in Feet Relative to Mean Sea Level
- 86 — Groundwater Elevation Contour in Feet Relative to Mean Sea Level (Dashed Where Inferred)
- [10'] — Extent of Excavation and [Depth in Feet]
- Excavation Limits (2008)
- Underground Storage Tank (UST) Decommissioned in Place
- (4) — Removed UST and Designation
- Property Boundary

0 20 40
Approximate Scale in Feet

Groundwater Elevations (September 2023)

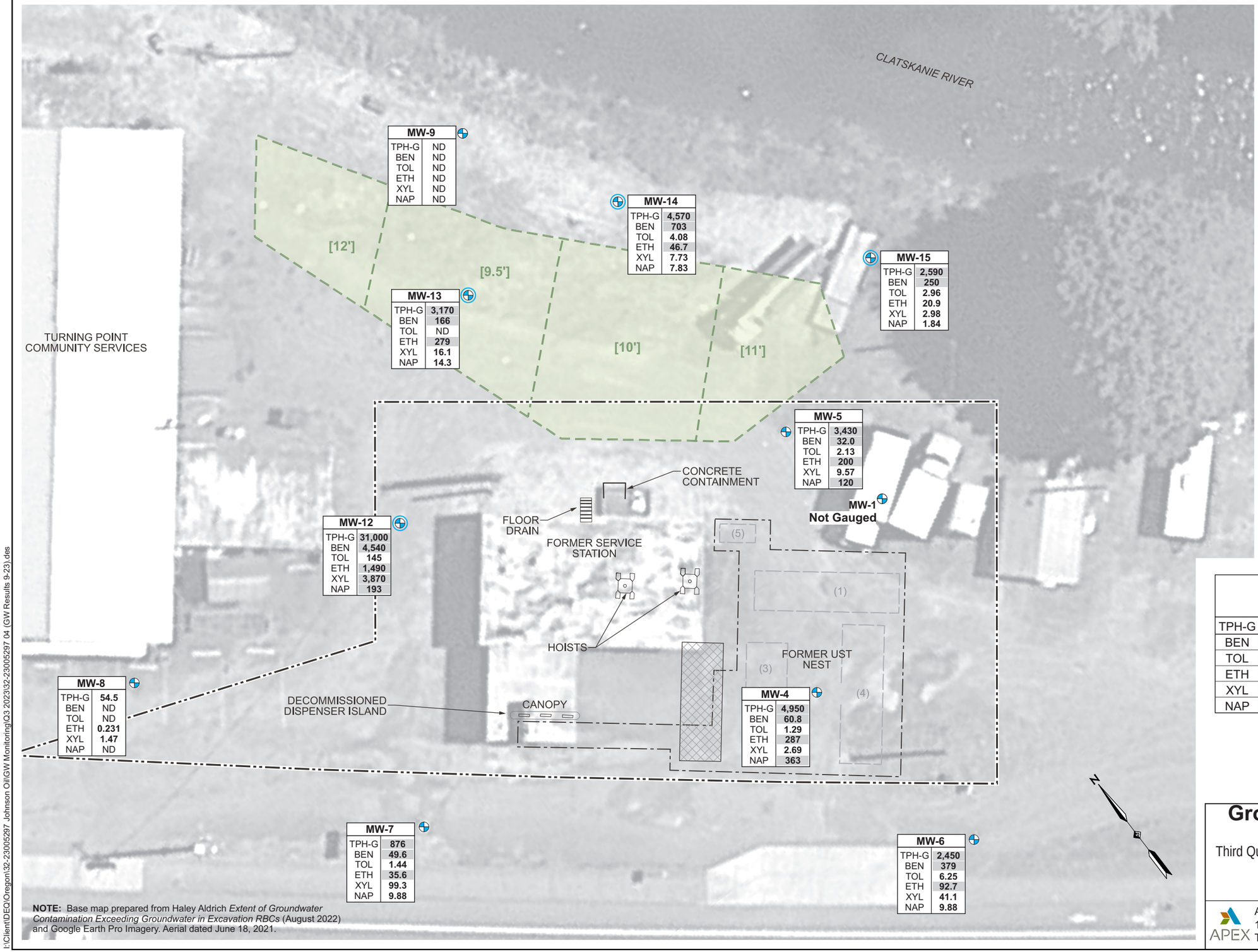
Third Quarter Groundwater Monitoring - Former Johnson Oil Site
280 East Columbia River Highway
Clatskanie, Oregon

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

Project Number:	Drawn:	Approved:	Figure
32-23005297	--	MWS/CW	3

December 2023

I:\Client\DEQ\Oregon\32-23005297 Johnson Oil\GW Monitoring\Q3 2023\32-23005297 03 (GW Elevations 3-23)



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:

- 2023 Monitoring Well
- 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	2,590
BEN	250
TOL	2.96
ETH	20.9
XYL	2.98
NAP	1.84

- MW-15 — Sample Identification
- Concentration in Micrograms Per Cubic Meter (µg/m^3)
- Analyte Sampled

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 (September 2023)

Third 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	--	MWS/CW	4

December 2023

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Appendix A

Sampling Documentation

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224			Job Number:	23005297
	Client:	DEQ	Date:	9/20/2023
	Project:	Johnson Oil	Sampler:	Chris Weer
	Weather:	57°, partly cloudy	Time In/Out:	830/1000

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	15	-	8.20	
MW-9	1044	-	9.09	15	-	5.91	Hidden beneath vegetation, bring metal poker
MW-12	1103	-	7.50	15	-	7.50	
MW-13	1049	-	5.67	17	-	11.33	
MW-14	1051	-	10.30	20	-	9.70	
MW-15	1047	-	9.67	20	-	10.33	

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224											
					Well I.D.	MW-4			Job Number:	23005297	
					Client:	DEQ			Date:	9/21/2023	
					Project:	Johnson Oil			Sampler:	Chris Weer	
					Weather:	54°, cloudy			Time In/Out:	835/919	

WELL DATA

Well Depth:	20 feet				Well Diameter:	2 inch			Water Height		
Depth to Water:	4.29 feet				Screened Interval:				x Multiplier		
Water Column Length:	15.71 feet				Depth to Free Product:	n/a			x Casing Volumes		
Purge Volume:					Free Product Thickness:	n/a			= Purge Volume		
Water Height Multipliers (gal)		1-inch = 0.041			2-inch = 0.162		4-inch = 0.653		1 gallon = 3.785 liters		

PURGING DATA

Purge Method:					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
856			4.29	0.177	5.83	17.34	0.476	1.71	-108.3	-	AC, odor
859			4.29	0.177	5.70	17.46	0.470	0.97	-108.3	-	AC, odor
902			4.29	0.177	5.66	17.75	0.459	0.76	-109.9	-	AC, odor
905			4.29	0.177	5.73	17.74	0.464	0.68	-115.4	-	AC, odor

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

SAMPLING DATA

Sample ID:	MW-4	Sampling Flow Rate	6 oz/min		Analytical Laboratory:	Pace	
Sample Time:	912	Final Depth to Water:	4.29 feet		Did Well Dewater?	No	
# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes	**no**	No Filter		
3 VOA	HCl	NWTPH-Gx	yes	**no**	No Filter		
			yes	no			
			yes	no			
			yes	no			
			yes	no			

COMMENTS

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-5	Job Number:	23005297
	Client:	DEQ	Date:	9/21/2023
	Project:	Johnson Oil	Sampler:	Chris Weer
	Weather:	56°, sunny	Time In/Out:	935/1001

WELL DATA

Well Depth:	20 feet	Well Diameter:	2 inch	Water Height	
Depth to Water:	6.87 feet	Screened Interval:		x Multiplier	
Water Column Length:	13.13 feet	Depth to Free Product:	n/a	x Casing Volumes	
Purge Volume:		Free Product Thickness:	n/a	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:				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
940			7.77	0.177	5.40	15.81	0.338	1.85	-92.1		AC, odor
943			8.60	0.177	5.36	16.20	0.332	0.92	-95.2		AC, odor
946			9.25	0.177	5.36	16.44	0.326	0.71	-97.1		AC, odor
949			9.63	0.177	5.37	16.51	0.324	0.66	-98.5		AC, odor

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

SAMPLING DATA

Sample ID:	MW-5	Sampling Flow Rate	6 oz/min		Analytical Laboratory:	Pace	
Sample Time:	955	Final Depth to Water:	10.51 feet		Did Well Dewater?	No	
# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes	**no**	No Filter		
3 VOA	HCl	NWTPH-Gx	yes	**no**	No Filter		
			yes	no			
			yes	no			
			yes	no			
			yes	no			

COMMENTS

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-6	Job Number:	23005297
	Client:	DEQ	Date:	9/21/2023
	Project:	Johnson Oil	Sampler:	Chris Weer
	Weather:	61°, sunny	Time In/Out:	1025/1100

WELL DATA

Well Depth:	20 feet	Well Diameter:	2 inch	Water Height	
Depth to Water:	7.40 feet	Screened Interval:		x Multiplier	
Water Column Length:	12.60 feet	Depth to Free Product:	n/a	x Casing Volumes	
Purge Volume:		Free Product Thickness:	n/a	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:					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
1035			8.17	0.177	5.58	17.05	0.462	2.32	-93.4		AC, odor
1038			9.14	0.177	5.60	17.31	0.460	0.85	-108.1		AC, odor
1041			10.03	0.177	5.61	17.46	0.455	0.69	-113.3		AC, odor
1044			10.85	0.177	5.64	17.73	0.452	0.62	-117.5		AC, odor

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

SAMPLING DATA

Sample ID:	MW-6	Sampling Flow Rate	6 oz/min	Analytical Laboratory:	Pace	
Sample Time:	1049	Final Depth to Water:	11.37 feet	Did Well Dewater?	No	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes **no**	No Filter		
3 VOA	HCl	NWTPH-Gx	yes **no**	No Filter		
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224					
	Well I.D.	MW-7	Job Number:	23005297	
	Client:	DEQ	Date:	9/20/2023	
	Project:	Johnson Oil	Sampler:	Chris Weer	
	Weather:	59°, partly cloudy	Time In/Out:	1115/1235	

WELL DATA

Well Depth:	20 feet	Well Diameter:	2 inch	Water Height	
Depth to Water:	6.22 feet	Screened Interval:		x Multiplier	
Water Column Length:	13.78 feet	Depth to Free Product:	n/a	x Casing Volumes	
Purge Volume:		Free Product Thickness:	n/a	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:			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
1130			7.55	0.177	5.48	18.43	0.527	1.04	-87.6		AC, odor
1133			8.32	0.177	5.39	18.66	0.516	0.74	-89.3		AC, odor
1136			8.97	0.177	5.33	18.87	0.504	0.64	-90.4		AC, odor
1139			9.73	0.177	5.35	19.00	0.491	0.61	-92.6		AC, odor

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

SAMPLING DATA

Sample ID:	MW-7	Sampling Flow Rate	6 oz/min		Analytical Laboratory:	Pace	
Sample Time:	1145	Final Depth to Water:	10.23 feet		Did Well Dewater?	No	
# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes	**no**	No Filter		
3 VOA	HCl	NWTPH-Gx	yes	**no**	No Filter		
			yes	no			
			yes	no			
			yes	no			
			yes	no			

COMMENTS

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224					
	Well I.D.	MW-8	Job Number:	23005297	
	Client:	DEQ	Date:	9/20/2023	
	Project:	Johnson Oil	Sampler:	Chris Weer	
	Weather:	59°, partly cloudy	Time In/Out:	1115/1235	

WELL DATA

Well Depth:	15 feet	Well Diameter:	2 inch	Water Height	
Depth to Water:	6.78 feet	Screened Interval:		x Multiplier	
Water Column Length:	8.22 feet	Depth to Free Product:	n/a	x Casing Volumes	
Purge Volume:		Free Product Thickness:	n/a	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:					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
1148			7.80	0.177	5.40	19.01	0.969	9	-121.3		AC, odor
1151			8.22	0.177	5.37	18.78	1.014	8.1	-132.1		AC, odor
1154			8.54	0.177	5.40	18.83	0.993	8	-130.7		AC, odor
1157			9.01	0.177	5.37	19.06	0.924	7.6	-126.7		AC, odor
1200			9.45	0.177	5.34	19.16	0.896	7.2	-125.5		AC, odor
1203			10.04	0.177	5.37	19.38	0.876	6.9	-127.6		AC, odor
1206			10.50	0.177	5.44	19.53	0.868	6.6	-130.4		AC, odor

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

SAMPLING DATA

Sample ID:	MW-8	Sampling Flow Rate			Analytical Laboratory:	Pace	
Sample Time:	1217	Final Depth to Water:			Did Well Dewater?	No	
# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes	**no**	No Filter		
3 VOA	HCl	NWTPH-Gx	yes	**no**	No Filter		
			yes	no			
			yes	no			
			yes	no			
			yes	no			

COMMENTS

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-9	Job Number:	23005297
	Client:	DEQ	Date:	9/20/2023
	Project:	Johnson Oil	Sampler:	Chris Weer
	Weather:	59°, partly cloudy	Time In/Out:	1245/1345

WELL DATA

Well Depth:	15 feet	Well Diameter:	2 inch	Water Height	
Depth to Water:	9.47 feet	Screened Interval:		x Multiplier	
Water Column Length:	5.53 feet	Depth to Free Product:	n/a	x Casing Volumes	
Purge Volume:		Free Product Thickness:	n/a	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:		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
1308			10.95	0.177	3.48	15.57	0.150	3.40	219.4		AC, odor
1311			12.15	0.177	3.24	15.72	0.148	3.30	242.8		AC, odor
1314			12.35	0.177	3.13	17.17	0.146	4.30	250.6		Noticed air bubbles, lowered
1317			12.67	0.177	3.94	15.85	0.145	3.50	224.5		AC, odor
1320			13.10	0.177	3.71	15.44	0.146	3.77	256.00		AC, odor
1322	DEWATERED										

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

SAMPLING DATA

Sample ID:	MW-9	Sampling Flow Rate	6 oz/min		Analytical Laboratory:	Pace	
Sample Time:	1337	Final Depth to Water:	12.45		Did Well Dewater?	YES	
# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes	**no**	No Filter		
3 VOA	HCl	NWTPH-Gx	yes	**no**	No Filter		
			yes	no			
			yes	no			
			yes	no			
			yes	no			

COMMENTS

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224	Well I.D.	MW-12	Job Number:	23005297
	Client:	DEQ	Date:	9/21/2023
	Project:	Johnson Oil	Sampler:	Chris Weer
	Weather:	65°, sunny	Time In/Out:	1158/1230

WELL DATA

Well Depth:	15 feet	Well Diameter:	2 inch	Water Height	
Depth to Water:	7.59 feet	Screened Interval:		x Multiplier	
Water Column Length:	7.41 feet	Depth to Free Product:	n/a	x Casing Volumes	
Purge Volume:		Free Product Thickness:	n/a	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:		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
1209			7.89	0.177	5.51	18.16	0.550	0.85	-102.7		AC, light yellow, odor
1212			8.05	0.177	5.36	18.52	0.540	0.65	-99.8		AC, light yellow, odor
1215			8.16	0.177	5.30	18.77	0.541	0.60	-100.9		AC, light yellow, odor
1218			8.27	0.177	5.33	18.73	0.544	0.58	-103.8		AC, light yellow, odor

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

SAMPLING DATA

Sample ID:	MW-12	Sampling Flow Rate	6 oz/min		Analytical Laboratory:	Pace	
Sample Time:	1223	Final Depth to Water:	8.25 feet		Did Well Dewater?	No	
# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes	**no**	No Filter		
3 VOA	HCl	NWTPH-Gx	yes	**no**	No Filter		
			yes	no			
			yes	no			
			yes	no			
			yes	no			

COMMENTS

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224					
	Well I.D.	MW-13	Job Number:	23005297	
	Client:	DEQ	Date:	9/20/2023	
	Project:	Johnson Oil	Sampler:	Chris Weer	
	Weather:	64°, mostly cloudy	Time In/Out:	1430/1515	

WELL DATA

Well Depth:	17 feet	Well Diameter:	2 inch	Water Height	
Depth to Water:	6.06 feet	Screened Interval:		x Multiplier	
Water Column Length:	10.94 feet	Depth to Free Product:	n/a	x Casing Volumes	
Purge Volume:		Free Product Thickness:	n/a	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:		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
1444			6.08	0.177	6.00	17.7	0.901	0.730	-104.3		AC, odor
1447			6.08	0.177	5.98	18.21	0.902	0.640	-108.9		AC, odor
1450			6.08	0.177	5.99	18.34	0.908	0.610	-112.5		AC, odor
1453			6.09	0.177	6.03	18.42	9.12	0.600	-116.3		AC, odor

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

SAMPLING DATA

Sample ID:	MW-13, Dup	Sampling Flow Rate	6 oz/min	Analytical Laboratory:	Pace	
Sample Time:	1458, 1508	Final Depth to Water:	6.08 feet	Did Well Dewater?	No	
# Containers/Type	Preservative	Analysis/Method	Field Filtered	Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes **no**	No Filter		Dup
3 VOA	HCl	NWTPH-Gx	yes **no**	No Filter		Dup
			yes no			
			yes no			
			yes no			
			yes no			

COMMENTS

Duplicate

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224					
	Well I.D.	MW-14	Job Number:	23005297	
	Client:	DEQ	Date:	9/20/2023	
	Project:	Johnson Oil	Sampler:	Chris Weer	
	Weather:	64°, partly cloudy	Time In/Out:	1530/1610	

WELL DATA

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

PURGING DATA

Purge Method:		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
1546			10.56	0.177	5.70	15.34	0.706	0.730	-129.5		AC, odor
1549			10.57	0.177	5.64	15.54	0.705	0.660	-128.4		AC, odor
1552			10.57	0.177	5.66	15.44	0.706	0.600	-129.5		AC, odor
1555			10.57	0.177	5.66	15.53	0.706	0.570	-130.6		AC, odor
1558			10.57	0.177	5.69	15.44	0.705	0.580	-131.6		AC, odor

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

SAMPLING DATA

Sample ID:	MW-14	Sampling Flow Rate	6 oz/min		Analytical Laboratory:	Pace	
Sample Time:	1603	Final Depth to Water:	10.50 feet		Did Well Dewater?	No	
# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes	**no**	No Filter		
3 VOA	HCl	NWTPH-Gx	yes	**no**	No Filter		
			yes	no			
			yes	no			
			yes	no			
			yes	no			

COMMENTS

Apex Companies, LLC 15618 SW 72nd Ave. Portland, OR 97224					
	Well I.D.	MW-15	Job Number:	23005297	
	Client:	DEQ	Date:	9/20/2023	
	Project:	Johnson Oil	Sampler:	Chris Weer	
	Weather:	61°, partly cloudy	Time In/Out:	1350/1427	

WELL DATA

Well Depth:	20 feet	Well Diameter:	2 inch	Water Height	
Depth to Water:	10.24 feet	Screened Interval:		x Multiplier	
Water Column Length:	9.76 feet	Depth to Free Product:	n/a	x Casing Volumes	
Purge Volume:		Free Product Thickness:	n/a	= Purge Volume	
Water Height Multipliers (gal)	1-inch = 0.041	2-inch = 0.162	4-inch = 0.653	1 gallon = 3.785 liters	

PURGING DATA

Purge Method:		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
1403			10.43	0.177	5.23	14.61	0.527	0.890	-35.9		AC, odor
1406			10.49	0.177	5.13	14.59	0.518	0.800	-42.0		AC, odor
1409			10.55	0.177	5.11	14.29	0.545	0.750	-56.6		AC, odor
1412			10.62	0.177	5.16	14.22	0.568	0.740	-66.5		AC, odor
1415			10.66	0.177	5.20	14.18	0.577	0.730	-72.9		AC, odor

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

SAMPLING DATA

Sample ID:	MW-15	Sampling Flow Rate	6 oz/min		Analytical Laboratory:	Pace	
Sample Time:	1419	Final Depth to Water:	10.51 feet		Did Well Dewater?	No	
# Containers/Type	Preservative	Analysis/Method	Field Filtered		Filter Size	MS/MSD	Duplicate ID
3 VOA	HCl	VOC	yes	**no**	No Filter		
3 VOA	HCl	NWTPH-Gx	yes	**no**	No Filter		
			yes	no			
			yes	no			
			yes	no			
			yes	no			

COMMENTS

Appendix B

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 third quarter 2023 monitoring event at the former Johnson Oil Site in Clatskanie, Oregon. Samples were analyzed by Pace Analytical National of Mount Juliet, Tennessee. Copies of the analytical laboratory reports are included in this appendix, referenced as follows:

Laboratory Report	Date Reported
L1659153	October 5, 2023

1.0 Analytical Methods

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

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

2.0 Data Validation

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

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

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

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

The laboratory quality control (QC) samples provided in data packages were used to evaluate laboratory contamination or background interferences, sample preparation efficiency and instrumentation performance. The QC samples provided by the analytical laboratory include method blanks, laboratory control samples

(LCS/LCSD), and matrix spikes (MS/MSD). Surrogates are also required for VOC and TPH-Gx analysis to assess sample preparation efficiency and matrix interferences.

2.1 Data Qualifiers

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

J	Result is an estimated value.
C3	The reported concentration is an estimated value

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 samples received by the laboratory was documented by the Pace Analytical *Sample Receipt Checklist* or *Cooler Receipt Form,* which ensures that samples are representative of the field and were not compromised during shipment. The chain of custody followed an unbroken procedure and was relinquished by the Apex Companies sampler and received by the analytical laboratory as indicated by signatures. The sample ID, collection time and requested analyses were all clearly and properly filled in by the Apex Companies sampler.

3.3 Method Blanks

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

Methylene chloride was detected in the method blank of analytical batch WG2142536. However, methylene chloride was not detected in any of the primary or duplicate samples.

TPH-Gx was detected in the method blank of analytical batch WG2144277. The associated groundwater concentrations of TPH-Gx for the September 2023 event were generally greater than ten times the method blank concentration with the exception of groundwater samples MW-8 and MW-9. The TPH-Gx result for well MW-8 may have had significant contribution from laboratory contamination and results are 'J' flagged.

Benzene was detected in the method blank of analytical batch WG2143190. The associated groundwater concentrations of benzene for the September 2023 event were generally greater than ten times the method blank concentration with the exception of groundwater samples MW-8 and MW-9 in which benzene was not detected.

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. Constituents were within recovery limits.

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.

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.

ANALYTICAL REPORT

October 05, 2023

Oregon Dept. of Env. Quality - ODEQ

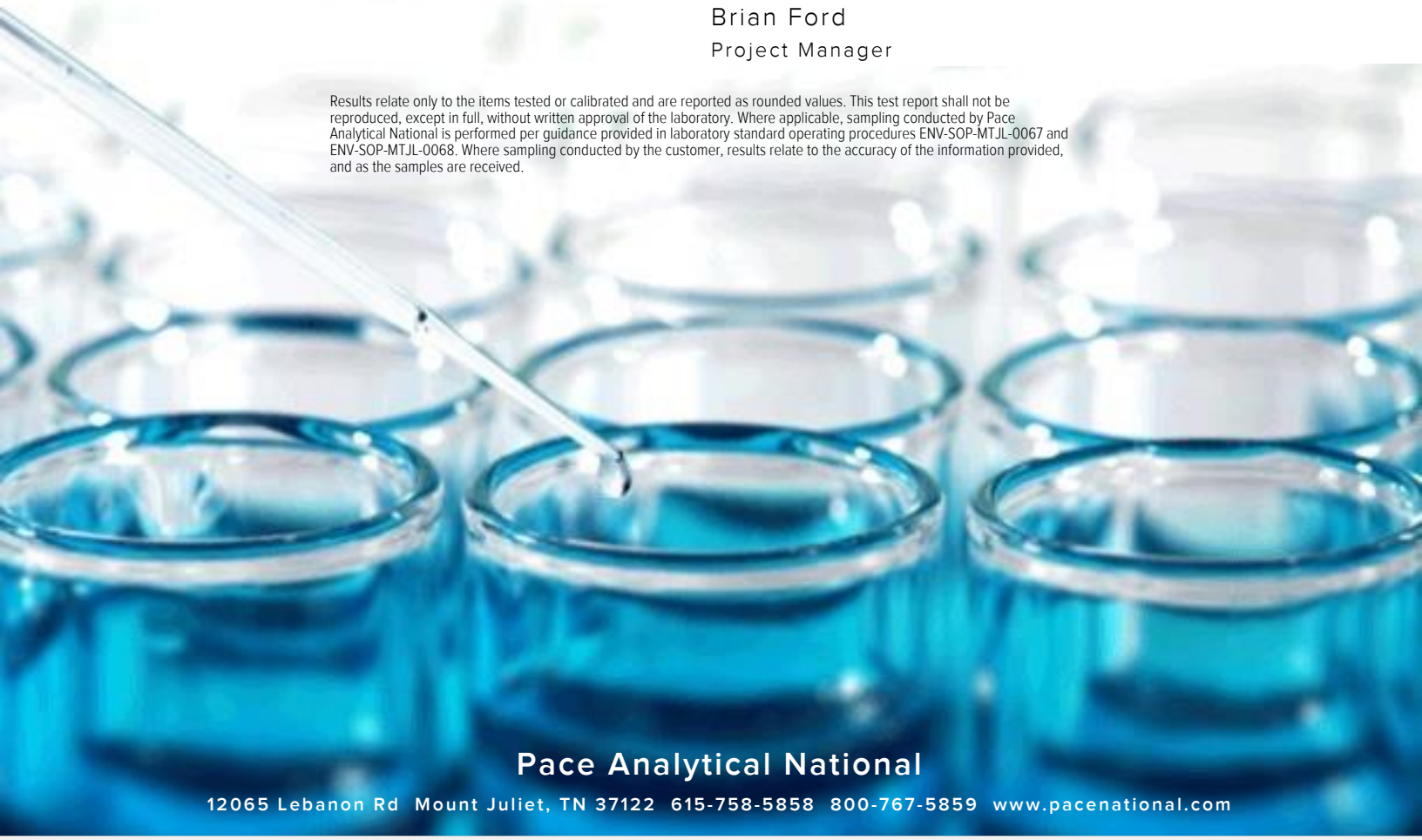
Sample Delivery Group:	L1659153
Samples Received:	09/23/2023
Project Number:	23005297
Description:	Johnson Oil
Report To:	Kara Master, Mike Stevens, Steve Minser

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 L1659153-01 GW

			Collected by	Collected date/time	Received date/time
				09/21/23 09:12	09/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2142272	1	09/30/23 16:12	09/30/23 16:12	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2142536	1	09/30/23 20:45	09/30/23 20:45	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2143190	20	10/02/23 15:17	10/02/23 15:17	JHH	Mt. Juliet, TN

MW-5 L1659153-02 GW

			Collected by	Collected date/time	Received date/time
				09/21/23 09:55	09/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2142272	1	09/30/23 16:32	09/30/23 16:32	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2142536	1	09/30/23 21:05	09/30/23 21:05	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2143190	10	10/02/23 15:38	10/02/23 15:38	JHH	Mt. Juliet, TN

MW-6 L1659153-03 GW

			Collected by	Collected date/time	Received date/time
				09/21/23 10:49	09/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2142272	1	09/30/23 16:51	09/30/23 16:51	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2142536	1	09/30/23 21:26	09/30/23 21:26	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2143190	10	10/02/23 16:00	10/02/23 16:00	JHH	Mt. Juliet, TN

MW-7 L1659153-04 GW

			Collected by	Collected date/time	Received date/time
				09/21/23 11:45	09/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2142272	1	09/30/23 17:17	09/30/23 17:17	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2142536	1	09/30/23 21:46	09/30/23 21:46	ACG	Mt. Juliet, TN

MW-8 L1659153-05 GW

			Collected by	Collected date/time	Received date/time
				09/20/23 12:17	09/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2142272	1	09/30/23 17:36	09/30/23 17:36	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2142536	1	09/30/23 22:06	09/30/23 22:06	ACG	Mt. Juliet, TN

MW-9 L1659153-06 GW

			Collected by	Collected date/time	Received date/time
				09/20/23 13:37	09/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2142272	1	09/30/23 17:55	09/30/23 17:55	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2142536	1	09/30/23 22:26	09/30/23 22:26	ACG	Mt. Juliet, TN

MW-12 L1659153-07 GW

			Collected by	Collected date/time	Received date/time
				09/21/23 12:23	09/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2144277	10	10/04/23 16:30	10/04/23 16:30	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2142536	1	09/30/23 22:46	09/30/23 22:46	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2143190	50	10/02/23 16:22	10/02/23 16:22	JHH	Mt. Juliet, TN

MW-13 L1659153-08 GW

Collected by	Collected date/time	Received date/time
	09/20/23 14:58	09/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2142272	1	09/30/23 19:32	09/30/23 19:32	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2142536	1	09/30/23 23:07	09/30/23 23:07	GLN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2143190	20	10/02/23 16:43	10/02/23 16:43	JHH	Mt. Juliet, TN

MW-14 L1659153-09 GW

Collected by	Collected date/time	Received date/time
	09/20/23 16:03	09/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2142272	1	09/30/23 19:52	09/30/23 19:52	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2142536	1	09/30/23 23:27	09/30/23 23:27	GLN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2143190	25	10/02/23 17:05	10/02/23 17:05	JHH	Mt. Juliet, TN

MW-15 L1659153-10 GW

Collected by	Collected date/time	Received date/time
	09/20/23 14:19	09/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2142272	1	09/30/23 20:11	09/30/23 20:11	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2142536	1	09/30/23 23:47	09/30/23 23:47	GLN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2143190	10	10/02/23 17:26	10/02/23 17:26	JHH	Mt. Juliet, TN

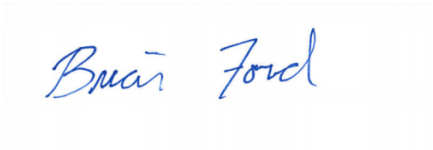
DUP L1659153-11 GW

Collected by	Collected date/time	Received date/time
	09/20/23 15:08	09/23/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG2142272	1	09/30/23 20:42	09/30/23 20:42	NCD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2142536	1	10/01/23 00:08	10/01/23 00:08	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2143190	20	10/02/23 17:48	10/02/23 17:48	JHH	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	4950		31.6	100	1	09/30/2023 16:12	WG2142272
(S) a,a,a-Trifluorotoluene(FID)	*103*			*78.0-120*		*09/30/2023 16:12*	WG2142272

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	09/30/2023 20:45	WG2142536
Acrolein	U		2.54	50.0	1	09/30/2023 20:45	WG2142536
Acrylonitrile	U		0.671	10.0	1	09/30/2023 20:45	WG2142536
Benzene	60.8		0.0941	1.00	1	09/30/2023 20:45	WG2142536
Bromobenzene	U		0.118	1.00	1	09/30/2023 20:45	WG2142536
Bromodichloromethane	U		0.136	1.00	1	09/30/2023 20:45	WG2142536
Bromoform	U		0.129	1.00	1	09/30/2023 20:45	WG2142536
Bromomethane	U	C3	0.605	5.00	1	09/30/2023 20:45	WG2142536
n-Butylbenzene	22.2		0.157	1.00	1	09/30/2023 20:45	WG2142536
sec-Butylbenzene	20.9		0.125	1.00	1	09/30/2023 20:45	WG2142536
tert-Butylbenzene	0.189	J	0.127	1.00	1	09/30/2023 20:45	WG2142536
Carbon disulfide	U		0.0962	1.00	1	09/30/2023 20:45	WG2142536
Carbon tetrachloride	U		0.128	1.00	1	09/30/2023 20:45	WG2142536
Chlorobenzene	U		0.116	1.00	1	09/30/2023 20:45	WG2142536
Chlorodibromomethane	U		0.140	1.00	1	09/30/2023 20:45	WG2142536
Chloroethane	U		0.192	5.00	1	09/30/2023 20:45	WG2142536
Chloroform	U		0.111	5.00	1	09/30/2023 20:45	WG2142536
Chloromethane	U		0.960	2.50	1	09/30/2023 20:45	WG2142536
2-Chlorotoluene	U		0.106	1.00	1	09/30/2023 20:45	WG2142536
4-Chlorotoluene	U		0.114	1.00	1	09/30/2023 20:45	WG2142536
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	09/30/2023 20:45	WG2142536
1,2-Dibromoethane	U		0.126	1.00	1	09/30/2023 20:45	WG2142536
Dibromomethane	U		0.122	1.00	1	09/30/2023 20:45	WG2142536
1,2-Dichlorobenzene	U		0.107	1.00	1	09/30/2023 20:45	WG2142536
1,3-Dichlorobenzene	U		0.110	1.00	1	09/30/2023 20:45	WG2142536
1,4-Dichlorobenzene	U		0.120	1.00	1	09/30/2023 20:45	WG2142536
Dichlorodifluoromethane	U		0.374	5.00	1	09/30/2023 20:45	WG2142536
1,1-Dichloroethane	U		0.100	1.00	1	09/30/2023 20:45	WG2142536
1,2-Dichloroethane	U		0.0819	1.00	1	09/30/2023 20:45	WG2142536
1,1-Dichloroethene	U		0.188	1.00	1	09/30/2023 20:45	WG2142536
cis-1,2-Dichloroethene	U		0.126	1.00	1	09/30/2023 20:45	WG2142536
trans-1,2-Dichloroethene	U		0.149	1.00	1	09/30/2023 20:45	WG2142536
1,2-Dichloropropane	U		0.149	1.00	1	09/30/2023 20:45	WG2142536
1,1-Dichloropropene	U		0.142	1.00	1	09/30/2023 20:45	WG2142536
1,3-Dichloropropane	U		0.110	1.00	1	09/30/2023 20:45	WG2142536
cis-1,3-Dichloropropene	U		0.111	1.00	1	09/30/2023 20:45	WG2142536
trans-1,3-Dichloropropene	U		0.118	1.00	1	09/30/2023 20:45	WG2142536
2,2-Dichloropropane	U		0.161	1.00	1	09/30/2023 20:45	WG2142536
Di-isopropyl ether	U		0.105	1.00	1	09/30/2023 20:45	WG2142536
Ethylbenzene	287		2.74	20.0	20	10/02/2023 15:17	WG2143190
Hexachloro-1,3-butadiene	U		0.337	1.00	1	09/30/2023 20:45	WG2142536
Isopropylbenzene	69.9		0.105	1.00	1	09/30/2023 20:45	WG2142536
p-Isopropyltoluene	U		0.120	1.00	1	09/30/2023 20:45	WG2142536
2-Butanone (MEK)	U		1.19	10.0	1	09/30/2023 20:45	WG2142536
Methylene Chloride	U		0.430	5.00	1	09/30/2023 20:45	WG2142536
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	09/30/2023 20:45	WG2142536
Methyl tert-butyl ether	U		0.101	1.00	1	09/30/2023 20:45	WG2142536
Naphthalene	363		20.0	100	20	10/02/2023 15:17	WG2143190

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	275		1.99	20.0	20	10/02/2023 15:17	WG2143190
Styrene	U		0.118	1.00	1	09/30/2023 20:45	WG2142536
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	09/30/2023 20:45	WG2142536
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	09/30/2023 20:45	WG2142536
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	09/30/2023 20:45	WG2142536
Tetrachloroethene	U		0.300	1.00	1	09/30/2023 20:45	WG2142536
Toluene	1.29		0.278	1.00	1	09/30/2023 20:45	WG2142536
1,2,3-Trichlorobenzene	U		0.230	1.00	1	09/30/2023 20:45	WG2142536
1,2,4-Trichlorobenzene	U		0.481	1.00	1	09/30/2023 20:45	WG2142536
1,1,1-Trichloroethane	U		0.149	1.00	1	09/30/2023 20:45	WG2142536
1,1,2-Trichloroethane	U		0.158	1.00	1	09/30/2023 20:45	WG2142536
Trichloroethene	U		0.190	1.00	1	09/30/2023 20:45	WG2142536
Trichlorofluoromethane	U		0.160	5.00	1	09/30/2023 20:45	WG2142536
1,2,3-Trichloropropane	U		0.237	2.50	1	09/30/2023 20:45	WG2142536
1,2,4-Trimethylbenzene	0.412	J	0.322	1.00	1	09/30/2023 20:45	WG2142536
1,2,3-Trimethylbenzene	9.70		0.104	1.00	1	09/30/2023 20:45	WG2142536
1,3,5-Trimethylbenzene	0.292	J	0.104	1.00	1	09/30/2023 20:45	WG2142536
Vinyl chloride	U		0.234	1.00	1	09/30/2023 20:45	WG2142536
Xylenes, Total	2.69	J	0.174	3.00	1	09/30/2023 20:45	WG2142536
(S) Toluene-d8	*104*			*80.0-120*		*09/30/2023 20:45*	WG2142536
(S) Toluene-d8	*101*			*80.0-120*		*10/02/2023 15:17*	WG2143190
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*09/30/2023 20:45*	WG2142536
(S) 4-Bromofluorobenzene	*95.1*			*77.0-126*		*10/02/2023 15:17*	WG2143190
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*		*09/30/2023 20:45*	WG2142536
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*10/02/2023 15:17*	WG2143190

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	3430		31.6	100	1	09/30/2023 16:32	WG2142272
(S) a,a,a-Trifluorotoluene(FID)	*107*			*78.0-120*		*09/30/2023 16:32*	WG2142272

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	09/30/2023 21:05	WG2142536
Acrolein	U		2.54	50.0	1	09/30/2023 21:05	WG2142536
Acrylonitrile	U		0.671	10.0	1	09/30/2023 21:05	WG2142536
Benzene	32.0		0.0941	1.00	1	09/30/2023 21:05	WG2142536
Bromobenzene	U		0.118	1.00	1	09/30/2023 21:05	WG2142536
Bromodichloromethane	U		0.136	1.00	1	09/30/2023 21:05	WG2142536
Bromoform	U		0.129	1.00	1	09/30/2023 21:05	WG2142536
Bromomethane	U	C3	0.605	5.00	1	09/30/2023 21:05	WG2142536
n-Butylbenzene	22.2		0.157	1.00	1	09/30/2023 21:05	WG2142536
sec-Butylbenzene	16.9		0.125	1.00	1	09/30/2023 21:05	WG2142536
tert-Butylbenzene	U		0.127	1.00	1	09/30/2023 21:05	WG2142536
Carbon disulfide	U		0.0962	1.00	1	09/30/2023 21:05	WG2142536
Carbon tetrachloride	U		0.128	1.00	1	09/30/2023 21:05	WG2142536
Chlorobenzene	U		0.116	1.00	1	09/30/2023 21:05	WG2142536
Chlorodibromomethane	U		0.140	1.00	1	09/30/2023 21:05	WG2142536
Chloroethane	U		0.192	5.00	1	09/30/2023 21:05	WG2142536
Chloroform	U		0.111	5.00	1	09/30/2023 21:05	WG2142536
Chloromethane	U		0.960	2.50	1	09/30/2023 21:05	WG2142536
2-Chlorotoluene	U		0.106	1.00	1	09/30/2023 21:05	WG2142536
4-Chlorotoluene	U		0.114	1.00	1	09/30/2023 21:05	WG2142536
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	09/30/2023 21:05	WG2142536
1,2-Dibromoethane	U		0.126	1.00	1	09/30/2023 21:05	WG2142536
Dibromomethane	U		0.122	1.00	1	09/30/2023 21:05	WG2142536
1,2-Dichlorobenzene	U		0.107	1.00	1	09/30/2023 21:05	WG2142536
1,3-Dichlorobenzene	U		0.110	1.00	1	09/30/2023 21:05	WG2142536
1,4-Dichlorobenzene	U		0.120	1.00	1	09/30/2023 21:05	WG2142536
Dichlorodifluoromethane	U		0.374	5.00	1	09/30/2023 21:05	WG2142536
1,1-Dichloroethane	U		0.100	1.00	1	09/30/2023 21:05	WG2142536
1,2-Dichloroethane	U		0.0819	1.00	1	09/30/2023 21:05	WG2142536
1,1-Dichloroethene	U		0.188	1.00	1	09/30/2023 21:05	WG2142536
cis-1,2-Dichloroethene	U		0.126	1.00	1	09/30/2023 21:05	WG2142536
trans-1,2-Dichloroethene	U		0.149	1.00	1	09/30/2023 21:05	WG2142536
1,2-Dichloropropane	U		0.149	1.00	1	09/30/2023 21:05	WG2142536
1,1-Dichloropropene	U		0.142	1.00	1	09/30/2023 21:05	WG2142536
1,3-Dichloropropane	U		0.110	1.00	1	09/30/2023 21:05	WG2142536
cis-1,3-Dichloropropene	U		0.111	1.00	1	09/30/2023 21:05	WG2142536
trans-1,3-Dichloropropene	U		0.118	1.00	1	09/30/2023 21:05	WG2142536
2,2-Dichloropropane	U		0.161	1.00	1	09/30/2023 21:05	WG2142536
Di-isopropyl ether	U		0.105	1.00	1	09/30/2023 21:05	WG2142536
Ethylbenzene	200		0.137	1.00	1	09/30/2023 21:05	WG2142536
Hexachloro-1,3-butadiene	U		0.337	1.00	1	09/30/2023 21:05	WG2142536
Isopropylbenzene	87.6		0.105	1.00	1	09/30/2023 21:05	WG2142536
p-Isopropyltoluene	0.771	J	0.120	1.00	1	09/30/2023 21:05	WG2142536
2-Butanone (MEK)	U		1.19	10.0	1	09/30/2023 21:05	WG2142536
Methylene Chloride	U		0.430	5.00	1	09/30/2023 21:05	WG2142536
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	09/30/2023 21:05	WG2142536
Methyl tert-butyl ether	U		0.101	1.00	1	09/30/2023 21:05	WG2142536
Naphthalene	120		1.00	5.00	1	09/30/2023 21:05	WG2142536

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

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
n-Propylbenzene	279		0.993	10.0	10	10/02/2023 15:38	WG2143190
Styrene	U		0.118	1.00	1	09/30/2023 21:05	WG2142536
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	09/30/2023 21:05	WG2142536
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	09/30/2023 21:05	WG2142536
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	09/30/2023 21:05	WG2142536
Tetrachloroethene	U		0.300	1.00	1	09/30/2023 21:05	WG2142536
Toluene	2.13		0.278	1.00	1	09/30/2023 21:05	WG2142536
1,2,3-Trichlorobenzene	U		0.230	1.00	1	09/30/2023 21:05	WG2142536
1,2,4-Trichlorobenzene	U		0.481	1.00	1	09/30/2023 21:05	WG2142536
1,1,1-Trichloroethane	U		0.149	1.00	1	09/30/2023 21:05	WG2142536
1,1,2-Trichloroethane	U		0.158	1.00	1	09/30/2023 21:05	WG2142536
Trichloroethene	U		0.190	1.00	1	09/30/2023 21:05	WG2142536
Trichlorofluoromethane	U		0.160	5.00	1	09/30/2023 21:05	WG2142536
1,2,3-Trichloropropane	U		0.237	2.50	1	09/30/2023 21:05	WG2142536
1,2,4-Trimethylbenzene	0.341	J	0.322	1.00	1	09/30/2023 21:05	WG2142536
1,2,3-Trimethylbenzene	3.87		0.104	1.00	1	09/30/2023 21:05	WG2142536
1,3,5-Trimethylbenzene	0.975	J	0.104	1.00	1	09/30/2023 21:05	WG2142536
Vinyl chloride	U		0.234	1.00	1	09/30/2023 21:05	WG2142536
Xylenes, Total	9.57		0.174	3.00	1	09/30/2023 21:05	WG2142536
(S) Toluene-d8	*104*			*80.0-120*		*09/30/2023 21:05*	WG2142536
(S) Toluene-d8	*102*			*80.0-120*		*10/02/2023 15:38*	WG2143190
(S) 4-Bromofluorobenzene	*106*			*77.0-126*		*09/30/2023 21:05*	WG2142536
(S) 4-Bromofluorobenzene	*98.4*			*77.0-126*		*10/02/2023 15:38*	WG2143190
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*09/30/2023 21:05*	WG2142536
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*		*10/02/2023 15:38*	WG2143190

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	2450		31.6	100	1	09/30/2023 16:51	WG2142272
(S) a,a,a-Trifluorotoluene(FID)	*98.9*			*78.0-120*		*09/30/2023 16:51*	WG2142272

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	09/30/2023 21:26	WG2142536
Acrolein	U		2.54	50.0	1	09/30/2023 21:26	WG2142536
Acrylonitrile	U		0.671	10.0	1	09/30/2023 21:26	WG2142536
Benzene	379		0.941	10.0	10	10/02/2023 16:00	WG2143190
Bromobenzene	U		0.118	1.00	1	09/30/2023 21:26	WG2142536
Bromodichloromethane	U		0.136	1.00	1	09/30/2023 21:26	WG2142536
Bromoform	U		0.129	1.00	1	09/30/2023 21:26	WG2142536
Bromomethane	U	C3	0.605	5.00	1	09/30/2023 21:26	WG2142536
n-Butylbenzene	7.21		0.157	1.00	1	09/30/2023 21:26	WG2142536
sec-Butylbenzene	8.57		0.125	1.00	1	09/30/2023 21:26	WG2142536
tert-Butylbenzene	U		0.127	1.00	1	09/30/2023 21:26	WG2142536
Carbon disulfide	U		0.0962	1.00	1	09/30/2023 21:26	WG2142536
Carbon tetrachloride	U		0.128	1.00	1	09/30/2023 21:26	WG2142536
Chlorobenzene	U		0.116	1.00	1	09/30/2023 21:26	WG2142536
Chlorodibromomethane	U		0.140	1.00	1	09/30/2023 21:26	WG2142536
Chloroethane	U		0.192	5.00	1	09/30/2023 21:26	WG2142536
Chloroform	U		0.111	5.00	1	09/30/2023 21:26	WG2142536
Chloromethane	U		0.960	2.50	1	09/30/2023 21:26	WG2142536
2-Chlorotoluene	U		0.106	1.00	1	09/30/2023 21:26	WG2142536
4-Chlorotoluene	U		0.114	1.00	1	09/30/2023 21:26	WG2142536
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	09/30/2023 21:26	WG2142536
1,2-Dibromoethane	U		0.126	1.00	1	09/30/2023 21:26	WG2142536
Dibromomethane	U		0.122	1.00	1	09/30/2023 21:26	WG2142536
1,2-Dichlorobenzene	U		0.107	1.00	1	09/30/2023 21:26	WG2142536
1,3-Dichlorobenzene	U		0.110	1.00	1	09/30/2023 21:26	WG2142536
1,4-Dichlorobenzene	U		0.120	1.00	1	09/30/2023 21:26	WG2142536
Dichlorodifluoromethane	U		0.374	5.00	1	09/30/2023 21:26	WG2142536
1,1-Dichloroethane	U		0.100	1.00	1	09/30/2023 21:26	WG2142536
1,2-Dichloroethane	U		0.0819	1.00	1	09/30/2023 21:26	WG2142536
1,1-Dichloroethene	U		0.188	1.00	1	09/30/2023 21:26	WG2142536
cis-1,2-Dichloroethene	U		0.126	1.00	1	09/30/2023 21:26	WG2142536
trans-1,2-Dichloroethene	U		0.149	1.00	1	09/30/2023 21:26	WG2142536
1,2-Dichloropropane	U		0.149	1.00	1	09/30/2023 21:26	WG2142536
1,1-Dichloropropene	U		0.142	1.00	1	09/30/2023 21:26	WG2142536
1,3-Dichloropropane	U		0.110	1.00	1	09/30/2023 21:26	WG2142536
cis-1,3-Dichloropropene	U		0.111	1.00	1	09/30/2023 21:26	WG2142536
trans-1,3-Dichloropropene	U		0.118	1.00	1	09/30/2023 21:26	WG2142536
2,2-Dichloropropane	U		0.161	1.00	1	09/30/2023 21:26	WG2142536
Di-isopropyl ether	U		0.105	1.00	1	09/30/2023 21:26	WG2142536
Ethylbenzene	92.7		0.137	1.00	1	09/30/2023 21:26	WG2142536
Hexachloro-1,3-butadiene	U		0.337	1.00	1	09/30/2023 21:26	WG2142536
Isopropylbenzene	56.5		0.105	1.00	1	09/30/2023 21:26	WG2142536
p-Isopropyltoluene	0.159	J	0.120	1.00	1	09/30/2023 21:26	WG2142536
2-Butanone (MEK)	U		1.19	10.0	1	09/30/2023 21:26	WG2142536
Methylene Chloride	U		0.430	5.00	1	09/30/2023 21:26	WG2142536
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	09/30/2023 21:26	WG2142536
Methyl tert-butyl ether	U		0.101	1.00	1	09/30/2023 21:26	WG2142536
Naphthalene	9.88		1.00	5.00	1	09/30/2023 21:26	WG2142536

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	171		0.0993	1.00	1	09/30/2023 21:26	WG2142536
Styrene	U		0.118	1.00	1	09/30/2023 21:26	WG2142536
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	09/30/2023 21:26	WG2142536
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	09/30/2023 21:26	WG2142536
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	09/30/2023 21:26	WG2142536
Tetrachloroethene	U		0.300	1.00	1	09/30/2023 21:26	WG2142536
Toluene	6.25		0.278	1.00	1	09/30/2023 21:26	WG2142536
1,2,3-Trichlorobenzene	U		0.230	1.00	1	09/30/2023 21:26	WG2142536
1,2,4-Trichlorobenzene	U		0.481	1.00	1	09/30/2023 21:26	WG2142536
1,1,1-Trichloroethane	U		0.149	1.00	1	09/30/2023 21:26	WG2142536
1,1,2-Trichloroethane	U		0.158	1.00	1	09/30/2023 21:26	WG2142536
Trichloroethene	U		0.190	1.00	1	09/30/2023 21:26	WG2142536
Trichlorofluoromethane	U		0.160	5.00	1	09/30/2023 21:26	WG2142536
1,2,3-Trichloropropane	U		0.237	2.50	1	09/30/2023 21:26	WG2142536
1,2,4-Trimethylbenzene	7.99		0.322	1.00	1	09/30/2023 21:26	WG2142536
1,2,3-Trimethylbenzene	1.61		0.104	1.00	1	09/30/2023 21:26	WG2142536
1,3,5-Trimethylbenzene	2.57		0.104	1.00	1	09/30/2023 21:26	WG2142536
Vinyl chloride	U		0.234	1.00	1	09/30/2023 21:26	WG2142536
Xylenes, Total	41.1		0.174	3.00	1	09/30/2023 21:26	WG2142536
(S) Toluene-d8	*106*			*80.0-120*		*09/30/2023 21:26*	WG2142536
(S) Toluene-d8	*104*			*80.0-120*		*10/02/2023 16:00*	WG2143190
(S) 4-Bromofluorobenzene	*108*			*77.0-126*		*09/30/2023 21:26*	WG2142536
(S) 4-Bromofluorobenzene	*96.4*			*77.0-126*		*10/02/2023 16:00*	WG2143190
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*		*09/30/2023 21:26*	WG2142536
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*10/02/2023 16:00*	WG2143190

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	876		31.6	100	1	09/30/2023 17:17	WG2142272
(S) a,a,a-Trifluorotoluene(FID)	*100*			*78.0-120*		*09/30/2023 17:17*	WG2142272

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	09/30/2023 21:46	WG2142536
Acrolein	U		2.54	50.0	1	09/30/2023 21:46	WG2142536
Acrylonitrile	U		0.671	10.0	1	09/30/2023 21:46	WG2142536
Benzene	49.6		0.0941	1.00	1	09/30/2023 21:46	WG2142536
Bromobenzene	U		0.118	1.00	1	09/30/2023 21:46	WG2142536
Bromodichloromethane	U		0.136	1.00	1	09/30/2023 21:46	WG2142536
Bromoform	U		0.129	1.00	1	09/30/2023 21:46	WG2142536
Bromomethane	U	C3	0.605	5.00	1	09/30/2023 21:46	WG2142536
n-Butylbenzene	U		0.157	1.00	1	09/30/2023 21:46	WG2142536
sec-Butylbenzene	0.805	J	0.125	1.00	1	09/30/2023 21:46	WG2142536
tert-Butylbenzene	0.196	J	0.127	1.00	1	09/30/2023 21:46	WG2142536
Carbon disulfide	U		0.0962	1.00	1	09/30/2023 21:46	WG2142536
Carbon tetrachloride	U		0.128	1.00	1	09/30/2023 21:46	WG2142536
Chlorobenzene	U		0.116	1.00	1	09/30/2023 21:46	WG2142536
Chlorodibromomethane	U		0.140	1.00	1	09/30/2023 21:46	WG2142536
Chloroethane	U		0.192	5.00	1	09/30/2023 21:46	WG2142536
Chloroform	U		0.111	5.00	1	09/30/2023 21:46	WG2142536
Chloromethane	U		0.960	2.50	1	09/30/2023 21:46	WG2142536
2-Chlorotoluene	U		0.106	1.00	1	09/30/2023 21:46	WG2142536
4-Chlorotoluene	U		0.114	1.00	1	09/30/2023 21:46	WG2142536
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	09/30/2023 21:46	WG2142536
1,2-Dibromoethane	U		0.126	1.00	1	09/30/2023 21:46	WG2142536
Dibromomethane	U		0.122	1.00	1	09/30/2023 21:46	WG2142536
1,2-Dichlorobenzene	U		0.107	1.00	1	09/30/2023 21:46	WG2142536
1,3-Dichlorobenzene	U		0.110	1.00	1	09/30/2023 21:46	WG2142536
1,4-Dichlorobenzene	U		0.120	1.00	1	09/30/2023 21:46	WG2142536
Dichlorodifluoromethane	U		0.374	5.00	1	09/30/2023 21:46	WG2142536
1,1-Dichloroethane	U		0.100	1.00	1	09/30/2023 21:46	WG2142536
1,2-Dichloroethane	U		0.0819	1.00	1	09/30/2023 21:46	WG2142536
1,1-Dichloroethene	U		0.188	1.00	1	09/30/2023 21:46	WG2142536
cis-1,2-Dichloroethene	U		0.126	1.00	1	09/30/2023 21:46	WG2142536
trans-1,2-Dichloroethene	U		0.149	1.00	1	09/30/2023 21:46	WG2142536
1,2-Dichloropropane	U		0.149	1.00	1	09/30/2023 21:46	WG2142536
1,1-Dichloropropene	U		0.142	1.00	1	09/30/2023 21:46	WG2142536
1,3-Dichloropropane	U		0.110	1.00	1	09/30/2023 21:46	WG2142536
cis-1,3-Dichloropropene	U		0.111	1.00	1	09/30/2023 21:46	WG2142536
trans-1,3-Dichloropropene	U		0.118	1.00	1	09/30/2023 21:46	WG2142536
2,2-Dichloropropane	U		0.161	1.00	1	09/30/2023 21:46	WG2142536
Di-isopropyl ether	U		0.105	1.00	1	09/30/2023 21:46	WG2142536
Ethylbenzene	35.6		0.137	1.00	1	09/30/2023 21:46	WG2142536
Hexachloro-1,3-butadiene	U		0.337	1.00	1	09/30/2023 21:46	WG2142536
Isopropylbenzene	12.1		0.105	1.00	1	09/30/2023 21:46	WG2142536
p-Isopropyltoluene	U		0.120	1.00	1	09/30/2023 21:46	WG2142536
2-Butanone (MEK)	U		1.19	10.0	1	09/30/2023 21:46	WG2142536
Methylene Chloride	U		0.430	5.00	1	09/30/2023 21:46	WG2142536
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	09/30/2023 21:46	WG2142536
Methyl tert-butyl ether	14.6		0.101	1.00	1	09/30/2023 21:46	WG2142536
Naphthalene	2.66	J	1.00	5.00	1	09/30/2023 21:46	WG2142536

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
n-Propylbenzene	20.9		0.0993	1.00	1	09/30/2023 21:46	WG2142536
Styrene	U		0.118	1.00	1	09/30/2023 21:46	WG2142536
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	09/30/2023 21:46	WG2142536
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	09/30/2023 21:46	WG2142536
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	09/30/2023 21:46	WG2142536
Tetrachloroethene	U		0.300	1.00	1	09/30/2023 21:46	WG2142536
Toluene	1.44		0.278	1.00	1	09/30/2023 21:46	WG2142536
1,2,3-Trichlorobenzene	U		0.230	1.00	1	09/30/2023 21:46	WG2142536
1,2,4-Trichlorobenzene	U		0.481	1.00	1	09/30/2023 21:46	WG2142536
1,1,1-Trichloroethane	U		0.149	1.00	1	09/30/2023 21:46	WG2142536
1,1,2-Trichloroethane	U		0.158	1.00	1	09/30/2023 21:46	WG2142536
Trichloroethene	U		0.190	1.00	1	09/30/2023 21:46	WG2142536
Trichlorofluoromethane	U		0.160	5.00	1	09/30/2023 21:46	WG2142536
1,2,3-Trichloropropane	U		0.237	2.50	1	09/30/2023 21:46	WG2142536
1,2,4-Trimethylbenzene	18.0		0.322	1.00	1	09/30/2023 21:46	WG2142536
1,2,3-Trimethylbenzene	6.07		0.104	1.00	1	09/30/2023 21:46	WG2142536
1,3,5-Trimethylbenzene	5.29		0.104	1.00	1	09/30/2023 21:46	WG2142536
Vinyl chloride	U		0.234	1.00	1	09/30/2023 21:46	WG2142536
Xylenes, Total	99.3		0.174	3.00	1	09/30/2023 21:46	WG2142536
(S) Toluene-d8	*105*			*80.0-120*		*09/30/2023 21:46*	WG2142536
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*09/30/2023 21:46*	WG2142536
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*		*09/30/2023 21:46*	WG2142536

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	54.5	J	31.6	100	1	09/30/2023 17:36	WG2142272
(S) a,a,a-Trifluorotoluene(FID)	*97.9*			*78.0-120*		*09/30/2023 17:36*	WG2142272

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	09/30/2023 22:06	WG2142536
Acrolein	U		2.54	50.0	1	09/30/2023 22:06	WG2142536
Acrylonitrile	U		0.671	10.0	1	09/30/2023 22:06	WG2142536
Benzene	U		0.0941	1.00	1	09/30/2023 22:06	WG2142536
Bromobenzene	U		0.118	1.00	1	09/30/2023 22:06	WG2142536
Bromodichloromethane	U		0.136	1.00	1	09/30/2023 22:06	WG2142536
Bromoform	U		0.129	1.00	1	09/30/2023 22:06	WG2142536
Bromomethane	U	C3	0.605	5.00	1	09/30/2023 22:06	WG2142536
n-Butylbenzene	U		0.157	1.00	1	09/30/2023 22:06	WG2142536
sec-Butylbenzene	U		0.125	1.00	1	09/30/2023 22:06	WG2142536
tert-Butylbenzene	U		0.127	1.00	1	09/30/2023 22:06	WG2142536
Carbon disulfide	U		0.0962	1.00	1	09/30/2023 22:06	WG2142536
Carbon tetrachloride	U		0.128	1.00	1	09/30/2023 22:06	WG2142536
Chlorobenzene	U		0.116	1.00	1	09/30/2023 22:06	WG2142536
Chlorodibromomethane	U		0.140	1.00	1	09/30/2023 22:06	WG2142536
Chloroethane	U		0.192	5.00	1	09/30/2023 22:06	WG2142536
Chloroform	U		0.111	5.00	1	09/30/2023 22:06	WG2142536
Chloromethane	U		0.960	2.50	1	09/30/2023 22:06	WG2142536
2-Chlorotoluene	U		0.106	1.00	1	09/30/2023 22:06	WG2142536
4-Chlorotoluene	U		0.114	1.00	1	09/30/2023 22:06	WG2142536
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	09/30/2023 22:06	WG2142536
1,2-Dibromoethane	U		0.126	1.00	1	09/30/2023 22:06	WG2142536
Dibromomethane	U		0.122	1.00	1	09/30/2023 22:06	WG2142536
1,2-Dichlorobenzene	U		0.107	1.00	1	09/30/2023 22:06	WG2142536
1,3-Dichlorobenzene	U		0.110	1.00	1	09/30/2023 22:06	WG2142536
1,4-Dichlorobenzene	U		0.120	1.00	1	09/30/2023 22:06	WG2142536
Dichlorodifluoromethane	U		0.374	5.00	1	09/30/2023 22:06	WG2142536
1,1-Dichloroethane	U		0.100	1.00	1	09/30/2023 22:06	WG2142536
1,2-Dichloroethane	U		0.0819	1.00	1	09/30/2023 22:06	WG2142536
1,1-Dichloroethene	U		0.188	1.00	1	09/30/2023 22:06	WG2142536
cis-1,2-Dichloroethene	U		0.126	1.00	1	09/30/2023 22:06	WG2142536
trans-1,2-Dichloroethene	U		0.149	1.00	1	09/30/2023 22:06	WG2142536
1,2-Dichloropropane	U		0.149	1.00	1	09/30/2023 22:06	WG2142536
1,1-Dichloropropene	U		0.142	1.00	1	09/30/2023 22:06	WG2142536
1,3-Dichloropropane	U		0.110	1.00	1	09/30/2023 22:06	WG2142536
cis-1,3-Dichloropropene	U		0.111	1.00	1	09/30/2023 22:06	WG2142536
trans-1,3-Dichloropropene	U		0.118	1.00	1	09/30/2023 22:06	WG2142536
2,2-Dichloropropane	U		0.161	1.00	1	09/30/2023 22:06	WG2142536
Di-isopropyl ether	U		0.105	1.00	1	09/30/2023 22:06	WG2142536
Ethylbenzene	0.231	J	0.137	1.00	1	09/30/2023 22:06	WG2142536
Hexachloro-1,3-butadiene	U		0.337	1.00	1	09/30/2023 22:06	WG2142536
Isopropylbenzene	0.268	J	0.105	1.00	1	09/30/2023 22:06	WG2142536
p-Isopropyltoluene	U		0.120	1.00	1	09/30/2023 22:06	WG2142536
2-Butanone (MEK)	U		1.19	10.0	1	09/30/2023 22:06	WG2142536
Methylene Chloride	U		0.430	5.00	1	09/30/2023 22:06	WG2142536
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	09/30/2023 22:06	WG2142536
Methyl tert-butyl ether	0.297	J	0.101	1.00	1	09/30/2023 22:06	WG2142536
Naphthalene	U		1.00	5.00	1	09/30/2023 22:06	WG2142536

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	0.544	J	0.0993	1.00	1	09/30/2023 22:06	WG2142536
Styrene	U		0.118	1.00	1	09/30/2023 22:06	WG2142536
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	09/30/2023 22:06	WG2142536
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	09/30/2023 22:06	WG2142536
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	09/30/2023 22:06	WG2142536
Tetrachloroethene	U		0.300	1.00	1	09/30/2023 22:06	WG2142536
Toluene	U		0.278	1.00	1	09/30/2023 22:06	WG2142536
1,2,3-Trichlorobenzene	U		0.230	1.00	1	09/30/2023 22:06	WG2142536
1,2,4-Trichlorobenzene	U		0.481	1.00	1	09/30/2023 22:06	WG2142536
1,1,1-Trichloroethane	U		0.149	1.00	1	09/30/2023 22:06	WG2142536
1,1,2-Trichloroethane	U		0.158	1.00	1	09/30/2023 22:06	WG2142536
Trichloroethene	U		0.190	1.00	1	09/30/2023 22:06	WG2142536
Trichlorofluoromethane	U		0.160	5.00	1	09/30/2023 22:06	WG2142536
1,2,3-Trichloropropane	U		0.237	2.50	1	09/30/2023 22:06	WG2142536
1,2,4-Trimethylbenzene	U		0.322	1.00	1	09/30/2023 22:06	WG2142536
1,2,3-Trimethylbenzene	0.110	J	0.104	1.00	1	09/30/2023 22:06	WG2142536
1,3,5-Trimethylbenzene	0.137	J	0.104	1.00	1	09/30/2023 22:06	WG2142536
Vinyl chloride	U		0.234	1.00	1	09/30/2023 22:06	WG2142536
Xylenes, Total	1.47	J	0.174	3.00	1	09/30/2023 22:06	WG2142536
(S) Toluene-d8	*108*			*80.0-120*		*09/30/2023 22:06*	WG2142536
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*09/30/2023 22:06*	WG2142536
(S) 1,2-Dichloroethane-d4	*105*			*70.0-130*		*09/30/2023 22:06*	WG2142536

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	09/30/2023 17:55	WG2142272
(S) a,a,a-Trifluorotoluene(FID)	*99.0*			*78.0-120*		*09/30/2023 17:55*	WG2142272

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	09/30/2023 22:26	WG2142536
Acrolein	U		2.54	50.0	1	09/30/2023 22:26	WG2142536
Acrylonitrile	U		0.671	10.0	1	09/30/2023 22:26	WG2142536
Benzene	U		0.0941	1.00	1	09/30/2023 22:26	WG2142536
Bromobenzene	U		0.118	1.00	1	09/30/2023 22:26	WG2142536
Bromodichloromethane	U		0.136	1.00	1	09/30/2023 22:26	WG2142536
Bromoform	U		0.129	1.00	1	09/30/2023 22:26	WG2142536
Bromomethane	U	C3	0.605	5.00	1	09/30/2023 22:26	WG2142536
n-Butylbenzene	U		0.157	1.00	1	09/30/2023 22:26	WG2142536
sec-Butylbenzene	U		0.125	1.00	1	09/30/2023 22:26	WG2142536
tert-Butylbenzene	U		0.127	1.00	1	09/30/2023 22:26	WG2142536
Carbon disulfide	U		0.0962	1.00	1	09/30/2023 22:26	WG2142536
Carbon tetrachloride	U		0.128	1.00	1	09/30/2023 22:26	WG2142536
Chlorobenzene	U		0.116	1.00	1	09/30/2023 22:26	WG2142536
Chlorodibromomethane	U		0.140	1.00	1	09/30/2023 22:26	WG2142536
Chloroethane	U		0.192	5.00	1	09/30/2023 22:26	WG2142536
Chloroform	U		0.111	5.00	1	09/30/2023 22:26	WG2142536
Chloromethane	U		0.960	2.50	1	09/30/2023 22:26	WG2142536
2-Chlorotoluene	U		0.106	1.00	1	09/30/2023 22:26	WG2142536
4-Chlorotoluene	U		0.114	1.00	1	09/30/2023 22:26	WG2142536
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	09/30/2023 22:26	WG2142536
1,2-Dibromoethane	U		0.126	1.00	1	09/30/2023 22:26	WG2142536
Dibromomethane	U		0.122	1.00	1	09/30/2023 22:26	WG2142536
1,2-Dichlorobenzene	U		0.107	1.00	1	09/30/2023 22:26	WG2142536
1,3-Dichlorobenzene	U		0.110	1.00	1	09/30/2023 22:26	WG2142536
1,4-Dichlorobenzene	U		0.120	1.00	1	09/30/2023 22:26	WG2142536
Dichlorodifluoromethane	U		0.374	5.00	1	09/30/2023 22:26	WG2142536
1,1-Dichloroethane	U		0.100	1.00	1	09/30/2023 22:26	WG2142536
1,2-Dichloroethane	U		0.0819	1.00	1	09/30/2023 22:26	WG2142536
1,1-Dichloroethene	U		0.188	1.00	1	09/30/2023 22:26	WG2142536
cis-1,2-Dichloroethene	U		0.126	1.00	1	09/30/2023 22:26	WG2142536
trans-1,2-Dichloroethene	U		0.149	1.00	1	09/30/2023 22:26	WG2142536
1,2-Dichloropropane	U		0.149	1.00	1	09/30/2023 22:26	WG2142536
1,1-Dichloropropene	U		0.142	1.00	1	09/30/2023 22:26	WG2142536
1,3-Dichloropropane	U		0.110	1.00	1	09/30/2023 22:26	WG2142536
cis-1,3-Dichloropropene	U		0.111	1.00	1	09/30/2023 22:26	WG2142536
trans-1,3-Dichloropropene	U		0.118	1.00	1	09/30/2023 22:26	WG2142536
2,2-Dichloropropane	U		0.161	1.00	1	09/30/2023 22:26	WG2142536
Di-isopropyl ether	U		0.105	1.00	1	09/30/2023 22:26	WG2142536
Ethylbenzene	U		0.137	1.00	1	09/30/2023 22:26	WG2142536
Hexachloro-1,3-butadiene	U		0.337	1.00	1	09/30/2023 22:26	WG2142536
Isopropylbenzene	U		0.105	1.00	1	09/30/2023 22:26	WG2142536
p-Isopropyltoluene	U		0.120	1.00	1	09/30/2023 22:26	WG2142536
2-Butanone (MEK)	U		1.19	10.0	1	09/30/2023 22:26	WG2142536
Methylene Chloride	U		0.430	5.00	1	09/30/2023 22:26	WG2142536
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	09/30/2023 22:26	WG2142536
Methyl tert-butyl ether	U		0.101	1.00	1	09/30/2023 22:26	WG2142536
Naphthalene	U		1.00	5.00	1	09/30/2023 22:26	WG2142536

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

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
n-Propylbenzene	U		0.0993	1.00	1	09/30/2023 22:26	WG2142536
Styrene	U		0.118	1.00	1	09/30/2023 22:26	WG2142536
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	09/30/2023 22:26	WG2142536
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	09/30/2023 22:26	WG2142536
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	09/30/2023 22:26	WG2142536
Tetrachloroethene	U		0.300	1.00	1	09/30/2023 22:26	WG2142536
Toluene	U		0.278	1.00	1	09/30/2023 22:26	WG2142536
1,2,3-Trichlorobenzene	U		0.230	1.00	1	09/30/2023 22:26	WG2142536
1,2,4-Trichlorobenzene	U		0.481	1.00	1	09/30/2023 22:26	WG2142536
1,1,1-Trichloroethane	U		0.149	1.00	1	09/30/2023 22:26	WG2142536
1,1,2-Trichloroethane	U		0.158	1.00	1	09/30/2023 22:26	WG2142536
Trichloroethene	U		0.190	1.00	1	09/30/2023 22:26	WG2142536
Trichlorofluoromethane	U		0.160	5.00	1	09/30/2023 22:26	WG2142536
1,2,3-Trichloropropane	U		0.237	2.50	1	09/30/2023 22:26	WG2142536
1,2,4-Trimethylbenzene	U		0.322	1.00	1	09/30/2023 22:26	WG2142536
1,2,3-Trimethylbenzene	U		0.104	1.00	1	09/30/2023 22:26	WG2142536
1,3,5-Trimethylbenzene	U		0.104	1.00	1	09/30/2023 22:26	WG2142536
Vinyl chloride	U		0.234	1.00	1	09/30/2023 22:26	WG2142536
Xylenes, Total	U		0.174	3.00	1	09/30/2023 22:26	WG2142536
(S) Toluene-d8	*111*			*80.0-120*		*09/30/2023 22:26*	WG2142536
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*09/30/2023 22:26*	WG2142536
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*		*09/30/2023 22:26*	WG2142536

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	31000		316	1000	10	10/04/2023 16:30	WG2144277
(S) a,a,a-Trifluorotoluene(FID)	*104*			*78.0-120*		*10/04/2023 16:30*	WG2144277

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	09/30/2023 22:46	WG2142536
Acrolein	U		2.54	50.0	1	09/30/2023 22:46	WG2142536
Acrylonitrile	U		0.671	10.0	1	09/30/2023 22:46	WG2142536
Benzene	4540		4.71	50.0	50	10/02/2023 16:22	WG2143190
Bromobenzene	U		0.118	1.00	1	09/30/2023 22:46	WG2142536
Bromodichloromethane	U		0.136	1.00	1	09/30/2023 22:46	WG2142536
Bromoform	U		0.129	1.00	1	09/30/2023 22:46	WG2142536
Bromomethane	U	C3	0.605	5.00	1	09/30/2023 22:46	WG2142536
n-Butylbenzene	23.0		0.157	1.00	1	09/30/2023 22:46	WG2142536
sec-Butylbenzene	22.8		0.125	1.00	1	09/30/2023 22:46	WG2142536
tert-Butylbenzene	0.935	J	0.127	1.00	1	09/30/2023 22:46	WG2142536
Carbon disulfide	U		0.0962	1.00	1	09/30/2023 22:46	WG2142536
Carbon tetrachloride	U		0.128	1.00	1	09/30/2023 22:46	WG2142536
Chlorobenzene	U		0.116	1.00	1	09/30/2023 22:46	WG2142536
Chlorodibromomethane	U		0.140	1.00	1	09/30/2023 22:46	WG2142536
Chloroethane	U		0.192	5.00	1	09/30/2023 22:46	WG2142536
Chloroform	U		0.111	5.00	1	09/30/2023 22:46	WG2142536
Chloromethane	U		0.960	2.50	1	09/30/2023 22:46	WG2142536
2-Chlorotoluene	37.9		0.106	1.00	1	09/30/2023 22:46	WG2142536
4-Chlorotoluene	U		0.114	1.00	1	09/30/2023 22:46	WG2142536
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	09/30/2023 22:46	WG2142536
1,2-Dibromoethane	U		0.126	1.00	1	09/30/2023 22:46	WG2142536
Dibromomethane	U		0.122	1.00	1	09/30/2023 22:46	WG2142536
1,2-Dichlorobenzene	U		0.107	1.00	1	09/30/2023 22:46	WG2142536
1,3-Dichlorobenzene	U		0.110	1.00	1	09/30/2023 22:46	WG2142536
1,4-Dichlorobenzene	U		0.120	1.00	1	09/30/2023 22:46	WG2142536
Dichlorodifluoromethane	U		0.374	5.00	1	09/30/2023 22:46	WG2142536
1,1-Dichloroethane	U		0.100	1.00	1	09/30/2023 22:46	WG2142536
1,2-Dichloroethane	U		0.0819	1.00	1	09/30/2023 22:46	WG2142536
1,1-Dichloroethene	U		0.188	1.00	1	09/30/2023 22:46	WG2142536
cis-1,2-Dichloroethene	U		0.126	1.00	1	09/30/2023 22:46	WG2142536
trans-1,2-Dichloroethene	U		0.149	1.00	1	09/30/2023 22:46	WG2142536
1,2-Dichloropropane	U		0.149	1.00	1	09/30/2023 22:46	WG2142536
1,1-Dichloropropene	U		0.142	1.00	1	09/30/2023 22:46	WG2142536
1,3-Dichloropropane	U		0.110	1.00	1	09/30/2023 22:46	WG2142536
cis-1,3-Dichloropropene	U		0.111	1.00	1	09/30/2023 22:46	WG2142536
trans-1,3-Dichloropropene	U		0.118	1.00	1	09/30/2023 22:46	WG2142536
2,2-Dichloropropane	U		0.161	1.00	1	09/30/2023 22:46	WG2142536
Di-isopropyl ether	U		0.105	1.00	1	09/30/2023 22:46	WG2142536
Ethylbenzene	1490		6.85	50.0	50	10/02/2023 16:22	WG2143190
Hexachloro-1,3-butadiene	U		0.337	1.00	1	09/30/2023 22:46	WG2142536
Isopropylbenzene	168		0.105	1.00	1	09/30/2023 22:46	WG2142536
p-Isopropyltoluene	3.39		0.120	1.00	1	09/30/2023 22:46	WG2142536
2-Butanone (MEK)	U		1.19	10.0	1	09/30/2023 22:46	WG2142536
Methylene Chloride	U		0.430	5.00	1	09/30/2023 22:46	WG2142536
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	09/30/2023 22:46	WG2142536
Methyl tert-butyl ether	15.3		0.101	1.00	1	09/30/2023 22:46	WG2142536
Naphthalene	193	J	50.0	250	50	10/02/2023 16:22	WG2143190

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	478		4.97	50.0	50	10/02/2023 16:22	WG2143190
Styrene	U		0.118	1.00	1	09/30/2023 22:46	WG2142536
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	09/30/2023 22:46	WG2142536
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	09/30/2023 22:46	WG2142536
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	09/30/2023 22:46	WG2142536
Tetrachloroethene	U		0.300	1.00	1	09/30/2023 22:46	WG2142536
Toluene	145		13.9	50.0	50	10/02/2023 16:22	WG2143190
1,2,3-Trichlorobenzene	U		0.230	1.00	1	09/30/2023 22:46	WG2142536
1,2,4-Trichlorobenzene	U		0.481	1.00	1	09/30/2023 22:46	WG2142536
1,1,1-Trichloroethane	U		0.149	1.00	1	09/30/2023 22:46	WG2142536
1,1,2-Trichloroethane	U		0.158	1.00	1	09/30/2023 22:46	WG2142536
Trichloroethene	U		0.190	1.00	1	09/30/2023 22:46	WG2142536
Trichlorofluoromethane	U		0.160	5.00	1	09/30/2023 22:46	WG2142536
1,2,3-Trichloropropane	U		0.237	2.50	1	09/30/2023 22:46	WG2142536
1,2,4-Trimethylbenzene	1120		16.1	50.0	50	10/02/2023 16:22	WG2143190
1,2,3-Trimethylbenzene	285		5.20	50.0	50	10/02/2023 16:22	WG2143190
1,3,5-Trimethylbenzene	297		5.20	50.0	50	10/02/2023 16:22	WG2143190
Vinyl chloride	U		0.234	1.00	1	09/30/2023 22:46	WG2142536
Xylenes, Total	3870		8.70	150	50	10/02/2023 16:22	WG2143190
(S) Toluene-d8	*109*			*80.0-120*		*09/30/2023 22:46*	WG2142536
(S) Toluene-d8	*100*			*80.0-120*		*10/02/2023 16:22*	WG2143190
(S) 4-Bromofluorobenzene	*107*			*77.0-126*		*09/30/2023 22:46*	WG2142536
(S) 4-Bromofluorobenzene	*95.1*			*77.0-126*		*10/02/2023 16:22*	WG2143190
(S) 1,2-Dichloroethane-d4	*100*			*70.0-130*		*09/30/2023 22:46*	WG2142536
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*10/02/2023 16:22*	WG2143190

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	3170		31.6	100	1	09/30/2023 19:32	WG2142272
(S) a,a,a-Trifluorotoluene(FID)	*101*			*78.0-120*		*09/30/2023 19:32*	WG2142272

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	09/30/2023 23:07	WG2142536
Acrolein	U		2.54	50.0	1	09/30/2023 23:07	WG2142536
Acrylonitrile	U		0.671	10.0	1	09/30/2023 23:07	WG2142536
Benzene	166		0.0941	1.00	1	09/30/2023 23:07	WG2142536
Bromobenzene	U		0.118	1.00	1	09/30/2023 23:07	WG2142536
Bromodichloromethane	U		0.136	1.00	1	09/30/2023 23:07	WG2142536
Bromoform	U		0.129	1.00	1	09/30/2023 23:07	WG2142536
Bromomethane	U	C3	0.605	5.00	1	09/30/2023 23:07	WG2142536
n-Butylbenzene	10.3		0.157	1.00	1	09/30/2023 23:07	WG2142536
sec-Butylbenzene	18.1		0.125	1.00	1	09/30/2023 23:07	WG2142536
tert-Butylbenzene	0.288	J	0.127	1.00	1	09/30/2023 23:07	WG2142536
Carbon disulfide	U		0.0962	1.00	1	09/30/2023 23:07	WG2142536
Carbon tetrachloride	U		0.128	1.00	1	09/30/2023 23:07	WG2142536
Chlorobenzene	U		0.116	1.00	1	09/30/2023 23:07	WG2142536
Chlorodibromomethane	U		0.140	1.00	1	09/30/2023 23:07	WG2142536
Chloroethane	U		0.192	5.00	1	09/30/2023 23:07	WG2142536
Chloroform	U		0.111	5.00	1	09/30/2023 23:07	WG2142536
Chloromethane	U		0.960	2.50	1	09/30/2023 23:07	WG2142536
2-Chlorotoluene	U		0.106	1.00	1	09/30/2023 23:07	WG2142536
4-Chlorotoluene	U		0.114	1.00	1	09/30/2023 23:07	WG2142536
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	09/30/2023 23:07	WG2142536
1,2-Dibromoethane	U		0.126	1.00	1	09/30/2023 23:07	WG2142536
Dibromomethane	U		0.122	1.00	1	09/30/2023 23:07	WG2142536
1,2-Dichlorobenzene	U		0.107	1.00	1	09/30/2023 23:07	WG2142536
1,3-Dichlorobenzene	U		0.110	1.00	1	09/30/2023 23:07	WG2142536
1,4-Dichlorobenzene	U		0.120	1.00	1	09/30/2023 23:07	WG2142536
Dichlorodifluoromethane	U		0.374	5.00	1	09/30/2023 23:07	WG2142536
1,1-Dichloroethane	U		0.100	1.00	1	09/30/2023 23:07	WG2142536
1,2-Dichloroethane	U		0.0819	1.00	1	09/30/2023 23:07	WG2142536
1,1-Dichloroethene	U		0.188	1.00	1	09/30/2023 23:07	WG2142536
cis-1,2-Dichloroethene	U		0.126	1.00	1	09/30/2023 23:07	WG2142536
trans-1,2-Dichloroethene	U		0.149	1.00	1	09/30/2023 23:07	WG2142536
1,2-Dichloropropane	U		0.149	1.00	1	09/30/2023 23:07	WG2142536
1,1-Dichloropropene	U		0.142	1.00	1	09/30/2023 23:07	WG2142536
1,3-Dichloropropane	U		0.110	1.00	1	09/30/2023 23:07	WG2142536
cis-1,3-Dichloropropene	U		0.111	1.00	1	09/30/2023 23:07	WG2142536
trans-1,3-Dichloropropene	U		0.118	1.00	1	09/30/2023 23:07	WG2142536
2,2-Dichloropropane	U		0.161	1.00	1	09/30/2023 23:07	WG2142536
Di-isopropyl ether	U		0.105	1.00	1	09/30/2023 23:07	WG2142536
Ethylbenzene	279		2.74	20.0	20	10/02/2023 16:43	WG2143190
Hexachloro-1,3-butadiene	U		0.337	1.00	1	09/30/2023 23:07	WG2142536
Isopropylbenzene	56.4		0.105	1.00	1	09/30/2023 23:07	WG2142536
p-Isopropyltoluene	2.78		0.120	1.00	1	09/30/2023 23:07	WG2142536
2-Butanone (MEK)	U		1.19	10.0	1	09/30/2023 23:07	WG2142536
Methylene Chloride	U		0.430	5.00	1	09/30/2023 23:07	WG2142536
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	09/30/2023 23:07	WG2142536
Methyl tert-butyl ether	U		0.101	1.00	1	09/30/2023 23:07	WG2142536
Naphthalene	14.3		1.00	5.00	1	09/30/2023 23:07	WG2142536

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	195		0.0993	1.00	1	09/30/2023 23:07	WG2142536
Styrene	U		0.118	1.00	1	09/30/2023 23:07	WG2142536
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	09/30/2023 23:07	WG2142536
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	09/30/2023 23:07	WG2142536
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	09/30/2023 23:07	WG2142536
Tetrachloroethene	U		0.300	1.00	1	09/30/2023 23:07	WG2142536
Toluene	U		5.56	20.0	20	10/02/2023 16:43	WG2143190
1,2,3-Trichlorobenzene	U		0.230	1.00	1	09/30/2023 23:07	WG2142536
1,2,4-Trichlorobenzene	U		0.481	1.00	1	09/30/2023 23:07	WG2142536
1,1,1-Trichloroethane	U		0.149	1.00	1	09/30/2023 23:07	WG2142536
1,1,2-Trichloroethane	U		0.158	1.00	1	09/30/2023 23:07	WG2142536
Trichloroethene	U		0.190	1.00	1	09/30/2023 23:07	WG2142536
Trichlorofluoromethane	U		0.160	5.00	1	09/30/2023 23:07	WG2142536
1,2,3-Trichloropropane	U		0.237	2.50	1	09/30/2023 23:07	WG2142536
1,2,4-Trimethylbenzene	114		0.322	1.00	1	09/30/2023 23:07	WG2142536
1,2,3-Trimethylbenzene	3.79	J	2.08	20.0	20	10/02/2023 16:43	WG2143190
1,3,5-Trimethylbenzene	36.5		0.104	1.00	1	09/30/2023 23:07	WG2142536
Vinyl chloride	U		0.234	1.00	1	09/30/2023 23:07	WG2142536
Xylenes, Total	16.1	J	3.48	60.0	20	10/02/2023 16:43	WG2143190
(S) Toluene-d8	*104*			*80.0-120*		*09/30/2023 23:07*	WG2142536
(S) Toluene-d8	*101*			*80.0-120*		*10/02/2023 16:43*	WG2143190
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*09/30/2023 23:07*	WG2142536
(S) 4-Bromofluorobenzene	*93.8*			*77.0-126*		*10/02/2023 16:43*	WG2143190
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*09/30/2023 23:07*	WG2142536
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*		*10/02/2023 16:43*	WG2143190

Sample Narrative:

L1659153-08 WG2142536: Naphthalene result biased high due to carryover.

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	4570		31.6	100	1	09/30/2023 19:52	WG2142272
(S) a,a,a-Trifluorotoluene(FID)	*105*			*78.0-120*		*09/30/2023 19:52*	WG2142272

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	09/30/2023 23:27	WG2142536
Acrolein	U		2.54	50.0	1	09/30/2023 23:27	WG2142536
Acrylonitrile	U		0.671	10.0	1	09/30/2023 23:27	WG2142536
Benzene	703		2.35	25.0	25	10/02/2023 17:05	WG2143190
Bromobenzene	U		0.118	1.00	1	09/30/2023 23:27	WG2142536
Bromodichloromethane	U		0.136	1.00	1	09/30/2023 23:27	WG2142536
Bromoform	U		0.129	1.00	1	09/30/2023 23:27	WG2142536
Bromomethane	U	C3	0.605	5.00	1	09/30/2023 23:27	WG2142536
n-Butylbenzene	18.7		0.157	1.00	1	09/30/2023 23:27	WG2142536
sec-Butylbenzene	15.1		0.125	1.00	1	09/30/2023 23:27	WG2142536
tert-Butylbenzene	0.219	J	0.127	1.00	1	09/30/2023 23:27	WG2142536
Carbon disulfide	U		0.0962	1.00	1	09/30/2023 23:27	WG2142536
Carbon tetrachloride	U		0.128	1.00	1	09/30/2023 23:27	WG2142536
Chlorobenzene	U		0.116	1.00	1	09/30/2023 23:27	WG2142536
Chlorodibromomethane	U		0.140	1.00	1	09/30/2023 23:27	WG2142536
Chloroethane	U		0.192	5.00	1	09/30/2023 23:27	WG2142536
Chloroform	U		0.111	5.00	1	09/30/2023 23:27	WG2142536
Chloromethane	U		0.960	2.50	1	09/30/2023 23:27	WG2142536
2-Chlorotoluene	U		0.106	1.00	1	09/30/2023 23:27	WG2142536
4-Chlorotoluene	U		0.114	1.00	1	09/30/2023 23:27	WG2142536
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	09/30/2023 23:27	WG2142536
1,2-Dibromoethane	U		0.126	1.00	1	09/30/2023 23:27	WG2142536
Dibromomethane	U		0.122	1.00	1	09/30/2023 23:27	WG2142536
1,2-Dichlorobenzene	U		0.107	1.00	1	09/30/2023 23:27	WG2142536
1,3-Dichlorobenzene	U		0.110	1.00	1	09/30/2023 23:27	WG2142536
1,4-Dichlorobenzene	U		0.120	1.00	1	09/30/2023 23:27	WG2142536
Dichlorodifluoromethane	U		0.374	5.00	1	09/30/2023 23:27	WG2142536
1,1-Dichloroethane	U		0.100	1.00	1	09/30/2023 23:27	WG2142536
1,2-Dichloroethane	U		0.0819	1.00	1	09/30/2023 23:27	WG2142536
1,1-Dichloroethene	U		0.188	1.00	1	09/30/2023 23:27	WG2142536
cis-1,2-Dichloroethene	U		0.126	1.00	1	09/30/2023 23:27	WG2142536
trans-1,2-Dichloroethene	U		0.149	1.00	1	09/30/2023 23:27	WG2142536
1,2-Dichloropropane	U		0.149	1.00	1	09/30/2023 23:27	WG2142536
1,1-Dichloropropene	U		0.142	1.00	1	09/30/2023 23:27	WG2142536
1,3-Dichloropropane	U		0.110	1.00	1	09/30/2023 23:27	WG2142536
cis-1,3-Dichloropropene	U		0.111	1.00	1	09/30/2023 23:27	WG2142536
trans-1,3-Dichloropropene	U		0.118	1.00	1	09/30/2023 23:27	WG2142536
2,2-Dichloropropane	U		0.161	1.00	1	09/30/2023 23:27	WG2142536
Di-isopropyl ether	U		0.105	1.00	1	09/30/2023 23:27	WG2142536
Ethylbenzene	46.7		0.137	1.00	1	09/30/2023 23:27	WG2142536
Hexachloro-1,3-butadiene	U		0.337	1.00	1	09/30/2023 23:27	WG2142536
Isopropylbenzene	41.1		0.105	1.00	1	09/30/2023 23:27	WG2142536
p-Isopropyltoluene	4.27		0.120	1.00	1	09/30/2023 23:27	WG2142536
2-Butanone (MEK)	U		1.19	10.0	1	09/30/2023 23:27	WG2142536
Methylene Chloride	U		0.430	5.00	1	09/30/2023 23:27	WG2142536
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	09/30/2023 23:27	WG2142536
Methyl tert-butyl ether	U		0.101	1.00	1	09/30/2023 23:27	WG2142536
Naphthalene	7.83		1.00	5.00	1	09/30/2023 23:27	WG2142536

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	168		0.0993	1.00	1	09/30/2023 23:27	WG2142536
Styrene	U		0.118	1.00	1	09/30/2023 23:27	WG2142536
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	09/30/2023 23:27	WG2142536
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	09/30/2023 23:27	WG2142536
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	09/30/2023 23:27	WG2142536
Tetrachloroethene	U		0.300	1.00	1	09/30/2023 23:27	WG2142536
Toluene	4.08		0.278	1.00	1	09/30/2023 23:27	WG2142536
1,2,3-Trichlorobenzene	U		0.230	1.00	1	09/30/2023 23:27	WG2142536
1,2,4-Trichlorobenzene	U		0.481	1.00	1	09/30/2023 23:27	WG2142536
1,1,1-Trichloroethane	U		0.149	1.00	1	09/30/2023 23:27	WG2142536
1,1,2-Trichloroethane	U		0.158	1.00	1	09/30/2023 23:27	WG2142536
Trichloroethene	U		0.190	1.00	1	09/30/2023 23:27	WG2142536
Trichlorofluoromethane	U		0.160	5.00	1	09/30/2023 23:27	WG2142536
1,2,3-Trichloropropane	U		0.237	2.50	1	09/30/2023 23:27	WG2142536
1,2,4-Trimethylbenzene	U		8.05	25.0	25	10/02/2023 17:05	WG2143190
1,2,3-Trimethylbenzene	U		2.60	25.0	25	10/02/2023 17:05	WG2143190
1,3,5-Trimethylbenzene	22.4		0.104	1.00	1	09/30/2023 23:27	WG2142536
Vinyl chloride	U		0.234	1.00	1	09/30/2023 23:27	WG2142536
Xylenes, Total	7.73	J	4.35	75.0	25	10/02/2023 17:05	WG2143190
(S) Toluene-d8	*104*			*80.0-120*		*09/30/2023 23:27*	WG2142536
(S) Toluene-d8	*103*			*80.0-120*		*10/02/2023 17:05*	WG2143190
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*09/30/2023 23:27*	WG2142536
(S) 4-Bromofluorobenzene	*97.5*			*77.0-126*		*10/02/2023 17:05*	WG2143190
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*		*09/30/2023 23:27*	WG2142536
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*		*10/02/2023 17:05*	WG2143190

Sample Narrative:

L1659153-09 WG2142536: Naphthalene result biased high due to carryover.

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	2590		31.6	100	1	09/30/2023 20:11	WG2142272
(S) a,a,a-Trifluorotoluene(FID)	*102*			*78.0-120*		*09/30/2023 20:11*	WG2142272

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	09/30/2023 23:47	WG2142536
Acrolein	U		2.54	50.0	1	09/30/2023 23:47	WG2142536
Acrylonitrile	U		0.671	10.0	1	09/30/2023 23:47	WG2142536
Benzene	250		0.941	10.0	10	10/02/2023 17:26	WG2143190
Bromobenzene	U		0.118	1.00	1	09/30/2023 23:47	WG2142536
Bromodichloromethane	U		0.136	1.00	1	09/30/2023 23:47	WG2142536
Bromoform	U		0.129	1.00	1	09/30/2023 23:47	WG2142536
Bromomethane	U	C3	0.605	5.00	1	09/30/2023 23:47	WG2142536
n-Butylbenzene	6.02		0.157	1.00	1	09/30/2023 23:47	WG2142536
sec-Butylbenzene	6.11		0.125	1.00	1	09/30/2023 23:47	WG2142536
tert-Butylbenzene	U		0.127	1.00	1	09/30/2023 23:47	WG2142536
Carbon disulfide	0.199	J	0.0962	1.00	1	09/30/2023 23:47	WG2142536
Carbon tetrachloride	U		0.128	1.00	1	09/30/2023 23:47	WG2142536
Chlorobenzene	U		0.116	1.00	1	09/30/2023 23:47	WG2142536
Chlorodibromomethane	U		0.140	1.00	1	09/30/2023 23:47	WG2142536
Chloroethane	U		0.192	5.00	1	09/30/2023 23:47	WG2142536
Chloroform	U		0.111	5.00	1	09/30/2023 23:47	WG2142536
Chloromethane	U		0.960	2.50	1	09/30/2023 23:47	WG2142536
2-Chlorotoluene	U		0.106	1.00	1	09/30/2023 23:47	WG2142536
4-Chlorotoluene	U		0.114	1.00	1	09/30/2023 23:47	WG2142536
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	09/30/2023 23:47	WG2142536
1,2-Dibromoethane	U		0.126	1.00	1	09/30/2023 23:47	WG2142536
Dibromomethane	U		0.122	1.00	1	09/30/2023 23:47	WG2142536
1,2-Dichlorobenzene	U		0.107	1.00	1	09/30/2023 23:47	WG2142536
1,3-Dichlorobenzene	U		0.110	1.00	1	09/30/2023 23:47	WG2142536
1,4-Dichlorobenzene	U		0.120	1.00	1	09/30/2023 23:47	WG2142536
Dichlorodifluoromethane	U		0.374	5.00	1	09/30/2023 23:47	WG2142536
1,1-Dichloroethane	U		0.100	1.00	1	09/30/2023 23:47	WG2142536
1,2-Dichloroethane	U		0.0819	1.00	1	09/30/2023 23:47	WG2142536
1,1-Dichloroethene	U		0.188	1.00	1	09/30/2023 23:47	WG2142536
cis-1,2-Dichloroethene	U		0.126	1.00	1	09/30/2023 23:47	WG2142536
trans-1,2-Dichloroethene	U		0.149	1.00	1	09/30/2023 23:47	WG2142536
1,2-Dichloropropane	U		0.149	1.00	1	09/30/2023 23:47	WG2142536
1,1-Dichloropropene	U		0.142	1.00	1	09/30/2023 23:47	WG2142536
1,3-Dichloropropane	U		0.110	1.00	1	09/30/2023 23:47	WG2142536
cis-1,3-Dichloropropene	U		0.111	1.00	1	09/30/2023 23:47	WG2142536
trans-1,3-Dichloropropene	U		0.118	1.00	1	09/30/2023 23:47	WG2142536
2,2-Dichloropropane	U		0.161	1.00	1	09/30/2023 23:47	WG2142536
Di-isopropyl ether	U		0.105	1.00	1	09/30/2023 23:47	WG2142536
Ethylbenzene	20.9		0.137	1.00	1	09/30/2023 23:47	WG2142536
Hexachloro-1,3-butadiene	U		0.337	1.00	1	09/30/2023 23:47	WG2142536
Isopropylbenzene	37.0		0.105	1.00	1	09/30/2023 23:47	WG2142536
p-Isopropyltoluene	0.367	J	0.120	1.00	1	09/30/2023 23:47	WG2142536
2-Butanone (MEK)	U		1.19	10.0	1	09/30/2023 23:47	WG2142536
Methylene Chloride	U		0.430	5.00	1	09/30/2023 23:47	WG2142536
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	09/30/2023 23:47	WG2142536
Methyl tert-butyl ether	6.43		0.101	1.00	1	09/30/2023 23:47	WG2142536
Naphthalene	1.84	J	1.00	5.00	1	09/30/2023 23:47	WG2142536

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	109		0.0993	1.00	1	09/30/2023 23:47	WG2142536
Styrene	U		0.118	1.00	1	09/30/2023 23:47	WG2142536
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	09/30/2023 23:47	WG2142536
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	09/30/2023 23:47	WG2142536
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	09/30/2023 23:47	WG2142536
Tetrachloroethene	U		0.300	1.00	1	09/30/2023 23:47	WG2142536
Toluene	2.96		0.278	1.00	1	09/30/2023 23:47	WG2142536
1,2,3-Trichlorobenzene	U		0.230	1.00	1	09/30/2023 23:47	WG2142536
1,2,4-Trichlorobenzene	U		0.481	1.00	1	09/30/2023 23:47	WG2142536
1,1,1-Trichloroethane	U		0.149	1.00	1	09/30/2023 23:47	WG2142536
1,1,2-Trichloroethane	U		0.158	1.00	1	09/30/2023 23:47	WG2142536
Trichloroethene	U		0.190	1.00	1	09/30/2023 23:47	WG2142536
Trichlorofluoromethane	U		0.160	5.00	1	09/30/2023 23:47	WG2142536
1,2,3-Trichloropropane	U		0.237	2.50	1	09/30/2023 23:47	WG2142536
1,2,4-Trimethylbenzene	U		3.22	10.0	10	10/02/2023 17:26	WG2143190
1,2,3-Trimethylbenzene	1.52	J	1.04	10.0	10	10/02/2023 17:26	WG2143190
1,3,5-Trimethylbenzene	U		1.04	10.0	10	10/02/2023 17:26	WG2143190
Vinyl chloride	U		0.234	1.00	1	09/30/2023 23:47	WG2142536
Xylenes, Total	2.98	J	1.74	30.0	10	10/02/2023 17:26	WG2143190
(S) Toluene-d8	*108*			*80.0-120*		*09/30/2023 23:47*	WG2142536
(S) Toluene-d8	*103*			*80.0-120*		*10/02/2023 17:26*	WG2143190
(S) 4-Bromofluorobenzene	*107*			*77.0-126*		*09/30/2023 23:47*	WG2142536
(S) 4-Bromofluorobenzene	*97.7*			*77.0-126*		*10/02/2023 17:26*	WG2143190
(S) 1,2-Dichloroethane-d4	*100*			*70.0-130*		*09/30/2023 23:47*	WG2142536
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*10/02/2023 17:26*	WG2143190

Sample Narrative:

L1659153-10 WG2142536: Naphthalene result biased high due to carryover.

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	4050		31.6	100	1	09/30/2023 20:42	WG2142272
(S) a,a,a-Trifluorotoluene(FID)	*102*			*78.0-120*		*09/30/2023 20:42*	WG2142272

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	10/01/2023 00:08	WG2142536
Acrolein	U		2.54	50.0	1	10/01/2023 00:08	WG2142536
Acrylonitrile	U		0.671	10.0	1	10/01/2023 00:08	WG2142536
Benzene	157		0.0941	1.00	1	10/01/2023 00:08	WG2142536
Bromobenzene	U		0.118	1.00	1	10/01/2023 00:08	WG2142536
Bromodichloromethane	U		0.136	1.00	1	10/01/2023 00:08	WG2142536
Bromoform	U		0.129	1.00	1	10/01/2023 00:08	WG2142536
Bromomethane	U	C3	0.605	5.00	1	10/01/2023 00:08	WG2142536
n-Butylbenzene	10.4		0.157	1.00	1	10/01/2023 00:08	WG2142536
sec-Butylbenzene	17.5		0.125	1.00	1	10/01/2023 00:08	WG2142536
tert-Butylbenzene	0.295	J	0.127	1.00	1	10/01/2023 00:08	WG2142536
Carbon disulfide	U		0.0962	1.00	1	10/01/2023 00:08	WG2142536
Carbon tetrachloride	U		0.128	1.00	1	10/01/2023 00:08	WG2142536
Chlorobenzene	U		0.116	1.00	1	10/01/2023 00:08	WG2142536
Chlorodibromomethane	U		0.140	1.00	1	10/01/2023 00:08	WG2142536
Chloroethane	U		0.192	5.00	1	10/01/2023 00:08	WG2142536
Chloroform	U		0.111	5.00	1	10/01/2023 00:08	WG2142536
Chloromethane	U		0.960	2.50	1	10/01/2023 00:08	WG2142536
2-Chlorotoluene	U		0.106	1.00	1	10/01/2023 00:08	WG2142536
4-Chlorotoluene	U		0.114	1.00	1	10/01/2023 00:08	WG2142536
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	10/01/2023 00:08	WG2142536
1,2-Dibromoethane	U		0.126	1.00	1	10/01/2023 00:08	WG2142536
Dibromomethane	U		0.122	1.00	1	10/01/2023 00:08	WG2142536
1,2-Dichlorobenzene	U		0.107	1.00	1	10/01/2023 00:08	WG2142536
1,3-Dichlorobenzene	U		0.110	1.00	1	10/01/2023 00:08	WG2142536
1,4-Dichlorobenzene	U		0.120	1.00	1	10/01/2023 00:08	WG2142536
Dichlorodifluoromethane	U		0.374	5.00	1	10/01/2023 00:08	WG2142536
1,1-Dichloroethane	U		0.100	1.00	1	10/01/2023 00:08	WG2142536
1,2-Dichloroethane	U		0.0819	1.00	1	10/01/2023 00:08	WG2142536
1,1-Dichloroethene	U		0.188	1.00	1	10/01/2023 00:08	WG2142536
cis-1,2-Dichloroethene	U		0.126	1.00	1	10/01/2023 00:08	WG2142536
trans-1,2-Dichloroethene	U		0.149	1.00	1	10/01/2023 00:08	WG2142536
1,2-Dichloropropane	U		0.149	1.00	1	10/01/2023 00:08	WG2142536
1,1-Dichloropropene	U		0.142	1.00	1	10/01/2023 00:08	WG2142536
1,3-Dichloropropane	U		0.110	1.00	1	10/01/2023 00:08	WG2142536
cis-1,3-Dichloropropene	U		0.111	1.00	1	10/01/2023 00:08	WG2142536
trans-1,3-Dichloropropene	U		0.118	1.00	1	10/01/2023 00:08	WG2142536
2,2-Dichloropropane	U		0.161	1.00	1	10/01/2023 00:08	WG2142536
Di-isopropyl ether	U		0.105	1.00	1	10/01/2023 00:08	WG2142536
Ethylbenzene	284		2.74	20.0	20	10/02/2023 17:48	WG2143190
Hexachloro-1,3-butadiene	U		0.337	1.00	1	10/01/2023 00:08	WG2142536
Isopropylbenzene	54.6		0.105	1.00	1	10/01/2023 00:08	WG2142536
p-Isopropyltoluene	2.73		0.120	1.00	1	10/01/2023 00:08	WG2142536
2-Butanone (MEK)	U		1.19	10.0	1	10/01/2023 00:08	WG2142536
Methylene Chloride	U		0.430	5.00	1	10/01/2023 00:08	WG2142536
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	10/01/2023 00:08	WG2142536
Methyl tert-butyl ether	U		0.101	1.00	1	10/01/2023 00:08	WG2142536
Naphthalene	5.90		1.00	5.00	1	10/01/2023 00:08	WG2142536

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

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
n-Propylbenzene	185		0.0993	1.00	1	10/01/2023 00:08	WG2142536
Styrene	U		0.118	1.00	1	10/01/2023 00:08	WG2142536
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	10/01/2023 00:08	WG2142536
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	10/01/2023 00:08	WG2142536
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	10/01/2023 00:08	WG2142536
Tetrachloroethene	U		0.300	1.00	1	10/01/2023 00:08	WG2142536
Toluene	1.39		0.278	1.00	1	10/01/2023 00:08	WG2142536
1,2,3-Trichlorobenzene	U		0.230	1.00	1	10/01/2023 00:08	WG2142536
1,2,4-Trichlorobenzene	U		0.481	1.00	1	10/01/2023 00:08	WG2142536
1,1,1-Trichloroethane	U		0.149	1.00	1	10/01/2023 00:08	WG2142536
1,1,2-Trichloroethane	U		0.158	1.00	1	10/01/2023 00:08	WG2142536
Trichloroethene	U		0.190	1.00	1	10/01/2023 00:08	WG2142536
Trichlorofluoromethane	U		0.160	5.00	1	10/01/2023 00:08	WG2142536
1,2,3-Trichloropropane	U		0.237	2.50	1	10/01/2023 00:08	WG2142536
1,2,4-Trimethylbenzene	99.4		0.322	1.00	1	10/01/2023 00:08	WG2142536
1,2,3-Trimethylbenzene	4.47		0.104	1.00	1	10/01/2023 00:08	WG2142536
1,3,5-Trimethylbenzene	33.6		0.104	1.00	1	10/01/2023 00:08	WG2142536
Vinyl chloride	U		0.234	1.00	1	10/01/2023 00:08	WG2142536
Xylenes, Total	21.3		0.174	3.00	1	10/01/2023 00:08	WG2142536
(S) Toluene-d8	*103*			*80.0-120*		*10/01/2023 00:08*	WG2142536
(S) Toluene-d8	*102*			*80.0-120*		*10/02/2023 17:48*	WG2143190
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*10/01/2023 00:08*	WG2142536
(S) 4-Bromofluorobenzene	*96.0*			*77.0-126*		*10/02/2023 17:48*	WG2143190
(S) 1,2-Dichloroethane-d4	*100*			*70.0-130*		*10/01/2023 00:08*	WG2142536
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*10/02/2023 17:48*	WG2143190

Method Blank (MB)

(MB) R3981363-3 09/30/23 14:10

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)	*100*			*78.0-120*

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

(LCS) R3981363-1 09/30/23 13:12 • (LCSD) R3981363-2 09/30/23 13:31

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	5500	5160	4750	93.8	86.4	70.0-124			8.27	20
(S) a,a,a-Trifluorotoluene(FID)				*104*	*102*	*78.0-120*				

L1659169-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1659169-03 09/30/23 22:30 • (MS) R3981363-4 10/01/23 00:06 • (MSD) R3981363-5 10/01/23 00:25

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	5500	1040	6020	5780	90.5	86.2	1	10.0-155			4.07	21
(S) a,a,a-Trifluorotoluene(FID)					*98.6*	*98.8*		*78.0-120*				

Method Blank (MB)

(MB) R3982222-3 10/04/23 13:05

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	73.3	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*108*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3982222-2 10/04/23 12:20

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5370	97.6	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*114*	*78.0-120*	

Method Blank (MB)

(MB) R3980367-3 09/30/23 15:24

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) R3980367-3 09/30/23 15:24

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	0.541	J	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	*109*			*80.0-120*
(S) 4-Bromofluorobenzene	*104*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*

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

(LCS) R3980367-1 09/30/23 14:23 • (LCSD) R3980367-2 09/30/23 14:43

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	29.9	29.2	120	117	19.0-160			2.37	27
Acrolein	25.0	22.1	22.1	88.4	88.4	10.0-160			0.000	26
Acrylonitrile	25.0	29.5	28.9	118	116	55.0-149			2.05	20

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

(LCS) R3980367-1 09/30/23 14:23 • (LCSD) R3980367-2 09/30/23 14:43

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	5.78	5.59	116	112	70.0-123			3.34	20
Bromobenzene	5.00	5.46	5.37	109	107	73.0-121			1.66	20
Bromodichloromethane	5.00	5.47	5.50	109	110	75.0-120			0.547	20
Bromoform	5.00	5.06	5.38	101	108	68.0-132			6.13	20
Bromomethane	5.00	3.45	4.07	69.0	81.4	10.0-160			16.5	25
n-Butylbenzene	5.00	5.56	4.96	111	99.2	73.0-125			11.4	20
sec-Butylbenzene	5.00	5.61	5.76	112	115	75.0-125			2.64	20
tert-Butylbenzene	5.00	5.67	5.81	113	116	76.0-124			2.44	20
Carbon disulfide	5.00	5.71	5.81	114	116	61.0-128			1.74	20
Carbon tetrachloride	5.00	5.78	5.73	116	115	68.0-126			0.869	20
Chlorobenzene	5.00	5.52	5.60	110	112	80.0-121			1.44	20
Chlorodibromomethane	5.00	5.37	5.37	107	107	77.0-125			0.000	20
Chloroethane	5.00	5.85	5.98	117	120	47.0-150			2.20	20
Chloroform	5.00	5.50	5.62	110	112	73.0-120			2.16	20
Chloromethane	5.00	5.44	5.45	109	109	41.0-142			0.184	20
2-Chlorotoluene	5.00	5.34	5.35	107	107	76.0-123			0.187	20
4-Chlorotoluene	5.00	5.36	5.30	107	106	75.0-122			1.13	20
1,2-Dibromo-3-Chloropropane	5.00	4.81	5.07	96.2	101	58.0-134			5.26	20
1,2-Dibromoethane	5.00	5.85	5.84	117	117	80.0-122			0.171	20
Dibromomethane	5.00	5.75	5.51	115	110	80.0-120			4.26	20
1,2-Dichlorobenzene	5.00	5.34	5.52	107	110	79.0-121			3.31	20
1,3-Dichlorobenzene	5.00	5.47	5.31	109	106	79.0-120			2.97	20
1,4-Dichlorobenzene	5.00	5.29	5.39	106	108	79.0-120			1.87	20
Dichlorodifluoromethane	5.00	5.18	5.63	104	113	51.0-149			8.33	20
1,1-Dichloroethane	5.00	5.56	5.73	111	115	70.0-126			3.01	20
1,2-Dichloroethane	5.00	5.56	5.43	111	109	70.0-128			2.37	20
1,1-Dichloroethene	5.00	6.18	6.11	124	122	71.0-124			1.14	20
cis-1,2-Dichloroethene	5.00	5.75	5.75	115	115	73.0-120			0.000	20
trans-1,2-Dichloroethene	5.00	5.58	5.71	112	114	73.0-120			2.30	20
1,2-Dichloropropane	5.00	5.53	5.54	111	111	77.0-125			0.181	20
1,1-Dichloropropene	5.00	5.91	6.03	118	121	74.0-126			2.01	20
1,3-Dichloropropane	5.00	5.65	5.85	113	117	80.0-120			3.48	20
cis-1,3-Dichloropropene	5.00	5.37	5.23	107	105	80.0-123			2.64	20
trans-1,3-Dichloropropene	5.00	5.28	5.06	106	101	78.0-124			4.26	20
2,2-Dichloropropane	5.00	5.35	5.00	107	100	58.0-130			6.76	20
Di-isopropyl ether	5.00	5.48	5.62	110	112	58.0-138			2.52	20
Ethylbenzene	5.00	5.52	5.90	110	118	79.0-123			6.65	20
Hexachloro-1,3-butadiene	5.00	5.24	5.50	105	110	54.0-138			4.84	20
Isopropylbenzene	5.00	5.75	5.76	115	115	76.0-127			0.174	20
p-Isopropyltoluene	5.00	5.74	5.80	115	116	76.0-125			1.04	20

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

(LCS) R3980367-1 09/30/23 14:23 • (LCSD) R3980367-2 09/30/23 14:43

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	26.4	26.7	106	107	44.0-160			1.13	20
Methylene Chloride	5.00	5.66	5.58	113	112	67.0-120			1.42	20
4-Methyl-2-pentanone (MIBK)	25.0	29.0	29.7	116	119	68.0-142			2.39	20
Methyl tert-butyl ether	5.00	5.50	5.64	110	113	68.0-125			2.51	20
Naphthalene	5.00	4.80	4.97	96.0	99.4	54.0-135			3.48	20
n-Propylbenzene	5.00	5.38	5.53	108	111	77.0-124			2.75	20
Styrene	5.00	5.40	5.77	108	115	73.0-130			6.62	20
1,1,1,2-Tetrachloroethane	5.00	5.54	5.36	111	107	75.0-125			3.30	20
1,1,2,2-Tetrachloroethane	5.00	5.32	5.49	106	110	65.0-130			3.15	20
1,1,2-Trichlorotrifluoroethane	5.00	5.33	5.59	107	112	69.0-132			4.76	20
Tetrachloroethene	5.00	6.02	5.89	120	118	72.0-132			2.18	20
Toluene	5.00	5.71	5.59	114	112	79.0-120			2.12	20
1,2,3-Trichlorobenzene	5.00	5.37	5.21	107	104	50.0-138			3.02	20
1,2,4-Trichlorobenzene	5.00	5.14	5.06	103	101	57.0-137			1.57	20
1,1,1-Trichloroethane	5.00	5.80	5.86	116	117	73.0-124			1.03	20
1,1,2-Trichloroethane	5.00	5.59	5.61	112	112	80.0-120			0.357	20
Trichloroethene	5.00	5.92	5.65	118	113	78.0-124			4.67	20
Trichlorofluoromethane	5.00	5.87	6.06	117	121	59.0-147			3.19	20
1,2,3-Trichloropropane	5.00	5.83	5.62	117	112	73.0-130			3.67	20
1,2,4-Trimethylbenzene	5.00	5.53	5.47	111	109	76.0-121			1.09	20
1,2,3-Trimethylbenzene	5.00	5.41	5.74	108	115	77.0-120			5.92	20
1,3,5-Trimethylbenzene	5.00	5.38	5.43	108	109	76.0-122			0.925	20
Vinyl chloride	5.00	5.93	5.70	119	114	67.0-131			3.96	20
Xylenes, Total	15.0	16.7	17.1	111	114	79.0-123			2.37	20
(S) Toluene-d8				*109*	*110*	*80.0-120*				
(S) 4-Bromofluorobenzene				*107*	*106*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*106*	*103*	*70.0-130*				

Method Blank (MB)

(MB) R3981074-3 10/02/23 13:10

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	0.118	J	0.0941	1.00
Ethylbenzene	U		0.137	1.00
Naphthalene	U		1.00	5.00
n-Propylbenzene	U		0.0993	1.00
Toluene	U		0.278	1.00
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
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*102*			*80.0-120*
(S) 4-Bromofluorobenzene	*96.1*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*

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

(LCS) R3981074-1 10/02/23 11:11 • (LCSD) R3981074-2 10/02/23 11:32

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	5.43	5.27	109	105	70.0-123			2.99	20
Ethylbenzene	5.00	4.80	4.73	96.0	94.6	79.0-123			1.47	20
Naphthalene	5.00	4.59	4.38	91.8	87.6	54.0-135			4.68	20
n-Propylbenzene	5.00	5.48	5.15	110	103	77.0-124			6.21	20
Toluene	5.00	5.09	4.95	102	99.0	79.0-120			2.79	20
1,2,4-Trimethylbenzene	5.00	4.99	4.65	99.8	93.0	76.0-121			7.05	20
1,2,3-Trimethylbenzene	5.00	4.96	4.62	99.2	92.4	77.0-120			7.10	20
1,3,5-Trimethylbenzene	5.00	5.08	4.64	102	92.8	76.0-122			9.05	20
Xylenes, Total	15.0	14.1	13.7	94.0	91.3	79.0-123			2.88	20
(S) Toluene-d8				*102*	*101*	*80.0-120*				
(S) 4-Bromofluorobenzene				*92.9*	*96.4*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*112*	*113*	*70.0-130*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
J	The identification of the analyte is acceptable; the reported value is an estimate.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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

Agency, Authorized Purchaser or Agent:
Oregon DEQ

Send Lab Report To: **Kara Master**
Address: Department of Environmental Quality
700 NE Multnomah St, Suite 600
Portland, OR 97232

D248

E-mail: Kara.E.MASTER@deq.oregon.gov

Contract Laboratory Name: **Pace National**
Lab Batch #:

Invoice To: ODEQ/Business Office
Address: 700 NE Multnomah Street, Suite 600 Portland, OR. 97232
Tel. #: (800) 452-4011

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

Project Name: **Johnson Oil**
Project #: **23005297**

L1659153

Sample ID#	Collection Date/Time	Matrix	Number of Containers	Sample Preservative: HCl	HCl									Comments
				Requested Analyses: NWTPH-Gx	VOCs – EPA 8260B									
MW-4	9/21/23 - 0912	GW	6	X	X									-01
MW-5	9/21/23 – 0955	GW	6	X	X									-02
MW-6	9/21/23 - 1049	GW	~~8~~ 4	X	X									2 VOAs broke while packaging -03
MW-7	9/21/23 - 1145	GW	6	X	X									-04
MW-8	9/20/23 – 1217	GW	6	X	X									-05
MW-9	9/20/23 – 1337	GW	6	X	X									-06
MW-12	9/21/23 – 1223	GW	6	X	X									-07
MW-13	9/20/23 - 1458	GW	6	X	X									-08
MW-14	9/20/23 - 1603	GW	6	X	X									-09
MW-15	9/20/23 - 1419	GW	6	X	X									-10
Dup	9/20/23 - 1508	GW	6	X	X									-11

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

Relinquished By: Chris Weer	Agency/Agent: Apex Companies	Received By: Steve Misner	Agency: Apex Companies
Signature: Chris Weer	Time & Date: 9/21/23, 1640	Signature: [signature]	Time & Date: 9/21/23, 1640
Relinquished By: [signature]	Agency/Agent: Apex Companies, LLC	Received By: Alexa Mitchell	Agency/Agent: PACE
Signature: Steve Misner	Time & Date: 1330 / 9/22/23	Signature: Alexa Mitchell @	Time & Date: 9/23/23 0900

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		
RAD Screen <0.5 mR/hr:	Y N		

4.8+0=4.8

#6727189 8993