



**SEMI-ANNUAL STATUS REPORT**

**First Half 2023  
March 28, 2023**

Facility No:	<u>Former Standard Oil Bulk Plant 302095</u>	Address:	<u>149 and 167 Main Street, Morton, Washington</u>
Arcadis Contact Person / Phone No.:	<u>Carl Donovan / 503-785-9470</u>		
Arcadis Project No.:	<u>30063832</u>		
Primary Agency/Regulatory ID No.:	<u>Washington State Department of Ecology Southwest Regional Office, Toxics Cleanup Program Andrew Smith / Agreed Order No. DE 03TCPSR-5715</u>		

**WORK CONDUCTED THIS PERIOD [First Half 2023]:**

1. Conducted semi-annual groundwater monitoring and sampling on January 10, 2023.
2. Prepared the *Semi-Annual Status Report, Second Half 2023*.

**WORK PROPOSED NEXT PERIOD [Second Half 2023]:**

1. Conduct semi-annual groundwater monitoring and sampling during the second quarter of 2023.
2. Prepare the *Semi-Annual Status Report, Second Half 2023*.

Current Phase of Project:	<u>Monitoring</u>	
Frequency of Monitoring / Sampling:	<u>Semi-Annual (Q1/Q3)</u>	
Is Light Non-Aqueous Phase Liquid (LNAPL) Present On-site:	<u>None</u>	
Cumulative LNAPL Recovered to Date:	<u>None</u>	(gallons)
Approximate Depth to Groundwater:	<u>1.38 to 3.13</u>	(feet below top of casing)
Approximate Groundwater Elevation:	<u>949.09 to 951.32</u>	(feet above NAVD 88)
Groundwater Flow Direction	<u>South-southeast</u>	
Groundwater Gradient	<u>0.008</u>	(feet per foot)

Current Remediation Techniques:	None
Permits for Discharge:	Not Applicable
Summary of Unusual Activity:	Monitoring wells MW-11 and MW-12 were covered in gravel and unable to be located for gauging and sampling.
Agency Directive Requirements:	Agreed Order No. DE 03TCPSR-5715 (Attachment A)

**DISCUSSION**

Arcadis U.S. Inc (Arcadis’), subcontractor (Blaine Tech Services) conducted semi-annual groundwater monitoring activities on January 10, 2023. Groundwater monitoring activities were conducted in general accordance with the regulatory directive dated April 24, 2017 (Attachment A). The groundwater monitoring program includes gauging and sampling monitoring wells MW-7, MW-13, MW-15, MW-16 and MW-17. During the January 2023 sampling event, monitoring wells MW-11 and MW-12 were covered in gravel and unable to be located for gauging and sampling.

Wells were low-flow purged using a peristaltic pump and dedicated disposable tubing prior to collection of the samples. Field parameters including pH, temperature, electrical conductivity, turbidity, dissolved oxygen, and oxidation reduction potential were collected during the purging process with a multiparameter water quality meter and flow-through cell. Field parameters were allowed to stabilize prior to collecting samples. The groundwater monitoring field data sheets are included as Attachment B.

Following stabilization, samples were collected in pre-preserved laboratory-provided bottles and placed in a cooler with ice. Groundwater samples were submitted to Pace Analytical, located in Mount Juliet, Tennessee, an Ecology-accredited laboratory, under standard chain-of-custody protocols. Groundwater samples were analyzed for the following:

- Total petroleum hydrocarbons as gasoline range organics (GRO) by Northwest Method NWTPH-Gx
- Total petroleum hydrocarbons as diesel range organics (DRO) and total petroleum hydrocarbons as heavy oil range (RRO) by Northwest NWTPH-Dx
- DRO and RRO with silica gel cleanup by Northwest NWTPH-Dx modified
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency Method 8260

A blind duplicate groundwater sample was collected from MW-17 for data quality assurance.

A site location map and a site plan are shown on Figures 1 and 2, respectively. Current and historic groundwater gauging data and analytical results are presented in Table 1 and 2, respectively. The

calculated groundwater flow direction is to the south-southeast with a hydraulic gradient of 0.008 feet/foot. Historically, groundwater flow direction at the site has been predominately to the south-southeast. Groundwater elevation contours summarizing the January 2022 event and a rose diagram of historical flow direction are presented on Figure 3.

Light non-aqueous phase liquid (LNAPL) was not observed in site monitoring wells during the sampling event. Groundwater analytical results from the event are summarized below:

Groundwater analytical results for samples collected from monitoring wells were either less than the Model Toxics Control Act (MTCA) Method A Cleanup Level (CULs) or were not detected at concentrations greater than the laboratory reporting limit, with the exception of the following locations:

- Groundwater samples collected from monitoring wells MW-7 and MW-16 exceeded the MTCA Method A CUL (500 micrograms per liter [ $\mu\text{g/L}$ ]) for DRO at detected concentrations of 856 and 720  $\mu\text{g/L}$ , respectively. Samples collected from these locations were additionally analyzed using silica gel cleanup methods in accordance with Washington State Department of Ecology Draft Guidance for Silica Gel Cleanup in Washington State, and results were less than the laboratory reporting limit and the MTCA Method A CUL for both samples.

Groundwater analytical results are shown on Figure 4. The analytical laboratory report and chain-of-custody documentation are provided in Attachment C.

**LIMITATIONS**

This report was prepared in accordance with the scope of work outlined in Arcadis' contract and with generally accepted professional engineering and environmental consulting practices existing at the time this report was prepared and applicable to the location of the site. It was prepared for the exclusive use of Chevron Environmental Management Company for the express purpose stated above. Any re-use of this report for a different purpose or by others not identified above shall be at the user's sole risk without liability to Arcadis. To the extent that this report is based on information provided to Arcadis by third parties, Arcadis may have made efforts to verify this third-party information, but Arcadis cannot guarantee the completeness or accuracy of this information. The opinions expressed and data collected are based on the conditions of the site existing at the time of the field investigation. No other warranties expressed or implied are made by Arcadis.

Date: March 28, 2023

Carl Donovan  
Project Manager



Rebecca K. Andresen

Date: March 28, 2023

Rebecca Anderson, LG  
Senior Vice President  
Licensed Geologist 2588

**ATTACHMENTS:**

Table 1	Current Groundwater Gauging and Analytical Results
Table 2	Groundwater Gauging and Analytical Results Fourth Quarter 2004 to Current
Figure 1	Site Location Map
Figure 2	Site Plan
Figure 3	Groundwater Elevation Contour Map, January 10, 2023
Figure 4	Groundwater Analytical Results Map, January 10, 2023
Attachment A	Regulatory Directive, April 24, 2017
Attachment B	Field Data Sheets
Attachment C	Laboratory Report and Chain-of-Custody Documentation

# TABLES



Table 1  
 Groundwater Gauging Data and Analytical Results Fourth Quarter 2004 to Current  
 Former Standard Oil Bulk Plant 302095  
 149 and 167 Main Street  
 Morton, Washington



Well	Date	Screen Interval (ft. bTOC)	Top of Casing (ft. above NAVD 88)	Depth to Water (ft. bTOC)	Groundwater Elevation (ft. above NAVD 88)	GRO	DRO	DRO w/ SGT	HRO	HRO w/ SGT	Benzene	Toluene	Ethylbenzene	Total Xylenes	Comments
<b>MTCA Method A CULs</b>						<b>800/1,000</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>5</b>	<b>1000</b>	<b>700</b>	<b>1000</b>	
MW-7	1/10/2023	5-20	951.11	3.13	947.98	<100	<b>856</b>	<200	418	<250	<1.00	<1.00	<1.00	<3.00	
MW-11	1/10/2023	--	950.22	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate
MW-13	1/10/2023	3-18	951.32	2.97	948.35	<100	172 J	--	130 J	--	<1.00	<1.00	<1.00	<3.00	
MW-15	1/10/2023	3-18	949.09	1.38	947.71	<100	117 J	--	162 J	--	<1.00	<1.00	<1.00	<3.00	
MW-16	1/10/2023	3-18	949.89	2.60	947.29	185 B	<b>720</b>	143 J	237 J	<250	0.106 J	<1.00	<1.00	<3.00	
MW-17	1/10/2023	3-18	949.85	2.35	947.50	<100	333	<200	220 J	<250	<1.00	<1.00	<1.00	<3.00	
MW-17 DUP	1/10/2023	3-18	949.85	--	--	<100	320	<200	202 J	<250	<1.00	<1.00	<1.00	<3.00	Duplicate
TRIP BLANK	1/10/2023	--	--	--	--	<100	--	--	--	--	<1.00	<3.00	<1.00	<3.00	

**Notes:**

Results reported in micrograms per liter (µg/L)

**BOLD and highlighted** values are greater than their respective MTCA Method A cleanup level

**BOLD** values are non-detect below the laboratory reporting limit (RL), but the RL is greater than the MTCA Method A cleanup level

Laboratory analytical methods for historical data may not be consistent with current analytical methods. Consult laboratory reports for historical analytical methods used.

Top of Casing data prior to first quarter of 2020 was measured relative to arbitrary 100-foot elevation.

Top of Casing data after the first quarter of 2020 (02/12/20) measured relative to North American Vertical Datum of 1988 (NAVD 88).

800/1,000 = GRO MTCA Method A CUL with benzene present is 800 µg/L and without is 1,000 µg/L

**Abbreviations:**

-- = Not applicable, not available, or not analyzed

BTEX = benzene, toluene, ethylbenzene, and xylenes

CUL = Cleanup Level

DUP = Blind duplicate sample results

ft. bTOC = feet below top of casing

ft. above NAVD 88 = feet above North American Vertical Datum of 1988

MTCA = Model Toxics Control Act

MW = groundwater monitoring well

DRO = Total Petroleum Hydrocarbon as Diesel Range Organics

DRO w/ SGT = Total Petroleum Hydrocarbon as Diesel Range Organics w/ Silica Gel Treatment

GRO = Total Petroleum Hydrocarbons as Gasoline-Range Organics

HRO = Total Petroleum Hydrocarbons as Heavy Oil Range Organics

HRO w/ SGT = Total Petroleum Hydrocarbon as Heavy Oil Range Organics w/ Silica Gel Treatment

**Laboratory Qualifiers:**

< = Not detected at or above the laboratory RL

J = The associated numerical value is an estimated concentration only

B = The same analyte is found in the associated blank

**Current Analytical Methods:**

GRO analyzed by Method NWTPH-Gx

BTEX analyzed by the United States Environmental Protection Agency Method 8260D

DRO and HRO analyzed by NWTPH-Dx

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Well	Date	Screen Interval (ft. bTOC)	Top of Casing (ft. above NAVD 88)	Depth to Water (ft. bTOC)	Groundwater Elevation (ft. above NAVD 88)	GRO	DRO	DRO w/ SGT	HRO	HRO w/ SGT	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert-butyl ether	Dissolved Lead	Total Lead	Naphthalene	n-Hexane	Comments
MTCA Method A CULs						800/1,000	500	500	500	500	5	1000	700	1000	20	15	15	160	NE	
MW-1	7/9/2004	5-15	97.62	3.92	93.7	<50	630	--	210	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.99	--	<1	<2	
MW-1	10/11/2004	5-15	97.62	1.79	95.83	<50	120	--	<100	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	
MW-1	1/25/2005	5-15	97.62	2.01	95.61	<48	<79	--	<99	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	
MW-1	4/13/2005	5-15	97.62	1.19	96.43	<48	450	--	<99	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-1	7/11/2005	5-15	97.62	2.38	95.24	48	380	--	<110	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-1	8/13/2007	5-15	97.62	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	12/2/2008	5-15	97.55	2.17	95.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate Not Included in Monitoring Program
MW-2	7/9/2004	5-15	99.18	5.06	94.12	2,500	1,800	--	320	--	1,100	35	160	59	<0.5	<0.99	--	19	130	
MW-2	10/11/2004	5-15	99.18	2.68	96.50	2,500	560	--	<99	--	1,100	37	170	44	--	--	--	--	--	
MW-2	1/25/2005	5-15	99.18	2.82	96.36	2,200	1,700	--	180	--	880	33	150	35	--	--	--	--	--	
MW-2	4/13/2005	5-15	99.18	2.31	96.87	2,800	960	--	110	--	1,100	45	380	80	--	--	--	--	--	
MW-2 DUP	4/13/2005	5-15	99.18	2.31	96.87	2,700	960	--	120	--	1,100	48	380	84	--	--	--	--	--	
MW-2	7/11/2005	5-15	99.18	3.16	96.02	2,300	1,400	--	180	--	760	26	170	41	--	--	--	--	--	
MW-2 DUP	7/11/2005	5-15	99.18	3.16	96.02	2,100	1,500	--	170	--	810	25	150	36	--	--	--	--	--	
MW-2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Well Abandoned October 2006
MW-3	7/9/2004	5-15	100.00	6.03	93.97	80	290	--	150	--	22	0.600	6	5	<0.5	<0.99	--	<1	2	
MW-3 DUP	7/9/2004	5-15	100.00	6.03	93.97	100	300	--	190	--	23	0.600	6	5	<0.5	<0.99	--	<1	2	
MW-3	10/11/2004	5-15	100.00	4.27	95.73	<50	<79	--	<98	--	2	<0.5	<0.5	<0.5	--	--	--	--	--	
MW-3	1/25/2005	5-15	100.00	4.13	95.87	<48	670	--	120	--	2	<0.5	<0.5	<0.5	--	--	--	--	--	
MW-3	4/13/2005	5-15	100.00	3.78	96.22	<48	89	--	<97	--	2	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-3	7/11/2005	5-15	100.00	4.69	95.31	<48	<87	--	<110	--	2	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Well Abandoned October 2006
MW-4	7/9/2004	5-15	97.88	5.30	92.58	1,600	1,700	--	240	--	160	13	67	6	<0.5	<0.99	--	4	75	
MW-4	10/11/2004	5-15	97.88	1.66	96.22	1,800	520	--	<97	--	140	16	76	10	--	--	--	--	--	
MW-4	1/25/2005	5-15	97.88	1.79	96.09	2,000	410	--	<98	--	140	16	79	9	--	--	--	--	--	
MW-4	4/13/2005	5-15	97.88	1.40	96.48	2,100	1,300	--	110	--	120	16	81	15	--	--	--	--	--	
MW-4	7/11/2005	5-15	97.88	2.18	95.70	1,800	1,200	--	170	--	54	8	43	7	--	--	--	--	--	
MW-4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Well Abandoned October 2006
MW-5	10/11/2004	5-15	98.31	2.79	95.52	90	130	--	<99	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	
MW-5	1/25/2005	5-15	98.31	2.79	95.52	100	860	--	130	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	
MW-5	4/13/2005	5-15	98.31	2.23	96.08	110	530	--	<97	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-5	7/11/2005	5-15	98.31	3.38	94.93	64	590	--	140	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-5	8/13/2007	5-15	98.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate Well Abandoned
MW-5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-6	10/11/2004	5-20	98.3	2.26	96.04	1,000	600	--	<97	--	1	0.700	<0.5	1	--	--	--	--	--	
MW-6	1/25/2005	5-20	98.3	2.46	95.84	1,100	1,600	--	260	--	1	0.700	<0.5	1	--	--	--	--	--	
MW-6 DUP	1/25/2005	5-20	98.3	2.46	95.84	1,100	1,700	--	270	--	1	0.700	0.600	1	--	--	--	--	--	
MW-6	4/13/2005	5-20	98.3	1.78	96.52	860	900	--	120	--	<2.0	1	0.900	<5.0	--	--	--	--	--	
MW-6	7/11/2005	5-20	98.3	3.16	95.14	1,000	1,200	--	150	--	2	1	1	2	--	--	--	--	--	
MW-6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Well Abandoned March 2007
MW-7	10/11/2004	5-20	99.89	3.79	96.10	200	570	--	<98	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	
MW-7	1/25/2005	5-20	99.89	3.27	96.62	190	1,500	--	220	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	
MW-7	4/13/2005	5-20	99.89	4.28	95.61	73	880	--	99	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-7	7/11/2005	5-20	99.89	4.02	95.87	140	1,100	--	120	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-7	8/13/2007	5-20	99.89	7.85	92.04	<50	570	--	210	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-7	5/27/2008	5-20	99.89	3.42	96.47	<50	750	--	<97	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.047	--	--	--	
MW-7	12/2/2008	5-20	99.90	3.59	96.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	3/18/2009	5-20	99.90	3.29	96.61	71	360	--	<67	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-7	5/26-27/2009	5-20	99.90	4.13	95.77	73	940	--	69	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-7	8/3-4/2009	5-20	99.90	8.08	91.82	<50	1,500	--	530	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-7	12/29/2009	5-20	99.90	3.96	95.94	<50	990	--	77	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-7	2/4/2010	5-20	99.90	4.17	95.73	<50	890	--	110	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-7	6/1/2010	5-20	99.90	3.23	96.67	91	780	--	78	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-7	8/10/2010	5-20	99.90	7.22	92.68	<50	850	--	260	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-7	11/18/2010	5-20	99.90	2.43	97.47	58	480	--	400	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-7	3/15/2011	5-20	99.90	3.84	96.06	<50	810	--	250	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-7	6/2/2011	5-20	99.90	4.08	95.82	83	10,000	--	870	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-7	8/25/2011	5-20	99.90	7.92	91.98	<50	650	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-7	11/10/2011	5-20	99.90	4.90	95.00	<50	380	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-7	2/9/2012	5-20	99.90	4.25	95.65	<50	130	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-7	5/31/2012	5-20	99.90	4.90	95.00	<50	430	--	<75	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-7	8/28/2012	5-20	99.90	7.83	92.07	<50	83	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-7	11/21/2012	5-20	99.90	1.84	98.06	<50	160	--	<70	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-7	2/8/2013	5-20	99.90	3.29	96.61	89	310	--	<66	--	<0.5	<0.5	<0.5	<1.5	--					

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<b>MTCA Method A CULs</b>						<b>800/1,000</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>5</b>	<b>1000</b>	<b>700</b>	<b>1000</b>	<b>20</b>	<b>15</b>	<b>15</b>	<b>160</b>	<b>NE</b>	
MW-7	1/10/2023	5-20	951.11	3.13	947.98	<100	856	<200	418	<250	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-8	10/11/2004	5-20	99.21	2.81	96.40	1,200	330	--	<98	--	6	<0.5	2	1	--	--	--	--	--	
MW-8	1/25/2005	5-20	99.21	2.63	96.58	1,300	740	--	170	--	5	<0.5	1	1	--	--	--	--	--	
MW-8	4/13/2005	5-20	99.21	2.44	96.77	1,000	470	--	<100	--	6	0.700	2	<5.0	--	--	--	--	--	
MW-8	7/11/2005	5-20	99.21	3.23	95.98	1,400	670	--	<110	--	6	0.900	3	4	--	--	--	--	--	
MW-8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Well Abandoned March 2007
MW-9	10/11/2004	5-20	97.52	1.9	95.62	<0.5	<80	--	<50	--	<0.5	<0.5	<0.5	--	--	--	--	--	--	
MW-9	1/25/2005	5-20	97.52	1.68	95.84	<0.5	<78	--	<48	--	<0.5	<0.5	<0.5	--	--	--	--	--	--	
MW-9	4/13/2005	5-20	97.52	1.57	95.95	<0.5	<81	--	<48	--	<0.5	<0.5	<1.5	--	--	--	--	--	--	
MW-9	7/11/2005	5-20	97.52	2.25	95.27	<0.5	<83	--	<48	--	<0.5	<0.5	<1.5	--	--	--	--	--	--	
MW-9	8/13/2007	5-21	98.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate
MW-9	12/29-30/2009	5-20	97.52	3.15	94.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Included in Monitoring Program
MW-9	2/12/2020	5-20	949.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Well Resurveyed; Not Included in Monitoring Program
MW-9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Included in Monitoring Program
MW-10	10/11/2004	5-20	98.78	2.09	96.69	1,800	560	--	<95	--	51	7	25	7	--	--	--	--	--	
MW-10 DUP	10/11/2004	5-20	98.78	2.09	96.69	1,900	500	--	<98	--	51	7	25	6	--	--	--	--	--	
MW-10	1/25/2005	5-20	98.78	2.08	96.70	1,700	540	--	<110	--	37	6	23	5	--	--	--	--	--	
MW-10	4/13/2005	5-20	98.78	1.64	97.14	1,700	760	--	<100	--	24	4	19	7	--	--	--	--	--	
MW-10	7/11/2005	5-20	98.78	2.54	96.24	1,500	910	--	<110	--	31	4	17	5	--	--	--	--	--	
MW-10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Included in Monitoring Program
MW-11	10/11/2004	5-20	97.92	2.92	95.00	<50	<80	--	<100	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	
MW-11	1/25/2005	5-20	97.92	2.95	94.97	<48	<79	--	<99	--	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	
MW-11	4/13/2005	5-20	97.92	2.21	95.71	<48	<79	--	<98	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	7/11/2005	5-20	97.92	3.20	94.72	<48	<93	--	<120	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	8/13/2007	5-20	97.92	6.56	91.36	<50	<79	--	<99	--	<0.5	<0.5	<0.5	<1.5	--	0.07	--	--	--	
MW-11 DUP	8/13/2007	5-20	97.92	6.56	91.36	<50	<80	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	0.091	--	--	--	
MW-11	5/27/2008	5-20	97.92	3.98	93.94	<50	<76	--	<95	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-11	12/2/2008	5-20	97.92	3.31	94.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-11	3/18/2009	5-20	97.92	2.70	95.22	<50	85	--	480	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-11	5/26-27/2009	5-20	97.92	3.69	94.23	<50	170	--	<69	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-11	8/3-4/2009	5-20	97.92	6.59	91.33	<50	<30	--	<69	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-11	12/29-30/2009	5-20	97.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate
MW-11	2/4-5/2010	5-20	97.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate
MW-11	6/1/2010	5-20	97.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate
MW-11	8/10/2010	5-20	97.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate
MW-11	11/18/2010	5-20	97.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate
MW-11	3/15/2011	5-20	97.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate
MW-11	6/2/2011	5-20	97.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate
MW-11	8/25/2011	5-20	97.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate
MW-11	11/10/2011	5-20	97.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate
MW-11	2/10/2012	5-20	97.92	3.00	94.92	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	5/30/2012	5-20	97.92	3.50	94.42	<50	<31	--	<72	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	8/27/2012	5-20	97.92	6.47	91.45	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	11/20/2012	5-20	97.92	2.92	95.00	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	2/7/2013	5-20	97.92	2.66	95.26	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	5/10/2013	5-20	97.92	3.95	93.97	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	8/8/2013	5-20	97.92	6.46	91.46	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	10/22/2013	5-20	97.92	3.81	94.11	<50	<30	--	<70	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	2/24/2014	5-20	97.92	1.88	96.04	<50	<29	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	5/28/2014	5-20	97.92	4.13	93.79	<50	200	--	520	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	8/25/2014	5-20	97.92	5.67	92.25	<50	29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	11/3/2014	5-20	97.92	2.93	94.99	<50	<29	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	3/23-24/2015	5-20	97.92	2.96	94.96	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	5/26-27/2015	5-20	97.92	6.96	90.96	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.3	--	--	--	--	--	
MW-11	8/13/2015	5-20	97.92	6.42	91.50	<50	81	--	540	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	11/16-17/2015	5-20	97.92	2.34	95.58	<50	<46	--	170	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	2/21-22/2016	5-20	97.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Access
MW-11	5/15-16/2016	5-20	97.92	4.19	93.73	<50	<47	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	8/15-16/2016	5-20	97.92	5.43	92.49	<50	<46	--	<100	--	<0.2	<0.2	<0.2	<0.2	--	--	--	--	--	
MW-11	11/15/2016	5-20	97.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Access
MW-11	1/10/2019	5-20	97.92	1.69	92.49	<19	220	--	890	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-11	7/21/2019	5-20	97.92	3.71	94.21	<19	46	--	<100	--	<0.2	<0.2	<0.4	<1.0	--	--	--	--	--	
MW-11	2/12/2020	5-20	949.22	1.61	947.61	<100	85.1 J	--	164 J	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	Well Resurveyed
MW-11	8/2/2020	5-20	949.22	4.55	944.67	<100	118 J	--	184 J	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-11	2/9/202																			

Table 1  
 Groundwater Gauging Data and Analytical Results Fourth Quarter 2004 to Current  
 Former Standard Oil Bulk Plant 302095  
 149 and 167 Main Street  
 Morton, Washington

Well	Date	Screen Interval (ft. bTOC)	Top of Casing (ft. above NAVD 88)	Depth to Water (ft. bTOC)	Groundwater Elevation (ft. above NAVD 88)	GRO	DRO	DRO w/ SGT	HRO	HRO w/ SGT	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert-butyl ether	Dissolved Lead	Total Lead	Naphthalene	n-Hexane	Comments
MTCA Method A CULs						800/1,000	500	500	500	500	5	1000	700	1000	20	15	15	160	NE	
MW-12	11/20/2012	5-20	98.25	2.63	95.62	<50	<29	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-12	2/7/2013	5-20	98.25	2.01	96.24	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-12	5/10/2013	5-20	98.25	3.80	94.45	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-12	8/8/2013	5-20	98.25	6.32	91.93	<50	<30	--	<70	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-12	10/22/2013	5-20	98.25	3.79	94.46	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-12	2/24/2014	5-20	98.25	3.40	94.85	<50	<29	--	71	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-12	5/28/2014	5-20	98.25	3.32	94.93	<50	<29	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-12	8/25/2014	5-20	98.25	5.79	92.46	<50	<28	--	89	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-12	11/3/2014	5-20	98.25	2.62	95.63	<50	<29	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-12	3/23-24/2015	5-20	98.25	2.71	95.54	<50	<31	--	<71	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-12	5/26-27/2015	5-20	98.25	4.88	93.37	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-12	8/13/2015	5-20	98.25	6.03	92.22	<50	<46	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-12	11/16-17/2015	5-20	98.25	2.87	95.38	<50	<45	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-12	2/21-22/2016	5-20	98.25	2.43	95.82	<50	<47	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-12	5/15-16/2016	5-20	98.25	4.39	93.86	<50	<46	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-12	8/15-16/2016	5-20	98.25	5.44	92.81	<50	<46	--	<100	--	<0.2	<0.2	<0.2	<0.2	--	--	--	--	--	
MW-12	11/15/2016	5-20	99.25	2.48	96.77	<50	<45	--	<100	--	<0.2	<0.2	<0.2	<0.2	--	--	--	--	--	
MW-12	1/10/2019	5-20	98.25	2.72	95.53	<19	<46	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-12	7/21/2019	5-20	98.25	4.11	94.14	<19	<45	--	<100	--	<0.2 <sup>1</sup>	<0.2 <sup>1</sup>	<0.4 <sup>1</sup>	<1.0 <sup>1</sup>	--	--	--	--	--	
MW-12	2/12/2020	5-20	949.53	2.35	947.18	<100	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	Well Resurveyed
MW-12	8/2/2020	5-20	949.53	5.00	944.53	64.4 B J	142 J	--	100 J	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-12	2/9/2021	5-20	949.53	2.40	947.13	32.8 B J	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-12	7/13/2021	5-20	949.53	4.46	945.07	54.9 B J	79.8 J	--	86.6 J	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-12	1/10/2022	5-20	950.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate
MW-12	7/20/2022	5-20	950.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Locate
MW-13	12/2/2008	3-18	99.02	3.22	95.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-13	3/18/2009	3-18	99.02	2.24	96.78	<50	180	--	330	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-13	5/26-27/2009	3-18	99.02	3.88	95.14	<50	360	--	<700	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-13	8/3-4/2009	3-18	99.02	6.73	92.29	<50	660	--	700	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-13	12/29-30/2009	3-18	99.02	4.57	94.45	<50	110	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	2/4-5/2010	3-18	99.02	3.68	95.34	<50	59	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	6/1/2010	3-18	99.02	2.83	96.19	<50	<30	--	<70	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	8/10/2010	3-18	99.02	6.20	92.82	<50	<300	--	<700	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	11/18/2010	3-18	99.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Sample - Area Flooded
MW-13	3/15/2011	3-18	99.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Sample - Area Flooded
MW-13	6/2/2011	3-18	99.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Sample - Area Flooded
MW-13	8/25/2011	3-18	99.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Sample - Area Flooded
MW-13	11/10/2011	3-18	99.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to Sample - Area Flooded
MW-13	2/9/2012	3-18	99.02	3.50	95.52	86	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	5/31/2012	3-18	99.02	1.20	97.82	<50	<32	--	<75	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	8/28/2012	3-18	99.02	6.69	92.33	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	11/21/2012	3-18	99.02	1.12	97.90	<50	<29	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	2/8/2013	3-18	99.02	2.13	96.89	<50	<28	--	120	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	5/10/2013	3-18	99.02	4.36	94.66	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	8/8/2013	3-18	99.02	6.72	92.30	<50	<29	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	10/23/2013	3-18	99.02	4.17	94.85	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	2/25/2014	3-18	99.02	3.02	96.00	<50	<29	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	5/28/2014	3-18	99.02	4.92	94.10	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	8/26/2014	3-18	99.02	6.83	92.19	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	11/4/2014	3-18	99.02	1.22	97.80	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	3/23-24/2015	3-18	99.02	2.93	96.09	<50	<30	--	<71	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	5/26-27/2015	3-18	99.02	4.72	94.30	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	8/13/2015	3-18	99.02	7.80	91.22	<50	100	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	11/16-17/2015	3-18	99.02	2.96	96.06	<50	50	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	2/21-22/2016	3-18	99.02	2.96	96.06	<50	<46	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	5/15-16/2016	3-18	99.02	4.79	94.23	<50	77	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-13	8/15-16/2016	3-18	99.02	5.76	93.26	<50	<46	--	<100	--	<0.2	<0.2	<0.2	<0.2	--	--	--	--	--	
MW-13	11/15/2016	3-18	99.02	2.72	96.30	<50	<45	--	<100	--	<0.2	<0.2	<0.2	<0.2	--	--	--	--	--	
MW-13	1/10/2019	3-18	99.02	2.41	96.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Included in Monitoring Program
MW-13	7/21/2019	3-18	99.02	3.95	95.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Included in Monitoring Program
MW-13	2/12/2020	3-18	950.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Well Resurveyed; Not Included in Monitoring Program
MW-13	8/2/2020	3-18	950.32	4.20	946.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Included in Monitoring Program
MW-13	2/9/2021	3-18	950.32	2.11	948.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Included in Monitoring Program
MW-13	7/13/2021	3-18	950.32	3.73	946.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Included in Monitoring Program
MW-13	1/10/2022	3-18	951.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Included in Monitoring Program
MW-13	7/20/2022	3-18	951.32	4.31	947.01	<100	176 J	--	131 J	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	Unable to Locate
MW-13	1/10/2023	3-18	951.32	2.97	948.35	<100	172 J	--	130 J	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-14	12/2/2008	3-18	98.50	2.76	95.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-14	3/18/2009	3-18	98.50	1.71	96.79	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-14	05/26-27/2009	3-18	98.50	3.49	95.01	<50	180	--	<69	--	0.6	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-14	8/3-4/2009	3-18	98.50	5.58	92.92	<50	550	--	<74	--	0.9	<0.5	0.7							

Table 1  
Groundwater Gauging Data and Analytical Results Fourth Quarter 2004 to Current  
Former Standard Oil Bulk Plant 302095  
149 and 167 Main Street  
Morton, Washington



Well	Date	Screen Interval (ft. bTOC)	Top of Casing (ft. above NAVD 88)	Depth to Water (ft. bTOC)	Groundwater Elevation (ft. above NAVD 88)	GRO	DRO	DRO w/ SGT	HRO	HRO w/ SGT	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert-butyl ether	Dissolved Lead	Total Lead	Naphthalene	n-Hexane	Comments
MTCA Method A CULs						800/1,000	500	500	500	500	5	1000	700	1000	20	15	15	160	NE	
MW-14	5/26-27/2015	3-18	98.50	5.28	93.22	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-14	8/13/2015	3-18	98.50	7.19	91.31	<50	100	--	<100	--	<0.3	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-14	11/16-17/2015	3-18	98.50	3.02	95.48	<50	<46	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-14	2/21-22/2016	3-18	98.50	2.94	95.56	<50	<46	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-14	5/15-16/2016	3-18	98.50	4.87	93.63	<50	<47	--	<110	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-14	8/15-16/2016	3-18	98.50	5.70	92.80	<50	<46	--	<100	--	<0.2	<0.2	<0.2	<0.2	--	--	--	--	--	
MW-14	11/15/2016	3-18	98.50	2.76	95.74	<50	<46	--	<100	--	<0.2	<0.2	<0.2	<0.2	--	--	--	--	--	
MW-14	1/10/2019	3-18	98.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Included in Monitoring Program Well Abandoned March 2018
MW-14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-15	12/2/2008	3-18	97.81	1.73	96.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-15	3/18/2009	3-18	97.81	1.45	96.36	1,200	300	--	180	--	<0.5	<0.5	1	<0.5	<0.5	--	--	--	--	
MW-15	5/26-27/2009	3-18	97.81	2.75	95.06	1,500	140	--	<69	--	<0.5	<0.5	1	<0.5	<0.5	--	--	--	--	
MW-15	8/3-4/2009	3-18	97.81	5.59	92.22	1,200	190	--	<69	--	0.9	<0.5	1	<0.5	<0.5	--	--	--	--	
MW-15	12/29-30/2009	3-18	97.81	2.48	95.33	1,500	230	--	<68	--	1.9	1.1	1.8	2.9	--	--	--	--	--	
MW-15	2/4-5/2010	3-18	97.81	2.54	95.27	1,600	190	--	<69	--	1.7	1.1	1.9	3.2	--	--	--	--	--	
MW-15	6/1/2010	3-18	97.81	1.67	96.14	760	82	--	<69	--	<0.5	0.7	0.9	<5.0	--	--	--	--	--	
MW-15	8/10/2010	3-18	97.81	5.15	92.66	1,300	160	--	<69	--	1.5	0.9	1.3	<1.0	--	--	--	--	--	
MW-15	11/18/2010	3-18	97.81	1.38	96.43	830	120	--	<66	--	1.2	0.8	0.9	<5.0	--	--	--	--	--	
MW-15	3/15/2011	3-18	97.81	1.60	96.21	1,200	180	--	77	--	2.6	2.1	1.6	6.9	--	--	--	--	--	
MW-15	6/2/2011	3-18	97.81	2.55	95.26	1,300	270	--	<71	--	1.6	<1.0	1.8	4.8	--	--	--	--	--	
MW-15	8/25/2011	3-18	97.81	5.60	92.21	870	210	--	<69	--	1.3	<0.5	1.5	7.1	--	--	--	--	--	
MW-15	11/10/2011	3-18	97.81	3.05	94.76	750	66	--	<69	--	<2.0	<5.0	1.3	6.7	--	--	--	--	--	
MW-15	2/10/2012	3-18	97.81	2.50	95.31	820	35	--	160	--	<2.0	<6.0	2.1	5.8	--	--	--	--	--	
MW-15	5/30/2012	3-18	97.81	2.50	95.31	1,100	110	--	<69	--	1.1	<8.0	2.4	7.8	--	--	--	--	--	
MW-15	8/28/2012	3-18	97.81	5.53	92.28	740	190	--	<69	--	1.4	<5.0	1.9	5.4	--	--	--	--	--	
MW-15	11/21/2012	3-18	97.81	1.93	95.88	760	57	--	<66	--	1.4	<5.0	2	5.6	--	--	--	--	--	
MW-15	2/7/2013	3-18	97.81	1.78	96.03	640	47	--	<66	--	1.1	<6.0	1.8	<6.0	--	--	--	--	--	
MW-15	5/10/2013	3-18	97.81	4.23	93.58	580	<29	--	<67	--	1	<4.0	0.9	<6.0	--	--	--	--	--	
MW-15	8/8/2013	3-18	97.81	5.89	91.92	630	150	--	<66	--	13	<5.0	1.9	6.3	--	--	--	--	--	
MW-15	10/22/2013	3-18	97.81	2.98	94.83	430	<30	--	<70	--	0.6	<3.0	0.8	2.3	--	--	--	--	--	
MW-15	2/25/2014	3-18	97.81	1.54	96.27	900	38	--	<70	--	1	<5.0	1.6	6.8	--	--	--	--	--	
MW-15	5/28/2014	3-18	97.81	2.32	95.49	760	36	--	<68	--	<2.0	<2.0	1.2	6	--	--	--	--	--	
MW-15	8/26/2014	3-18	97.81	4.89	92.92	870	50	--	<67	--	<2.0	<2.0	1.5	<8.0	--	--	--	--	--	
MW-15	11/3/2014	3-18	97.81	1.89	95.92	360	50	--	<69	--	0.9	<2.0	1	<6.0	--	--	--	--	--	
MW-15	3/23-24/2015	3-18	97.81	1.91	95.90	480	48	--	<65	--	<0.5	1.2	1.1	<5.0	--	--	--	--	--	
MW-15	5/26-27/2015	3-18	97.81	5.58	92.23	580	51	--	<68	--	<0.5	<2.0	1.6	<7.0	--	--	--	--	--	
MW-15	8/13/2015	3-18	97.81	6.06	91.75	900	150	--	<110	--	1	1.1	1.7	5.4	--	--	--	--	--	
MW-15	11/16-17/2015	3-18	97.81	1.75	96.06	460	78	--	<100	--	<0.5	<0.5	<0.5	2.6	--	--	--	--	--	
MW-15	2/21-22/2016	3-18	97.81	1.45	96.36	180	69	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-15	5/15-16/2016	3-18	97.81	3.55	94.26	330	62	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-15	8/15-16/2016	3-18	97.81	4.65	93.16	1,000	85	--	<100	--	<0.2	<0.2	1	4.1	--	--	--	--	--	
MW-15	11/15/2016	3-18	97.81	1.70	96.11	1,200	73	--	<100	--	<0.9	<0.2	1.3	4.8	--	--	--	--	--	
MW-15	1/10/2019	3-18	97.81	1.29	96.52	<19	<46	--	<100	--	<1.9	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-15	7/21/2019	3-18	97.81	2.70	95.11	<19	<45	--	<100	--	<1.0	<0.2	<0.4	<1.0	--	--	--	--	--	
MW-15	2/12/2020	3-18	949.09	1.25	947.84	379	238	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	Well Resurveyed
MW-15	8/2/2020	3-18	949.09	3.82	945.27	670	218	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-15	2/9/2021	3-18	949.09	1.25	947.84	254 B	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-15	7/13/2021	3-18	949.09	3.16	945.93	46.5 B J	<200	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-15	1/10/2022	3-18	949.09	1.18	947.91	228	233	<200 J3	111 J	<250	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-15	7/20/2022	3-18	949.09	2.65	946.44	<100	84.7 J	--	<250	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-15	1/10/2023	3-18	949.09	1.38	947.71	<100	117 J	--	162 J	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-16	12/2/2008	3-18	97.73	2.32	95.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-16	3/18/2009	3-18	97.73	1.30	96.43	520	1,200	--	220	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-16	5/26-27/2009	3-18	97.73	2.97	94.76	680	390	--	<69	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-16	8/3-4/2009	3-18	97.73	5.36	92.37	410	540	--	<69	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-16	12/29-30/2009	3-18	97.73	2.80	94.93	500	710	--	100	--	0.6	0.6	<0.5	1.7	--	--	--	--	--	
MW-16	2/4-5/2010	3-18	97.73	2.89	94.84	810	730	--	70	--	0.8	0.9	0.7	1.7	--	--	--	--	--	
MW-16	6/1/2010	3-18	98.63	2.79	95.84	1,400	380	--	<69	--	<5.0	2.2	1.3	<1.5	--	--	--	--	--	
MW-16	8/10/2010	3-18	98.63	6.33	92.30	550	240	--	<90	--	0.6	0.6	0.6	1.7	--	--	--	--	--	
MW-16	11/18/2010	3-18	98.63	2.44	96.19	710	420	--	<68	--	0.8	1	0.9	1.8	--	--	--	--	--	
MW-16	3/15/2011	3-18	98.63	2.71	95.92	890	1,500	--	440	--	2.6	2.2	1.1	3.8	--	--	--	--	--	
MW-16	6/2/2011	3-18	98.63	3.60	95.03	490	2,400	--	320	--	0.5	<2.0	0.6	<5.0	--	--	--	--	--	
MW-16	8/25/2011	3-18	98.63	6.60	92.03	110	230	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-16	11/10/2011	3-18	98.63	4.35	94.28	510	850	--	<67	--	0.5	0.6	0.8	2.9	--	--	--	--	--	
MW-16	2/10/2012	3-18	98.63	3.35	95.28	370	71	--	<69	--	0.6	0.6	0.7	1.6	--	--	--	--	--	
MW-16	5/31/2012	3-18	98.63	3.80	94.83	530	1,800	--	<70	--	0.7	0.6	1	2.7	--	--	--	--	--	
MW-16	8/28/2012	3-18	98.63	6.39	92.24	130	42	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-16	11/20/2012	3-18	98.63	2.83	95.80	390	120	--	<66	--	0.6	0.5	0.6	<1.5	--	--	--	--	--	
MW-16	2/7/2013	3-18	98.63	2.91	95.72	480	120	--	<66	--	0.7	0.5	0.8	<1.5	--	--	--	--	--	
MW-16	5/9/2013	3-18	98.63	4.39	94.24	450	77	--	<68	--	0.6	<0.5	0.6	<5.0	--	--	--	--	--	
MW-16	8/8/2013	3-18	98.63	6.23	92.40	170	400	--	<67	--	<0.5	<0.5	0.6	<1.5						

Table 1  
 Groundwater Gauging Data and Analytical Results Fourth Quarter 2004 to Current  
 Former Standard Oil Bulk Plant 302095  
 149 and 167 Main Street  
 Morton, Washington



Well	Date	Screen Interval (ft. bTOC)	Top of Casing (ft. above NAVD 88)	Depth to Water (ft. bTOC)	Groundwater Elevation (ft. above NAVD 88)	GRO	DRO	DRO w/ SGT	HRO	HRO w/ SGT	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert-butyl ether	Dissolved Lead	Total Lead	Naphthalene	n-Hexane	Comments
<b>MTCA Method A CULs</b>						<b>800/1,000</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>500</b>	<b>5</b>	<b>1000</b>	<b>700</b>	<b>1000</b>	<b>20</b>	<b>15</b>	<b>15</b>	<b>160</b>	<b>NE</b>	
MW-16	7/20/2022	3-18	949.89	3.76	946.13	313	731	--	208 J	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-16	1/10/2023	3-18	949.89	2.60	947.29	185 B	720	143 J	237 J	<250	0.106 J	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-17	12/2/2008	3-18	97.76	2.21	95.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-17	3/18/2009	3-18	97.76	1.29	96.47	<50	310	--	200	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-17	5/26-27/2009	3-18	97.76	2.78	94.98	130	360	--	<69	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-17	8/3-4/2009	3-18	97.76	5.45	92.31	<50	100	--	<68	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-17	12/29-30/2009	3-18	97.76	3.44	94.32	<50	150	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	2/4-5/2010	3-18	97.76	3.49	94.27	53	220	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	6/1/2010	3-18	97.76	2.54	95.22	<50	82	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	8/10/2010	3-18	97.76	6.22	91.54	<50	87	--	<90	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	11/18/2010	3-18	97.76	2.34	95.42	<50	70	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	3/15/2011	3-18	97.76	2.55	95.21	94	140	--	84	--	2	2	<0.5	<1.5	--	--	--	--	--	
MW-17	6/2/2011	3-18	97.76	3.41	94.35	70	280	--	160	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	8/25/2011	3-18	97.76	6.70	91.06	<50	95	--	<73	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	11/10/2011	3-18	97.76	4.00	93.76	<50	100	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	2/10/2012	3-18	97.76	3.20	94.56	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	5/31/2012	3-18	97.76	3.60	94.16	<50	81	--	<71	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	8/28/2012	3-18	97.76	6.35	91.41	<50	<29	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	11/20/2012	3-18	97.76	2.53	95.23	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	2/7/2013	3-18	97.76	2.89	94.87	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	5/9/2013	3-18	97.76	4.13	93.63	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	8/8/2013	3-18	97.76	6.24	91.52	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	10/23/2013	3-18	97.76	4.04	93.72	<50	<29	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	2/25/2014	3-18	97.76	2.48	95.28	56	<28	--	<65	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	5/27/2014	3-18	97.76	3.64	94.12	<50	36	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	8/25/2014	3-18	97.76	5.97	91.79	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	11/4/2014	3-18	97.76	2.61	95.15	<50	99	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	3/23-24/2015	3-18	97.76	2.88	94.88	<50	<29	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	5/26-27/2015	3-18	97.76	4.71	93.05	<50	31	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	8/13/2015	3-18	97.76	7.26	90.50	<50	58	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	11/16-17/2015	3-18	97.76	2.70	95.06	79	65	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	2/21-22/2016	3-18	97.76	2.62	95.14	110	<100	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	5/15-16/2016	3-18	97.76	4.76	93.00	<50	87	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-17	8/15-16/2016	3-18	97.76	5.73	92.03	<50	60	--	<100	--	<0.2	<0.2	<0.2	<0.2	--	--	--	--	--	
MW-17	11/15/2016	3-18	97.76	2.41	95.35	<50	74	--	<100	--	<0.2	<0.2	<0.2	<0.2	--	--	--	--	--	
MW-17	1/10/2019	3-18	97.76	2.38	95.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Included in Monitoring Program
MW-17	7/21/2019	3-18	97.76	3.54	94.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Included in Monitoring Program
MW-17	2/12/2020	3-18	949.85	2.00	947.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Well Resurveyed; Not Included in Monitoring Program
MW-17	8/2/2020	3-18	949.85	4.58	945.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Included in Monitoring Program
MW-17	2/9/2021	3-18	949.85	2.08	947.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Included in Monitoring Program
MW-17	7/13/2021	3-18	949.85	3.98	945.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not Included in Monitoring Program
MW-17	1/10/2022	3-18	949.85	2.05	947.80	<100	230	92.1 J J3	200 J	134 J	<1.00	<1.00	<1.00	0.263 J	--	--	--	--	--	
MW-17	7/20/2022	3-18	949.85	3.98	945.87	<100	352	--	169 J	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-17 DUP	7/20/2022	3-18	949.85	--	--	<100	341	--	186 J	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-17	1/10/2023	3-18	949.85	2.35	947.50	<100	333	<200	220 J	<250	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	
MW-17 DUP	1/10/2023	3-18	949.85	--	--	<100	320	<200	202 J	<250	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	Duplicate
MW-18	12/2/2008	3-18	98.44	3.41	95.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-18	3/18/2009	3-18	98.44	2.61	95.83	<50	73	--	<72	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-18	5/26-27/2009	3-18	98.44	3.83	94.61	120	390	--	110	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-18	8/3-4/2009	3-18	98.44	6.51	91.93	<50	130	--	<70	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-18	12/29-30/2009	3-18	98.44	3.02	95.42	<50	360	--	120	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-18	2/4-5/2010	3-18	98.44	2.77	95.67	<50	130	--	310	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-18	6/1/2010	3-18	98.44	1.62	96.82	<50	<30	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-18	8/10/2010	3-18	98.44	5.66	92.78	<50	310	--	400	--	<0.5	<0.5	<0.5	<1.6	--	--	--	--	--	
MW-18	11/18/2010	3-18	98.44	0.85	97.59	<50	42	--	160	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-18	3/15/2011	3-18	98.44	1.17	97.27	<50	60	--	200	--	3	2	<0.5	<1.5	--	--	--	--	--	
MW-18	6/2/2011	3-18	98.44	1.46	96.98	<50	<300	--	<700	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-18	8/25/2011	3-18	98.44	6.10	92.34	<50	710	--	230	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-18	11/10/2011	3-18	98.44	3.40	95.04	<50	<29	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-18	2/10/2012	3-18	98.44	2.40	96.04	<50	<29	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-18	5/31/2012	3-18	98.44	1.20	97.24	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-18	8/27/2012																			

Table 1  
Groundwater Gauging Data and Analytical Results Fourth Quarter 2004 to Current  
Former Standard Oil Bulk Plant 302095  
149 and 167 Main Street  
Morton, Washington

Well	Date	Screen Interval (ft. bTOC)	Top of Casing (ft. above NAVD 88)	Depth to Water (ft. bTOC)	Groundwater Elevation (ft. above NAVD 88)	GRO	DRO	DRO w/ SGT	HRO	HRO w/ SGT	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert-butyl ether	Dissolved Lead	Total Lead	Naphthalene	n-Hexane	Comments
MTCA Method A CULs						800/1,000	500	500	500	500	5	1000	700	1000	20	15	15	160	NE	
MW-19	6/2/2011	3-18	98.54	3.94	94.60	<50	36	--	79	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	8/25/2011	3-18	98.54	6.95	91.59	<50	41	--	<70	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	11/10/2011	3-18	98.54	4.70	93.84	<50	<29	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	2/10/2012	3-18	98.54	4.05	94.49	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	5/31/2012	3-18	98.54	4.30	94.24	<50	<32	--	<75	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	8/27/2012	3-18	98.54	6.90	91.64	<50	<32	--	<75	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	11/20/2013	3-18	98.54	3.18	95.36	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	2/7/2013	3-18	98.54	3.74	94.80	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	5/9/2013	3-18	98.54	5.03	93.51	<50	<29	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	8/8/2013	3-18	98.54	6.89	91.65	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	10/23/2013	3-18	98.54	4.83	93.71	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	2/24/2014	3-18	98.54	3.40	95.14	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	5/27/2014	3-18	98.54	4.52	94.02	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	8/25/2014	3-18	98.54	6.59	91.95	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	11/4/2014	3-18	98.54	1.86	96.68	<50	<33	--	<77	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	3/23-24/2015	3-18	98.54	1.00	97.54	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	5/26-27/2015	3-18	98.54	5.64	92.90	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	8/13/2015	3-18	98.54	7.79	90.75	<50	<46	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	11/16-17/2015	3-18	98.54	2.70	95.84	<50	<46	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	2/21-22/2016	3-18	98.54	3.45	95.09	<50	<46	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	5/15-16/2016	3-18	98.54	5.55	92.99	<50	<46	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-19	8/15-16/2016	3-18	98.54	6.46	92.08	<50	<46	--	<100	--	<0.2	<0.2	<0.2	<0.2	--	--	--	--	--	
MW-19	11/15/2016	3-18	98.54	2.74	95.80	<50	<45	--	<100	--	<0.2	<0.2	<0.2	<0.2	--	--	--	--	--	
MW-19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Well Abandoned March 2018
MW-20	12/2/2008	3-18	98.92	1.93	96.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-20	3/18/2009	3-18	98.92	1.85	97.07	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-20	5/26-27/2009	3-18	98.92	3.60	95.32	<50	63	--	<69	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-20	8/3-4/2009	3-18	98.92	7.28	91.64	<50	75	--	<70	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-20	12/29-30/2009	3-18	98.92	2.81	96.11	<50	<29	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	2/4-5/2010	3-18	98.92	2.70	96.22	<50	<30	--	<70	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	6/1/2010	3-18	98.92	2.30	96.62	<50	<29	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	8/10/2010	3-18	98.92	6.49	92.43	<50	350	--	300	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	11/18/2010	3-18	98.92	1.80	97.12	<50	<29	--	170	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	3/15/2011	3-18	98.92	2.26	96.66	<50	<29	--	170	--	2	2	<0.5	<1.5	--	--	--	--	--	
MW-20	6/3/2011	3-18	98.92	2.73	96.19	<50	<31	--	<71	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	8/25/2011	3-18	98.92	7.27	91.65	<50	120	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	11/10/2011	3-18	98.92	3.55	95.37	<50	<30	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	2/10/2012	3-18	98.92	2.45	96.47	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	5/30/2012	3-18	98.92	2.80	96.12	<50	<30	--	<70	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	8/28/2012	3-18	98.92	6.82	92.10	<50	70	--	<69	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	11/21/2012	3-18	98.92	1.93	96.99	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	2/7/2013	3-18	98.92	2.40	96.52	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	5/10/2013	3-18	98.92	4.06	94.86	<50	<29	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	8/8/2013	3-18	98.92	6.18	92.74	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	10/22/2013	3-18	98.92	3.81	95.11	<50	<30	--	<70	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	2/25/2014	3-18	98.92	2.26	96.66	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	5/28/2014	3-18	98.92	2.76	96.16	<50	<29	--	<67	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	8/26/2014	3-18	98.92	6.08	92.84	<50	30	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	11/3/2014	3-18	98.92	1.90	97.02	<50	<28	--	<66	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	3/23-24/2015	3-18	98.92	1.98	96.94	<50	<29	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	5/26-27/2015	3-18	98.92	4.88	94.04	<50	<29	--	<68	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	8/13/2015	3-18	98.92	7.81	91.11	<50	89	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	11/16-17/2015	3-18	98.92	2.20	96.72	<50	<45	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	2/21-22/2016	3-18	98.92	1.94	96.98	<50	<46	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	5/15-16/2016	3-18	98.92	3.89	95.03	<50	<47	--	<100	--	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	
MW-20	8/15-16/2016	3-18	98.92	5.76	93.16	<50	300	--	<100	--	<0.2	<0.2	<0.2	<0.2	--	--	--	--	--	
MW-20	11/15/2016	3-18	98.92	1.84	97.08	<50	<45	--	<100	--	<0.2	<0.2	<0.2	<0.2	--	--	--	--	--	
MW-20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Well Abandoned March 2018
TRIP BLANK	7/20/2022	--	--	--	--	<100	--	--	<1.00	<1.00	<1.00	<3.00	--	--	--	--	--	--	--	
TRIP BLANK	1/10/2023	--	--	--	--	<100	--	--	--	--	<1.00	<3.00	<1.00	<3.00	--	--	--	--	--	

**Notes:**

Results reported in micrograms per liter (µg/L)  
**BOLD and highlighted values are greater than their respective MTCA Method A cleanup level**  
**BOLD** values are non-detect below the laboratory reporting limit (RL), but the RL is greater than the MTCA Method A cleanup level  
 Laboratory analytical methods for historical data may not be consistent with current analytical methods. Consult laboratory reports for historical analytical methods used.  
 Top of Casing data prior to first quarter of 2020 was measured relative to arbitrary 100-foot elevation.  
 Top of Casing data after the first quarter of 2020 (02/12/20) measured relative to North American Vertical Datum of 1988 (NAVD 88).  
 800/1,000 = GRO MTCA Method A CUL with benzene present is 800 µg/L and without is 1,000 µg/L

**Abbreviations:**

-- = Not applicable, not available, or not analyzed  
 BTEX = benzene, toluene, ethylbenzene, and xylenes  
 CUL = Cleanup Level  
 DUP = Blind duplicate sample results  
 ft. bTOC = feet below top of casing  
 ft. above NAVD 88 = feet above North American Vertical Datum of 1988  
 MTCA = Model Toxics Control Act  
 MW = groundwater monitoring well  
 DRO = Total Petroleum Hydrocarbon as Diesel Range Organics  
 DRO w/ SGT = Total Petroleum Hydrocarbon as Diesel Range Organics w/ Silica Gel Treatment  
 GRO = Total Petroleum Hydrocarbons as Gasoline-Range Organics  
 HRO = Total Petroleum Hydrocarbons as Heavy Oil Range Organics  
 HRO w/ SGT = Total Petroleum Hydrocarbon as Heavy Oil Range Organics w/ Silica Gel Treatment

**Laboratory Qualifiers:**

< = Not detected at or above the laboratory RL  
 J = The associated numerical value is an estimated concentration only  
 B = The same analyte is found in the associated blank

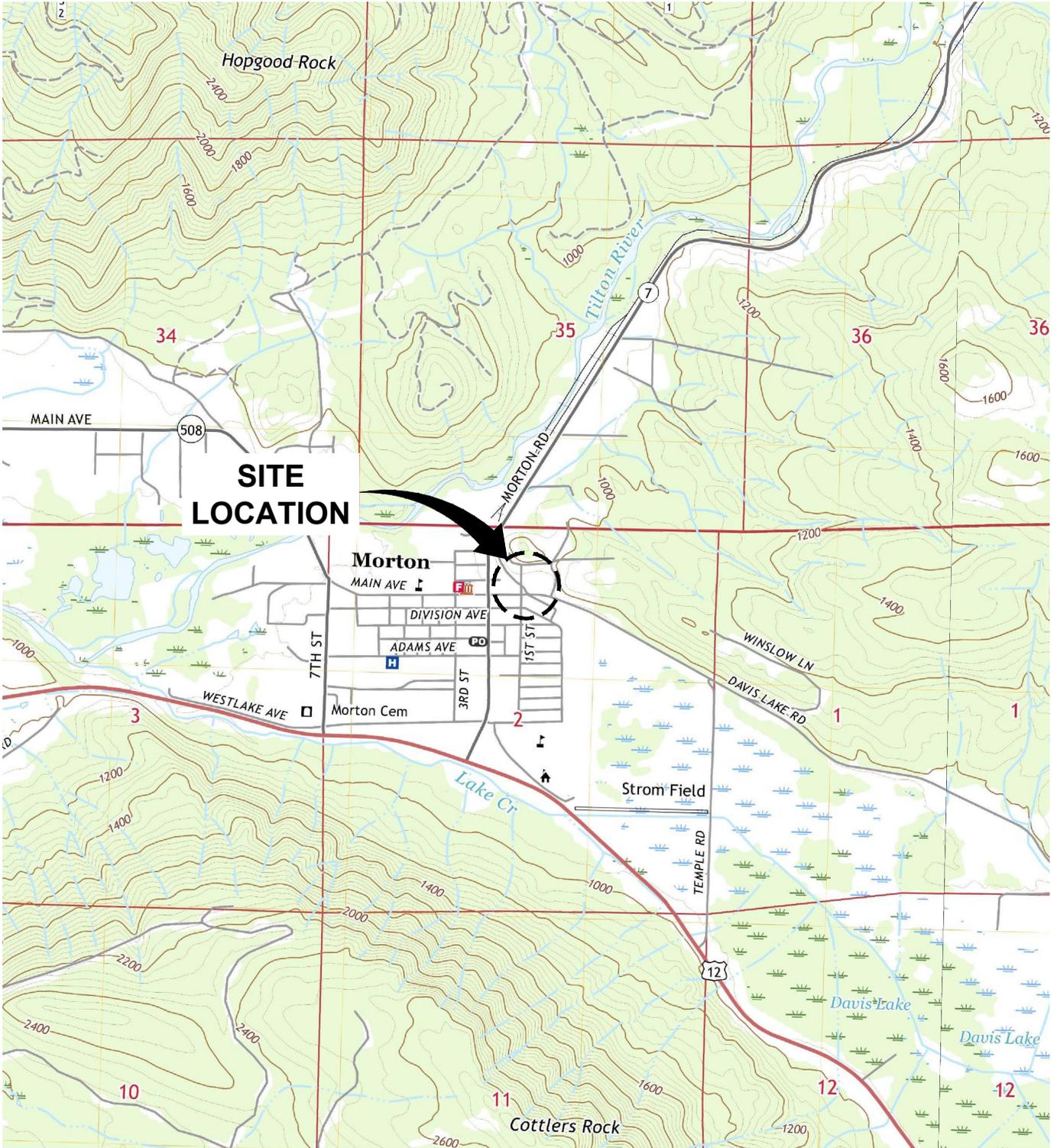
Table 1  
 Groundwater Gauging Data and Analytical Results Fourth Quarter 2004 to Current  
 Former Standard Oil Bulk Plant 302095  
 149 and 167 Main Street  
 Morton, Washington

Well	Date	Screen Interval (ft. bTOC)	Top of Casing (ft. above NAVD 88)	Depth to Water (ft. bTOC)	Groundwater Elevation (ft. above NAVD 88)	GRO	DRO	DRO w/ SGT	HRO	HRO w/ SGT	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert-butyl ether	Dissolved Lead	Total Lead	Naphthalene	n-Hexane	Comments
MTCA Method A CULs						800/1,000	500	500	500	500	5	1000	700	1000	20	15	15	160	NE	

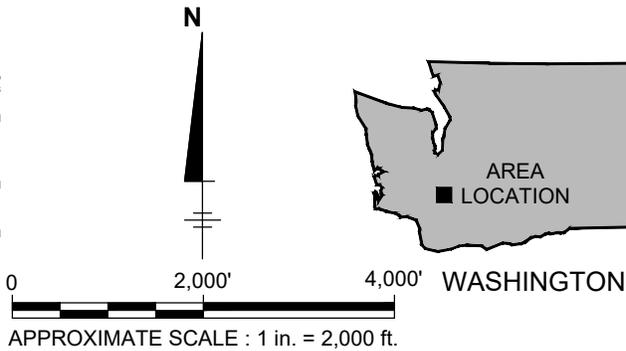
**Current Analytical Methods:**  
 GRO analyzed by Method NWTPH-Gx  
 BTEX analyzed by the United States Environmental Protection Agency Method 8260D  
 DRO analyzed by NWTPH-Dx  
 DRO w/ Si Gel analyzed by NWTPHDX-SGT  
 HRO analyzed by NWTPH-Dx-NO SGT

# FIGURES





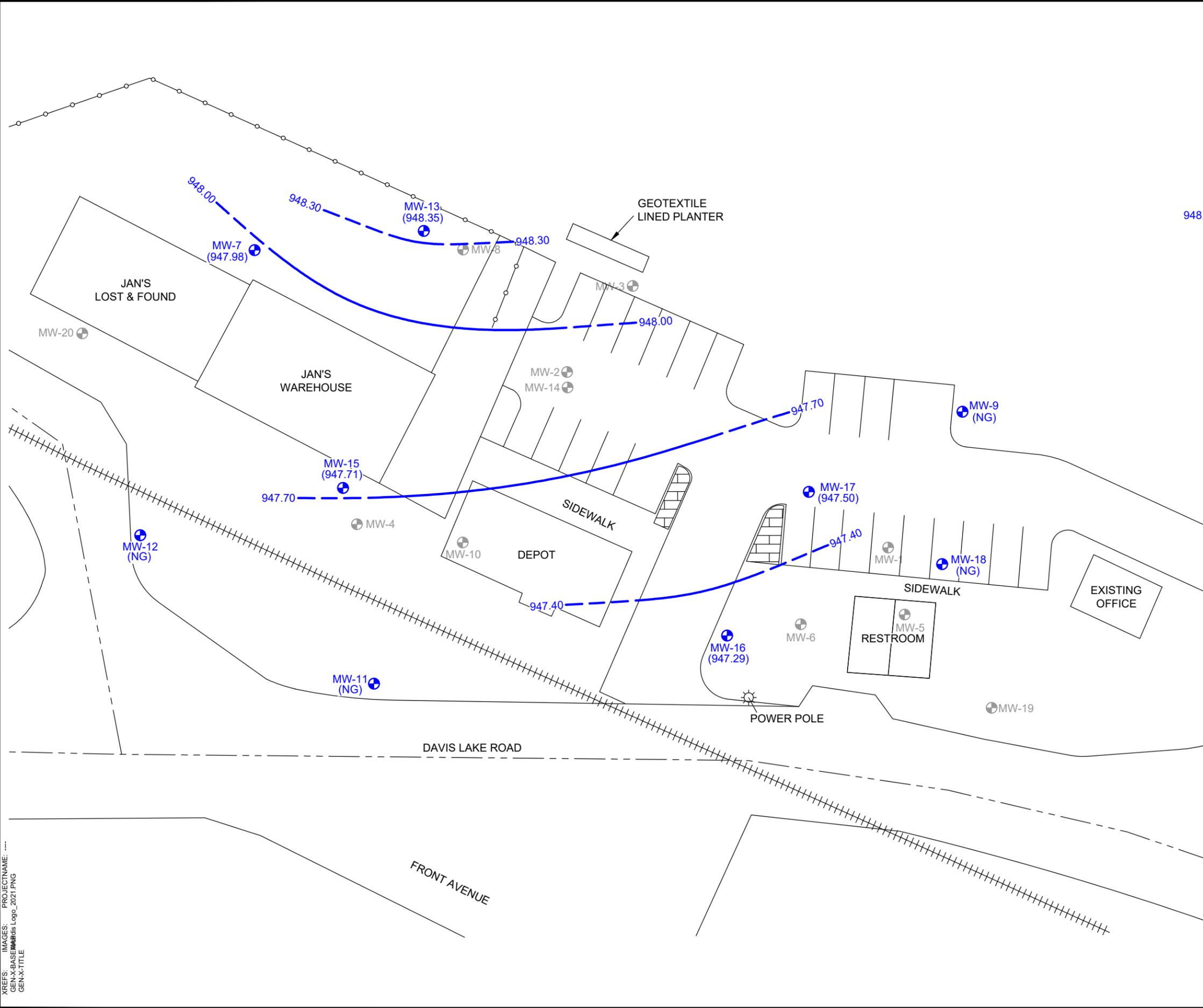
SOURCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., MORTON AND GLENOMA, WA 2020.



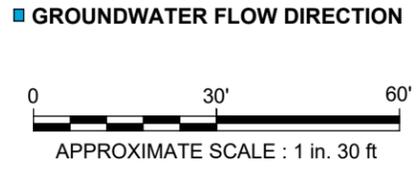
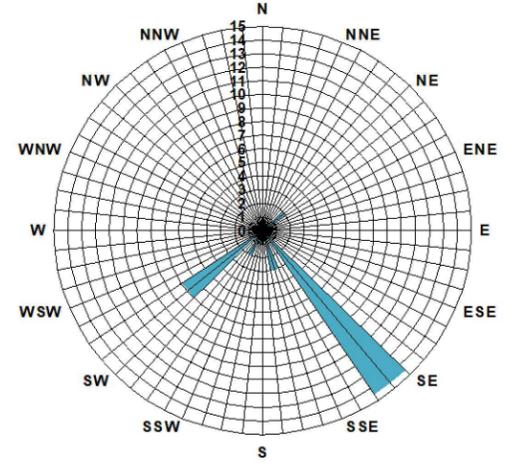
FORMER STANDARD OIL BULK PLANT 302095 149 & 167 MAIN STREET MORTON, WASHINGTON	
<b>SITE LOCATION MAP</b>	
	FIGURE <b>1</b>



C:\Users\shankar\4888\ARCADIS\Environmental\CAD Team - BIM360 - OneDrive Sync Location\AU-SCHEVRON-302095\MORTON Washington\20230101-Progress\01-DWG\GWM-1SA23-F03-GWE.dwg LAYOUT-3 SAVED: 3/9/2023 10:45 AM ACADVER: 24, 1S (LMS TECH) PAGES: 1/1  
 PLOT STYLE TABLE: --- PLOTTED: 3/9/2023 10:45 AM BY: SHANKARAPPA, VASANTH KUMAR  
 XREFS: IMAGES: PROJECTNAME: ---  
 GEN-X-BASE: ARCADIS Logo\_2021.PNG  
 GEN-X-TITLE:



- LEGEND:**
- MW-16 GROUNDWATER MONITORING WELL
  - MW-6 ABANDONED OR DESTROYED MONITORING WELL LOCATIONS
  - FENCE LINE
  - RAILROAD TRACKS
  - (948.35) GROUNDWATER ELEVATION (FEET ABOVE NAVD 88)
  - 948.30 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
  - (NG) NOT GAUGED
  - NAVD 88 NORTH AMERICAN VERTICAL DATUM OF 1988



FORMER STANDARD OIL BULK PLANT 302095 149 & 167 MAIN STREET MORTON, WASHINGTON	
<b>GROUNDWATER ELEVATION          CONTOUR MAP          JANUARY 10, 2023</b>	
	FIGURE <b>3</b>

C:\Users\shankar\4888\ARCADIS\Environmental\CAD Team - BIM360 - OneDrive Sync Location\AU-S-CHEVRON-302095-MORTON Washington\20230101-Progress\01-DWG\GWM-1SA23-F04-GWA.dwg LAYOUT-4. SAVED: 3/9/2023 10:45 AM ACADVER: 24.1S (LMS TECH) PAGES: 1/1  
 PLOT STYLE TABLE: --- PLOTTED: 3/9/2023 10:45 AM BY: SHANKARAPPA, VASANTH KUMAR  
 XREFS: IMAGES: PROJECTNAME: ---  
 GEN-X-BASE: ARCADIS Logo\_2021.PNG  
 GEN-X-TITLE

MW-7	
Sample Date	1/10/2023
B	<1.00
T	<1.00
E	<1.00
X	<3.00
GRO	<100
DRO	<b>856</b>
DRO w/Si Gel	<200
HRO	418
HRO w/Si Gel	<250

MW-13	
Sample Date	1/10/2023
B	<1.00
T	<1.00
E	<1.00
X	<3.00
GRO	<100
DRO	172 J
DRO w/Si Gel	172 J
HRO	130 J
HRO w/Si Gel	130 J

MW-17	
Sample Date	1/10/2023
B	<1.00 [ <b>&lt;1.00</b> ]
T	<1.00 [ <b>&lt;1.00</b> ]
E	<1.00 [ <b>&lt;1.00</b> ]
X	<3.00 [ <b>&lt;3.00</b> ]
GRO	<100 [ <b>&lt;100</b> ]
DRO	333 [ <b>320</b> ]
DRO w/Si Gel	<200
HRO	220 J [ <b>202 J</b> ]
HRO w/Si Gel	<250

MW-15	
Sample Date	1/10/2023
B	<1.00
T	<1.00
E	<1.00
X	<3.00
GRO	<100
DRO	117 J
DRO w/Si Gel	117 J
HRO	162 J
HRO w/Si Gel	162 J

MW-16	
Sample Date	1/10/2023
B	0.106 J
T	<1.00
E	<1.00
X	<3.00
GRO	185 B
DRO	<b>720</b>
DRO w/Si Gel	143
HRO	237 J
HRO w/Si Gel	<250

- LEGEND:**
- MW-16 GROUNDWATER MONITORING WELL
  - MW-6 ABANDONED OR DESTROYED MONITORING WELL LOCATIONS
  - FENCE LINE
  - RAILROAD TRACKS
  - BOLD** BOLD AND HIGHLIGHTED VALUES ARE GREATER THAN THEIR RESPECTIVE MODEL TOXIC CONTROL ACT (MTCA) METHOD A CLEANUP LEVEL
  - <1.00 NOT DETECTED AT OR ABOVE THE LABORATORY REPORTED DETECTION LIMIT
  - J THE IDENTIFICATION OF THE ANALYTE IS ACCEPTABLE; THE REPORTED VALUE IS AN ESTIMATE
  - B THE SAME ANALYTE IS FOUND IN THE ASSOCIATED BLANK
  - [ ] DUPLICATE SAMPLE RESULTS
  - (NS) NOT SAMPLED

MTCA METHOD A CLEANUP LEVELS		
ABBREVIATION	CONSTITUENT	MTCA METHOD A CLEANUP LEVEL
B	BENZENE	5
T	TOLUENE	1,000
E	ETHYLBENZENE	700
X	TOTAL XYLENES	1,000
GRO	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS	800/1,000
DRO	TOTAL PETROLEUM HYDROCARBONS AS DIESEL RANGE ORGANICS	500
DRO w/ Si Gel	TOTAL PETROLEUM HYDROCARBONS AS DIESEL RANGE ORGANICS WITH SILICA GEL	500
HRO	TOTAL PETROLEUM HYDROCARBONS AS HEAVY OIL RANGE ORGANICS	500
HRO w/ Si Gel	TOTAL PETROLEUM HYDROCARBONS AS HEAVY OIL RANGE ORGANICS WITH SILICA GEL	500



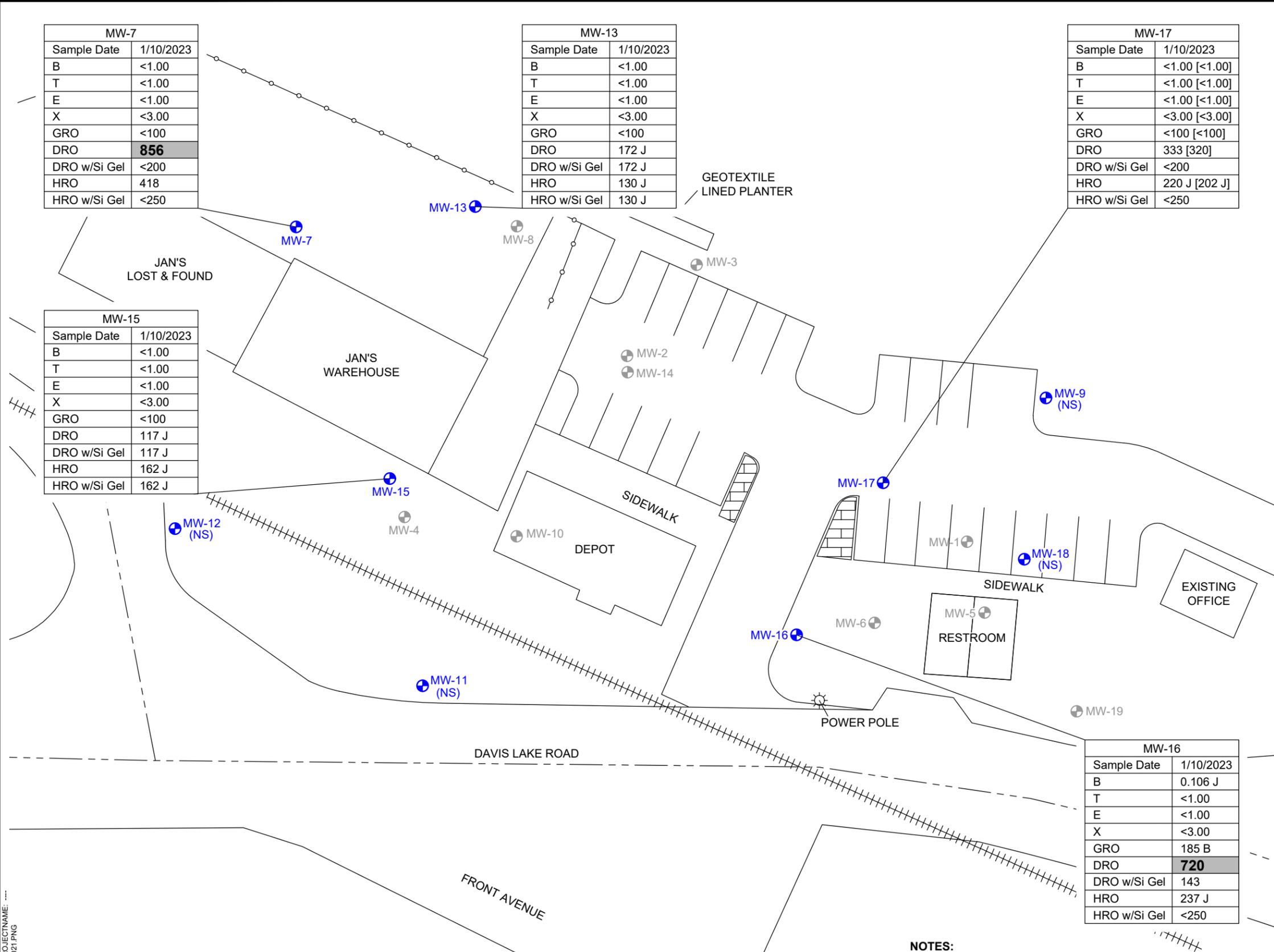
FORMER STANDARD OIL BULK PLANT 302095  
149 & 167 MAIN STREET  
MORTON, WASHINGTON

**GROUNDWATER ANALYTICAL RESULTS  
JANUARY 10, 2023**

**ARCADIS**

FIGURE  
**4**

- NOTES:**
- ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (µg/L).
  - GRO MTCA METHOD A CLEANUP LEVEL IS 800 (µg/L) IF BENZENE PRESENT IN GROUNDWATER AND 1,000 (µg/L) IF NO DETECTABLE BENZENE IN GROUNDWATER.



# ATTACHMENT A

Regulatory Directive, April 24, 2017





STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300  
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

April 24, 2017

Electronic Copy

Mr. Don Wyll  
Principal Project Manager  
Leidos  
18912 North Creek Parkway, Suite 101  
Bothell, WA 98011

Re: Former Chevron Bulk Plant (Wolfe and Parks Property), Morton, Washington.  
Compliance Groundwater Monitoring Modifications Approval Letter.

Dear Mr. Wyll:

I reviewed your proposed modifications to the Compliance Groundwater Monitoring Plan (copy enclosed) for the Former Chevron Bulk Plant (Wolfe and Parks Property) Site located at 149 and 167 Main Street, Morton, Washington. I also reviewed the results of the groundwater monitoring conducted at this Site from 2004 through 2016.

Based on my review of the above information, Ecology is here by approving your request except the abandonment of monitoring wells MW-13 and MW-17. Ecology's approval include the following:

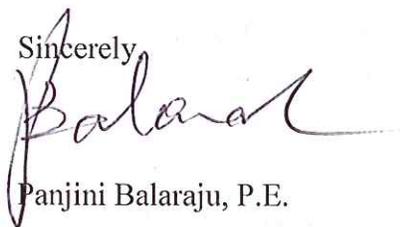
- Reduction in the sampling frequency from quarterly to semi-annual.
- Reduction in the number of monitoring wells from twelve to five (MW-7, MW-11, MW-12, MW-15 and MW-16) for chemical analysis.
- Abandonment of four monitoring wells (MW-14, MW-18, MW-19 and MW-2). Based on the results of groundwater monitoring, Ecology understands that the contaminant concentrations in these wells were either below the laboratory detection limits or below the Model Toxics Control Act (MTCA) Method A cleanup levels since December 2008 (30 rounds of monitoring). Since continued monitoring of these wells will not provide any valuable information, it is Ecology's opinion that it is appropriate to discontinue the monitoring and abandon these wells.

Mr. Don Wyll  
April 24, 2017  
Page 2

- Ecology would like to retain the monitoring wells MW-13 and MW-17 just for water level measurements. Ecology believes that measurement of water level elevations in seven wells (MW-7, MW-11, MW-12, MW-13, MW-15, MW-16 and MW-17) will aid to develop a more accurate groundwater flow direction at the site.
- The two rounds of semi-annual groundwater monitoring must reflect the lowest and highest water level elevations (seasons). Please review the existing water level elevation data and select two rounds (seasons) for reflecting the lowest and highest water level conditions at the Site. These two rounds may coincide with the summer and winter seasons.

If you have any questions, regarding this approval, please call me at (360) 407-6335.

Sincerely,

A handwritten signature in black ink, appearing to read "Panjini Balaraju". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Panjini Balaraju, P.E.

By Certified Mail: [91 7199 9991 7037 0279 7772]

Enclosure: (1)

cc: Central File

# ATTACHMENT B

Field Data Sheets





## Groundwater Gauging Log

<b>Project Number</b>	30063832							
<b>Client:</b>	Chevron							
<b>Site ID:</b>	302095							
<b>Site Location:</b>	Morton, Washington							
<b>Measuring Point:</b>	Top of Casing							
<b>Date(s):</b>	01/10/2023							
<b>Sampler(s):</b>	Lee Bures							
<b>Gauging Equipment:</b>	Water Level Meter							
Well ID	Date	Gauging Time	Static Water Level (ft bmp)	Depth to Product (ft bmp)	Total Depth (ft bmp)	PID Reading (ppm)	LNAPL Removed (gal)	Comments
MW-7	01/10/2023	11:07	3.13	ND	18.95	--	--	--
MW-13	01/10/2023	11:10	2.97	ND	16.52	--	--	--
MW-15	01/10/2023	11:12	1.38	ND	17.35	--	--	--
MW-16	01/10/2023	11:17	2.6	ND	18.62	--	--	--
MW-17	01/10/2023	11:15	2.35	ND	17.95	--	--	--

ft-bmp = feet below measuring point

ND = Not Detected

PID = Photoionization Detector Reading

ppm = parts per million

-- = Not Recorded

<b>Project Number</b>	30063832	<b>Well ID</b>	MW-7	<b>Date</b>	1/10/2023	
<b>Site Location</b>	Morton, Washington	<b>Site ID</b>	302095	<b>Weather (°F)</b>	Cloudy	<b>Sampled by</b> Lee Bures
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	5 to 19	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b> --
<b>Static Water Level (ft-bmp)</b>	3.13	<b>Total Depth (ft-bmp)</b>	18.95	<b>Water Column (ft)</b>	15.82	<b>Gallons in Well</b> 2.57
<b>Water Quality Meter Make/Model</b>	Hach 2100Q, YSI 556 MP5	<b>Purge Method</b>	Low-Flow	<b>Sample Method</b>	Grab	
<b>Sample Time</b>	13:17	<b>Well Volumes Purged</b>	0.31	<b>Sample ID</b>	MW-7-W-20230110	<b>Evacuation Equipment</b> Peristaltic
<b>Purge Start</b>	12:59	<b>Gallons Purged</b>	0.79	<b>Duplicate ID</b>	--	
<b>Purge End</b>	13:14	<b>Total Purge Time (h:m)</b>	0:15			

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
13:02	200	3.95	7.74	0.205	1081	0.08	9.32	254.7	Clear	--
13:05	200	4.27	7.73	0.199	62.0	0.06	9.50	257.1	Clear	--
13:08	200	4.59	7.72	0.198	54.0	0.06	9.03	259.7	Clear	--
13:11	200	4.62	7.73	0.199	52.0	0.07	9.08	263.6	Clear	--
13:14	200	4.65	7.72	0.200	50.0	0.07	9.08	265.4	Clear	--

**Comments:** None

#### Well Casing Volume Conversion

Well diameter (in.) = 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47  
gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

#### Sample Information

Sample ID: MW-7-W-20230110 Sample Time: 13:17 Sample Depth (ft-bmp): 11.13  
Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point  
in. = inches  
ft = feet  
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter  
NTU = Nephelometric Turbidity Unit  
mg/L = milligrams per liter  
PVC = Polyvinyl Chloride

mV = millivolts  
°F = degrees Fahrenheit  
°C = degrees Celsius  
-- = Not Recorded

<b>Project Number</b>	30063832	<b>Well ID</b>	MW-13	<b>Date</b>	1/10/2023	
<b>Site Location</b>	Morton, Washington	<b>Site ID</b>	302095	<b>Weather (°F)</b>	Cloudy	<b>Sampled by</b> Lee Bures
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	3 to 18	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b> --
<b>Static Water Level (ft-bmp)</b>	2.97	<b>Total Depth (ft-bmp)</b>	16.52	<b>Water Column (ft)</b>	13.55	<b>Gallons in Well</b> 2.2
<b>Water Quality Meter Make/Model</b>	Hach 2100Q,YSI 556 MP5	<b>Purge Method</b>	Low-Flow	<b>Sample Method</b>	Grab	
<b>Sample Time</b>	13:46	<b>Well Volumes Purged</b>	0.36	<b>Sample ID</b>	MW-13-W-20230110	<b>Evacuation Equipment</b> Peristaltic
<b>Purge Start</b>	13:29	<b>Gallons Purged</b>	0.79	<b>Duplicate ID</b>	--	
<b>Purge End</b>	13:44	<b>Total Purge Time (h:m)</b>	0:15			

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
13:32	200	2.97	7.77	0.266	332	0.11	10.40	260.7	Clear	--
13:35	200	2.97	7.78	0.271	192	0.56	10.95	284.6	Clear	--
13:38	200	2.97	7.79	0.277	106	0.52	10.75	268.1	Clear	--
13:41	200	2.97	7.79	0.278	97.0	0.50	10.78	263.7	Clear	--
13:44	200	2.97	7.80	0.281	98.0	0.48	10.93	259.4	Clear	--

**Comments:** None

#### Well Casing Volume Conversion

Well diameter (in.) = 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47  
gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

#### Sample Information

Sample ID: MW-13-W-20230110 Sample Time: 13:46 Sample Depth (ft-bmp): 10  
Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point  
in. = inches  
ft = feet  
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter  
NTU = Nephelometric Turbidity Unit  
mg/L = milligrams per liter  
PVC = Polyvinyl Chloride

mV = millivolts  
°F = degrees Fahrenheit  
°C = degrees Celsius  
-- = Not Recorded

<b>Project Number</b>	30063832	<b>Well ID</b>	MW-15	<b>Date</b>	1/10/2023	
<b>Site Location</b>	Morton, Washington	<b>Site ID</b>	302095	<b>Weather (°F)</b>	Cloudy	<b>Sampled by</b> Lee Bures
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	3 to 18	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b> --
<b>Static Water Level (ft-bmp)</b>	1.38	<b>Total Depth (ft-bmp)</b>	17.35	<b>Water Column (ft)</b>	15.97	<b>Gallons in Well</b> 2.59
<b>Water Quality Meter Make/Model</b>	Hach 2100Q,YSI 556 MP5	<b>Purge Method</b>	Low-Flow	<b>Sample Method</b>	Grab	
<b>Sample Time</b>	12:48	<b>Well Volumes Purged</b>	0.31	<b>Sample ID</b>	MW-15-W-20230110	<b>Evacuation Equipment</b> Peristaltic
<b>Purge Start</b>	12:30	<b>Gallons Purged</b>	0.79	<b>Duplicate ID</b>	--	
<b>Purge End</b>	12:45	<b>Total Purge Time (h:m)</b>	0:15			

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
12:33	200	1.45	7.77	0.107	292	0.15	10.56	266.7	Clear	--
12:36	200	1.45	7.76	0.107	168	0.14	10.56	261.3	Clear	--
12:39	200	1.45	7.76	0.107	48.0	0.12	10.58	256.3	Clear	--
12:42	200	1.45	7.76	0.105	46.0	0.12	10.47	251.8	Clear	--
12:45	200	1.45	7.75	0.105	45.0	0.12	10.29	250.6	Clear	--

**Comments:** None

#### Well Casing Volume Conversion

Well diameter (in.) = 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47  
gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

#### Sample Information

Sample ID: MW-15-W-20230110 Sample Time: 12:48 Sample Depth (ft-bmp): 9.38  
Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point  
in. = inches  
ft = feet  
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter  
NTU = Nephelometric Turbidity Unit  
mg/L = milligrams per liter  
PVC = Polyvinyl Chloride

mV = millivolts  
°F = degrees Fahrenheit  
°C = degrees Celsius  
-- = Not Recorded

<b>Project Number</b>	30063832	<b>Well ID</b>	MW-16	<b>Date</b>	1/10/2023	
<b>Site Location</b>	Morton, Washington	<b>Site ID</b>	302095	<b>Weather (°F)</b>	Cloudy	<b>Sampled by</b> Lee Bures
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	3 to 18	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b> --
<b>Static Water Level (ft-bmp)</b>	2.6	<b>Total Depth (ft-bmp)</b>	18.62	<b>Water Column (ft)</b>	16.02	<b>Gallons in Well</b> 2.6
<b>Water Quality Meter Make/Model</b>	Hach 2100Q,YSI 556 MP5	<b>Purge Method</b>	Low-Flow	<b>Sample Method</b>	Grab	
<b>Sample Time</b>	12:16	<b>Well Volumes Purged</b>	0.30	<b>Sample ID</b>	MW-16-W-20230110	<b>Evacuation Equipment</b> Peristaltic
<b>Purge Start</b>	11:58	<b>Gallons Purged</b>	0.79	<b>Duplicate ID</b>	--	
<b>Purge End</b>	12:13	<b>Total Purge Time (h:m)</b>	0:15			

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
12:01	200	2.65	7.64	0.425	52.0	0.06	9.98	281	Clear	--
12:04	200	2.68	7.66	0.429	60.0	0.08	10.85	262	Clear	--
12:07	200	2.77	7.71	0.432	85.0	0.07	11.27	252.2	Clear	--
12:10	200	2.77	7.76	0.433	84.0	0.06	11.34	245.6	Clear	--
12:13	200	2.77	7.78	0.430	84.0	0.05	11.28	242.5	Clear	--

**Comments:** None

#### Well Casing Volume Conversion

Well diameter (in.) = 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47  
gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

#### Sample Information

Sample ID: MW-16-W-20230110 Sample Time: 12:16 Sample Depth (ft-bmp): 10.6  
Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point  
in. = inches  
ft = feet  
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter  
NTU = Nephelometric Turbidity Unit  
mg/L = milligrams per liter  
PVC = Polyvinyl Chloride

mV = millivolts  
°F = degrees Fahrenheit  
°C = degrees Celsius  
-- = Not Recorded

<b>Project Number</b>	30063832	<b>Well ID</b>	MW-17	<b>Date</b>	1/10/2023	
<b>Site Location</b>	Morton, Washington	<b>Site ID</b>	302095	<b>Weather (°F)</b>	Cloudy	<b>Sampled by</b> Lee Bures
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	3 to 18	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b> --
<b>Static Water Level (ft-bmp)</b>	2.35	<b>Total Depth (ft-bmp)</b>	17.95	<b>Water Column (ft)</b>	15.60	<b>Gallons in Well</b> 2.53
<b>Water Quality Meter Make/Model</b>	Hach 2100Q,YSI 556 MP5	<b>Purge Method</b>	Low-Flow	<b>Sample Method</b>	Grab	
<b>Sample Time</b>	11:41	<b>Well Volumes Purged</b>	0.31	<b>Sample ID</b>	MW-17-W-20230110	<b>Evacuation Equipment</b> Peristaltic
<b>Purge Start</b>	11:23	<b>Gallons Purged</b>	0.79	<b>Duplicate ID</b>	BD-W-20230110	
<b>Purge End</b>	11:38	<b>Total Purge Time (h:m)</b>	0:15			

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
11:26	200	2.43	7.58	0.618	8.0	0.12	9.03	276.3	Clear	--
11:29	200	2.45	7.59	0.577	10.0	0.09	9.31	270.5	Clear	--
11:32	200	2.48	7.60	0.563	10.0	0.07	9.39	267.4	Clear	--
11:35	200	2.52	7.59	0.563	10.0	0.06	9.59	264.1	Clear	--
11:38	200	2.54	7.60	0.563	11.0	0.06	9.55	260.4	Clear	--

**Comments:** None

#### Well Casing Volume Conversion

Well diameter (in.) = 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47  
gallons per foot 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

#### Sample Information

Sample ID: MW-17-W-20230110 Sample Time: 11:41 Sample Depth (ft-bmp): 10.35  
Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point  
in. = inches  
ft = feet  
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter  
NTU = Nephelometric Turbidity Unit  
mg/L = milligrams per liter  
PVC = Polyvinyl Chloride

mV = millivolts  
°F = degrees Fahrenheit  
°C = degrees Celsius  
-- = Not Recorded

Company Name/Address: **Arcadis - Chevron - WA**  
 1100 Olive Way  
 Suite 800  
 Seattle, WA 98101  
 Report to: **Sydney Clark**  
 Project Description: **302095**  
 Phone: **206-325-5254**

Billing Information:  
 Attn: Accounts Payable  
 630 Plaza Dr., Ste. 600  
 Highlands Ranch, CO 80129  
 Email To: **sydney.clark@arcadis.com; Steve.Mahony@arca**  
 City/State: **Morton, WA**  
 Client Project #: **30063832**  
 Lab Project #: **CHEVARCWA-302095**  
 Site/Facility ID #: **MAIN AVE, MORTON, WA**  
 Quote #: **Christina Mroz**  
 P.O. #

Release Circle: **MT CT ET**  
 Rush? (Lab MUST Be Notified)  
 \_\_\_ Same Day \_\_\_ Five Day  
 \_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
 \_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
 \_\_\_ Three Day  
 Immediately Packed on Ice **N** Y **X**  
 Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
MW-7-w-20230110	Grab	GW	-	1/10/23	1317	8
MW-13-w-20230110		GW	-		1346	8
MW-15-w-20230110		GW	-		1248	8
MW-16-w-20230110		GW	-		1216	8
MW-17-w-20230110		GW	-		1141	8
BD-w-20230110		GW	-		1200	8
TB-w-20230110		GW	-		0800	2

Remarks:  
 \* Matrix: SS - Soil, AIR - Air, F - Filter, GW - Groundwater, B - Blossay, WW - WasteWater, DW - Drinking Water, OT - Other  
 Relinquished by: (Signature)   
 Relinquished by: (Signature)  
 Relinquished by: (Signature)

Analysis / Container / Preservative

Analysis / Container / Preservative	Pres Chk
BTEX 8260B 40mlamb-HCl	X
NWTFHDX no silica 40mlamb-HCl-BT	X
NWTFHGX 40mlamb HCl	X

Sample Receipt Checklist  
 COC Seal Present/Intact: Y N  
 COC Signed/Accurate: Y N  
 Bottles arrive intact: Y N  
 Correct bottles used: Y N  
 Sufficient volume sent: Y N  
 If Applicable  
 VOA Zero Headspace: Y N  
 Preservation Correct/Checked: Y N  
 RAD Screen <0.5 mR/hr: Y N

Temp: \_\_\_\_\_ °C  
 pH: \_\_\_\_\_  
 Flow: \_\_\_\_\_ Other: \_\_\_\_\_

Trip Blank Received: Yes / No  
 HCL / MeOH  
 TBR  
 Bottles Received: \_\_\_\_\_  
 Temp: \_\_\_\_\_ °C  
 Date: \_\_\_\_\_

Tracking # \_\_\_\_\_  
 Received by: (Signature) \_\_\_\_\_  
 Received by: (Signature) \_\_\_\_\_  
 Received for lab by: (Signature) \_\_\_\_\_

Condition: NCF / OK

# WELLHEAD INSPECTION FORM

Client: Arcadis Site: 149 & 167 Main St., Morton, WA Date: 01/10/22  
 Job #: 230110-CMI Technician: CM Page 1 of 1

Well ID	Well Inspected - No Corrective Action Required	Check indicates deficiency											Well Not Inspected (explain in notes)	Notes <small>(list if cap or lick replaced, if there are access issues associated with repairs, if traffic control is required, if stand pipe damaged, or any specific details not covered by checklist)</small>		
		Cap non-functional	Lock non-functional	Lock missing	Bolts missing (list qty)	Tabs stripped (list qty)	Tabs broken (list qty)	Annular seal incomplete	Apron damaged	Rim / Lid broken	Trip Hazard	Below Grade			Other (explain in notes)	
MW-7				X												
MW-11																unable to locate
MW-12																unable to locate
MW-13				X	2/3											
MW-15				X	1/3											
MW-16				X	2/3											
MW-17				X												

NOTES: \_\_\_\_\_





Blaine Tech Services, Inc.

### Permit To Work for Chevron EMC Sites

Client: Arcadis Date 1/10/23  
 Site Address: 149 + 167 main St Morton WA  
 Job Number: 230110-cm1 Technician(s): CM + DO

#### Pre-Job Safety Review

1. JMP reviewed, site restrictions and parking/access issues addressed. Reviewed:

#### 2. Special Permit Required Task Review

Are there any conditions or tasks that would require:

	Yes	No
Confined space entry	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Working at height	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Lock-out/Tag-out	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Excavations greater than 4 feet deep	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Excavations within 3 feet of a buried active electrical line or product piping or within 10 feet of a high pressure gas line.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Use of overhead equipment within 15 feet of an overhead electrical power line or pole supporting one	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hot work	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If "Yes" was the answer to any of the Special Permit Required Tasks above, the Project Manager will contact the client and arrange to modify the Scope of Work so that the Special Permit Required Tasks are not required to be performed by Blaine Tech Services employees.

#### 3. Is a Traffic Control Permit required for today's work?

	Yes	No
Is it in the folder?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is it current?	<input type="checkbox"/>	<input type="checkbox"/>
Do you understand the Traffic Control Plan and what equipment you will need?	<input type="checkbox"/>	<input type="checkbox"/>

#### On site Pre-Job Safety Review

1. Reviewed and signed the site specific HASP.
2. Route to hospital understood.
3. Reviewed "Groundwater Monitoring Well Sampling General Job Safety Analysis included in the HASP.
4. Exceptional circumstances today that are not covered by the HASP, JSA or JMP have been addressed and mitigated.
5. Understands procedure to follow, if site circumstances change, to address new site hazards.
6. There are no unexpected conditions which would make your task a Special Permit Required Task. If there is, contact your Project Manager.
7. All site hazards have been communicated to all necessary onsite personnel during tailgate safety meeting.
8. After lunch tailgate safety meeting refresher conducted.

If Checklist Task cannot be completed, explain:

Permit To Work Authority: CHRISTHAMROZ Field Tech 1/10/23 0643  
 Name Title Date Time

# ATTACHMENT C

Laboratory Report and Chain-of-Custody Documentation





## Arcadis - Chevron - WA

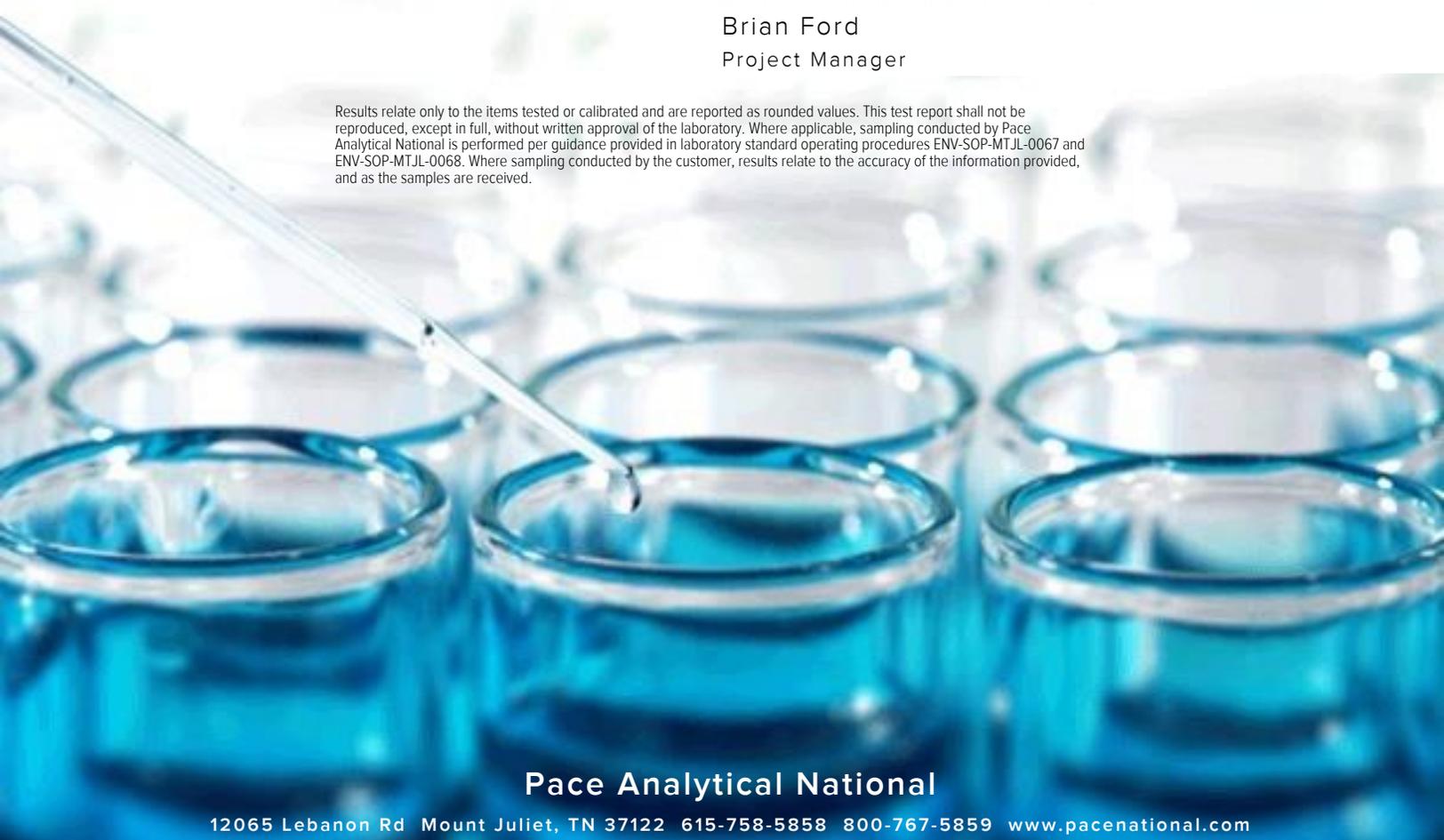
Sample Delivery Group: L1575345  
Samples Received: 01/12/2023  
Project Number: 30063832  
Description: 302095  
Site: MAIN AVE, MORTON, WA 98356  
Report To: Sydney Clark  
1100 Olive Way  
Suite 800  
Seattle, WA 98101

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.

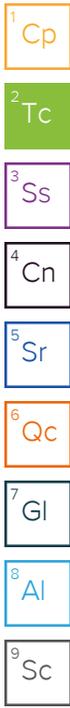


Pace Analytical National

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

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# SAMPLE SUMMARY

## MW-7-W-20230110 L1575345-01 GW

Collected by Christina Mroz  
 Collected date/time 01/10/23 13:17  
 Received date/time 01/12/23 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1988388	1	01/13/23 18:02	01/13/23 18:02	JTO	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1988309	1	01/13/23 16:01	01/13/23 16:01	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1987965	1	01/13/23 07:57	01/14/23 00:56	MWS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1989513	1	01/13/23 08:00	01/17/23 15:52	MAA	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## MW-13-W-20230110 L1575345-02 GW

Collected by Christina Mroz  
 Collected date/time 01/10/23 13:46  
 Received date/time 01/12/23 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1988388	1	01/13/23 18:24	01/13/23 18:24	JTO	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1988309	1	01/13/23 16:22	01/13/23 16:22	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1988496	1	01/16/23 13:45	01/16/23 23:02	DMG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1988498	1	01/16/23 13:59	01/16/23 23:02	DMG	Mt. Juliet, TN

## MW-15-W-20230110 L1575345-03 GW

Collected by Christina Mroz  
 Collected date/time 01/10/23 12:48  
 Received date/time 01/12/23 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1988388	1	01/13/23 18:46	01/13/23 18:46	JTO	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1988309	1	01/13/23 16:42	01/13/23 16:42	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1988496	1	01/16/23 13:45	01/16/23 23:22	DMG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1988498	1	01/16/23 13:59	01/16/23 23:22	DMG	Mt. Juliet, TN

## MW-16-W-20230110 L1575345-04 GW

Collected by Christina Mroz  
 Collected date/time 01/10/23 12:16  
 Received date/time 01/12/23 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1988388	1	01/13/23 19:08	01/13/23 19:08	JTO	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1988309	1	01/13/23 17:03	01/13/23 17:03	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1988496	1	01/16/23 13:45	01/16/23 23:42	DMG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1988498	1	01/16/23 13:59	01/17/23 10:28	DMG	Mt. Juliet, TN

## MW-17-W-20230110 L1575345-05 GW

Collected by Christina Mroz  
 Collected date/time 01/10/23 11:41  
 Received date/time 01/12/23 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1988388	1	01/13/23 19:30	01/13/23 19:30	JTO	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1988309	1	01/13/23 17:24	01/13/23 17:24	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1988496	1	01/16/23 13:45	01/17/23 00:03	DMG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1988498	1	01/16/23 13:59	01/17/23 10:52	DMG	Mt. Juliet, TN

## BD-W-20230110 L1575345-06 GW

Collected by Christina Mroz  
 Collected date/time 01/10/23 12:00  
 Received date/time 01/12/23 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1988388	1	01/13/23 19:52	01/13/23 19:52	JTO	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1988309	1	01/13/23 17:44	01/13/23 17:44	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1988496	1	01/16/23 13:45	01/17/23 00:23	DMG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT	WG1988498	1	01/16/23 13:59	01/17/23 11:15	DMG	Mt. Juliet, TN

# SAMPLE SUMMARY

TB-W-20230110 L1575345-07 GW

Collected by: Christina Mroz  
 Collected date/time: 01/10/23 08:00  
 Received date/time: 01/12/23 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1988388	1	01/13/23 15:29	01/13/23 15:29	JTO	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1988309	1	01/13/23 12:57	01/13/23 12:57	ADM	Mt. Juliet, TN

- <sup>1</sup>Cp
- <sup>2</sup>Tc
- <sup>3</sup>Ss
- <sup>4</sup>Cn
- <sup>5</sup>Sr
- <sup>6</sup>Qc
- <sup>7</sup>Gl
- <sup>8</sup>Al
- <sup>9</sup>Sc

# 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

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

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	01/13/2023 18:02	<a href="#">WG1988388</a>
(S) a,a,a-Trifluorotoluene(FID)	107			78.0-120		01/13/2023 18:02	<a href="#">WG1988388</a>

- 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 date / time	Batch
Benzene	U		0.0941	1.00	1	01/13/2023 16:01	<a href="#">WG1988309</a>
Toluene	U		0.278	1.00	1	01/13/2023 16:01	<a href="#">WG1988309</a>
Ethylbenzene	U		0.137	1.00	1	01/13/2023 16:01	<a href="#">WG1988309</a>
Total Xylenes	U		0.174	3.00	1	01/13/2023 16:01	<a href="#">WG1988309</a>
(S) Toluene-d8	104			80.0-120		01/13/2023 16:01	<a href="#">WG1988309</a>
(S) 4-Bromofluorobenzene	94.6			77.0-126		01/13/2023 16:01	<a href="#">WG1988309</a>
(S) 1,2-Dichloroethane-d4	91.2			70.0-130		01/13/2023 16:01	<a href="#">WG1988309</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	856		66.7	200	1	01/14/2023 00:56	<a href="#">WG1987965</a>
Residual Range Organics (RRO)	418		83.3	250	1	01/14/2023 00:56	<a href="#">WG1987965</a>
(S) o-Terphenyl	97.4			52.0-156		01/14/2023 00:56	<a href="#">WG1987965</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		66.7	200	1	01/17/2023 15:52	<a href="#">WG1989513</a>
Residual Range Organics (RRO)	U		83.3	250	1	01/17/2023 15:52	<a href="#">WG1989513</a>
(S) o-Terphenyl	90.0			52.0-156		01/17/2023 15:52	<a href="#">WG1989513</a>

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	01/13/2023 18:24	<a href="#">WG1988388</a>
(S) a,a,a-Trifluorotoluene(FID)	110			78.0-120		01/13/2023 18:24	<a href="#">WG1988388</a>

- 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 ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0941	1.00	1	01/13/2023 16:22	<a href="#">WG1988309</a>
Toluene	U		0.278	1.00	1	01/13/2023 16:22	<a href="#">WG1988309</a>
Ethylbenzene	U		0.137	1.00	1	01/13/2023 16:22	<a href="#">WG1988309</a>
Total Xylenes	U		0.174	3.00	1	01/13/2023 16:22	<a href="#">WG1988309</a>
(S) Toluene-d8	101			80.0-120		01/13/2023 16:22	<a href="#">WG1988309</a>
(S) 4-Bromofluorobenzene	93.0			77.0-126		01/13/2023 16:22	<a href="#">WG1988309</a>
(S) 1,2-Dichloroethane-d4	91.4			70.0-130		01/13/2023 16:22	<a href="#">WG1988309</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	172	J	66.7	200	1	01/16/2023 23:02	<a href="#">WG1988496</a>
Residual Range Organics (RRO)	130	J	83.3	250	1	01/16/2023 23:02	<a href="#">WG1988496</a>
(S) o-Terphenyl	88.5			52.0-156		01/16/2023 23:02	<a href="#">WG1988496</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	172	J	66.7	200	1	01/16/2023 23:02	<a href="#">WG1988498</a>
Residual Range Organics (RRO)	130	J	83.3	250	1	01/16/2023 23:02	<a href="#">WG1988498</a>
(S) o-Terphenyl	88.5			52.0-156		01/16/2023 23:02	<a href="#">WG1988498</a>

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	01/13/2023 18:46	<a href="#">WG1988388</a>
(S) a,a,a-Trifluorotoluene(FID)	107			78.0-120		01/13/2023 18:46	<a href="#">WG1988388</a>

1 Cp

2 Tc

3 Ss

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0941	1.00	1	01/13/2023 16:42	<a href="#">WG1988309</a>
Toluene	U		0.278	1.00	1	01/13/2023 16:42	<a href="#">WG1988309</a>
Ethylbenzene	U		0.137	1.00	1	01/13/2023 16:42	<a href="#">WG1988309</a>
Total Xylenes	U		0.174	3.00	1	01/13/2023 16:42	<a href="#">WG1988309</a>
(S) Toluene-d8	103			80.0-120		01/13/2023 16:42	<a href="#">WG1988309</a>
(S) 4-Bromofluorobenzene	92.0			77.0-126		01/13/2023 16:42	<a href="#">WG1988309</a>
(S) 1,2-Dichloroethane-d4	92.1			70.0-130		01/13/2023 16:42	<a href="#">WG1988309</a>

4 Cn

5 Sr

6 Qc

7 Gl

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	117	J	66.7	200	1	01/16/2023 23:22	<a href="#">WG1988496</a>
Residual Range Organics (RRO)	162	J	83.3	250	1	01/16/2023 23:22	<a href="#">WG1988496</a>
(S) o-Terphenyl	85.0			52.0-156		01/16/2023 23:22	<a href="#">WG1988496</a>

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	117	J	66.7	200	1	01/16/2023 23:22	<a href="#">WG1988498</a>
Residual Range Organics (RRO)	162	J	83.3	250	1	01/16/2023 23:22	<a href="#">WG1988498</a>
(S) o-Terphenyl	85.0			52.0-156		01/16/2023 23:22	<a href="#">WG1988498</a>

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	185	<u>B</u>	31.6	100	1	01/13/2023 19:08	<a href="#">WG1988388</a>
(S) a,a,a-Trifluorotoluene(FID)	106			78.0-120		01/13/2023 19:08	<a href="#">WG1988388</a>

1 Cp

2 Tc

3 Ss

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	0.106	<u>J</u>	0.0941	1.00	1	01/13/2023 17:03	<a href="#">WG1988309</a>
Toluene	U		0.278	1.00	1	01/13/2023 17:03	<a href="#">WG1988309</a>
Ethylbenzene	U		0.137	1.00	1	01/13/2023 17:03	<a href="#">WG1988309</a>
Total Xylenes	U		0.174	3.00	1	01/13/2023 17:03	<a href="#">WG1988309</a>
(S) Toluene-d8	102			80.0-120		01/13/2023 17:03	<a href="#">WG1988309</a>
(S) 4-Bromofluorobenzene	92.1			77.0-126		01/13/2023 17:03	<a href="#">WG1988309</a>
(S) 1,2-Dichloroethane-d4	94.8			70.0-130		01/13/2023 17:03	<a href="#">WG1988309</a>

4 Cn

5 Sr

6 Qc

7 Gl

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	720		66.7	200	1	01/16/2023 23:42	<a href="#">WG1988496</a>
Residual Range Organics (RRO)	237	<u>J</u>	83.3	250	1	01/16/2023 23:42	<a href="#">WG1988496</a>
(S) o-Terphenyl	87.5			52.0-156		01/16/2023 23:42	<a href="#">WG1988496</a>

8 Al

9 Sc

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	143	<u>J</u>	66.7	200	1	01/17/2023 10:28	<a href="#">WG1988498</a>
Residual Range Organics (RRO)	U		83.3	250	1	01/17/2023 10:28	<a href="#">WG1988498</a>
(S) o-Terphenyl	81.5			52.0-156		01/17/2023 10:28	<a href="#">WG1988498</a>

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	01/13/2023 19:30	<a href="#">WG1988388</a>
(S) a,a,a-Trifluorotoluene(FID)	110			78.0-120		01/13/2023 19:30	<a href="#">WG1988388</a>

- 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 ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0941	1.00	1	01/13/2023 17:24	<a href="#">WG1988309</a>
Toluene	U		0.278	1.00	1	01/13/2023 17:24	<a href="#">WG1988309</a>
Ethylbenzene	U		0.137	1.00	1	01/13/2023 17:24	<a href="#">WG1988309</a>
Total Xylenes	U		0.174	3.00	1	01/13/2023 17:24	<a href="#">WG1988309</a>
(S) Toluene-d8	104			80.0-120		01/13/2023 17:24	<a href="#">WG1988309</a>
(S) 4-Bromofluorobenzene	93.8			77.0-126		01/13/2023 17:24	<a href="#">WG1988309</a>
(S) 1,2-Dichloroethane-d4	99.2			70.0-130		01/13/2023 17:24	<a href="#">WG1988309</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	333		66.7	200	1	01/17/2023 00:03	<a href="#">WG1988496</a>
Residual Range Organics (RRO)	220	J	83.3	250	1	01/17/2023 00:03	<a href="#">WG1988496</a>
(S) o-Terphenyl	94.0			52.0-156		01/17/2023 00:03	<a href="#">WG1988496</a>

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		66.7	200	1	01/17/2023 10:52	<a href="#">WG1988498</a>
Residual Range Organics (RRO)	U		83.3	250	1	01/17/2023 10:52	<a href="#">WG1988498</a>
(S) o-Terphenyl	82.0			52.0-156		01/17/2023 10:52	<a href="#">WG1988498</a>

## 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	01/13/2023 19:52	<a href="#">WG1988388</a>
(S) a,a,a-Trifluorotoluene(FID)	110			78.0-120		01/13/2023 19:52	<a href="#">WG1988388</a>

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0941	1.00	1	01/13/2023 17:44	<a href="#">WG1988309</a>
Toluene	U		0.278	1.00	1	01/13/2023 17:44	<a href="#">WG1988309</a>
Ethylbenzene	U		0.137	1.00	1	01/13/2023 17:44	<a href="#">WG1988309</a>
Total Xylenes	U		0.174	3.00	1	01/13/2023 17:44	<a href="#">WG1988309</a>
(S) Toluene-d8	103			80.0-120		01/13/2023 17:44	<a href="#">WG1988309</a>
(S) 4-Bromofluorobenzene	95.4			77.0-126		01/13/2023 17:44	<a href="#">WG1988309</a>
(S) 1,2-Dichloroethane-d4	98.4			70.0-130		01/13/2023 17:44	<a href="#">WG1988309</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	320		66.7	200	1	01/17/2023 00:23	<a href="#">WG1988496</a>
Residual Range Organics (RRO)	202	J	83.3	250	1	01/17/2023 00:23	<a href="#">WG1988496</a>
(S) o-Terphenyl	87.5			52.0-156		01/17/2023 00:23	<a href="#">WG1988496</a>

## Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		66.7	200	1	01/17/2023 11:15	<a href="#">WG1988498</a>
Residual Range Organics (RRO)	U		83.3	250	1	01/17/2023 11:15	<a href="#">WG1988498</a>
(S) o-Terphenyl	85.0			52.0-156		01/17/2023 11:15	<a href="#">WG1988498</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	01/13/2023 15:29	<a href="#">WG1988388</a>
(S) a,a,a-Trifluorotoluene(FID)	107			78.0-120		01/13/2023 15:29	<a href="#">WG1988388</a>

- 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 ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0941	1.00	1	01/13/2023 12:57	<a href="#">WG1988309</a>
Toluene	U		0.278	1.00	1	01/13/2023 12:57	<a href="#">WG1988309</a>
Ethylbenzene	U		0.137	1.00	1	01/13/2023 12:57	<a href="#">WG1988309</a>
Total Xylenes	U		0.174	3.00	1	01/13/2023 12:57	<a href="#">WG1988309</a>
(S) Toluene-d8	103			80.0-120		01/13/2023 12:57	<a href="#">WG1988309</a>
(S) 4-Bromofluorobenzene	93.8			77.0-126		01/13/2023 12:57	<a href="#">WG1988309</a>
(S) 1,2-Dichloroethane-d4	92.6			70.0-130		01/13/2023 12:57	<a href="#">WG1988309</a>

Method Blank (MB)

(MB) R3881419-2 01/13/23 12:45

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	65.8	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	104			78.0-120

Laboratory Control Sample (LCS)

(LCS) R3881419-1 01/13/23 11:17

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5870	107	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			102	78.0-120	

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

Method Blank (MB)

(MB) R3880881-2 01/13/23 12:16

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.0941	1.00
Toluene	U		0.278	1.00
Ethylbenzene	U		0.137	1.00
Xylenes, Total	U		0.174	3.00
<i>(S) Toluene-d8</i>	102			80.0-120
<i>(S) 4-Bromofluorobenzene</i>	92.3			77.0-126
<i>(S) 1,2-Dichloroethane-d4</i>	93.4			70.0-130

Laboratory Control Sample (LCS)

(LCS) R3880881-1 01/13/23 11:00

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	5.00	5.56	111	70.0-123	
Toluene	5.00	5.75	115	79.0-120	
Ethylbenzene	5.00	5.85	117	79.0-123	
Xylenes, Total	15.0	17.3	115	79.0-123	
<i>(S) Toluene-d8</i>			102	80.0-120	
<i>(S) 4-Bromofluorobenzene</i>			98.6	77.0-126	
<i>(S) 1,2-Dichloroethane-d4</i>			93.8	70.0-130	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3881035-1 01/13/23 19:34

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
<i>(S) o-Terphenyl</i>	92.1			52.0-156

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

(LCS) R3881035-2 01/13/23 19:57 • (LCSD) R3881035-3 01/13/23 20:20

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Diesel Range Organics (DRO)	1430	1430	1520	100	106	50.0-150			6.10	20
<i>(S) o-Terphenyl</i>				114	118	52.0-156				

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

Method Blank (MB)

(MB) R3881547-1 01/16/23 19:12

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
<i>(S) o-Terphenyl</i>	94.0			52.0-156

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

(LCS) R3881547-2 01/16/23 19:32 • (LCSD) R3881547-3 01/16/23 19:53

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 %
Diesel Range Organics (DRO)	1500	1650	1740	110	116	50.0-150			5.31	20
<i>(S) o-Terphenyl</i>				75.0	75.5	52.0-156				

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

Method Blank (MB)

(MB) R3881548-1 01/16/23 20:13

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
<i>(S) o-Terphenyl</i>	79.5			52.0-156

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

(LCS) R3881548-2 01/16/23 20:33 • (LCSD) R3881548-3 01/16/23 20:53

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 %
Diesel Range Organics (DRO)	1500	1370	1410	91.3	94.0	50.0-150			2.88	20
<i>(S) o-Terphenyl</i>				80.0	79.5	52.0-156				

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

Method Blank (MB)

(MB) R3881872-1 01/17/23 14:51

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Diesel Range Organics (DRO)	U		66.7	200
Residual Range Organics (RRO)	U		83.3	250
<i>(S) o-Terphenyl</i>	86.5			52.0-156

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

(LCS) R3881872-2 01/17/23 15:11 • (LCSD) R3881872-3 01/17/23 15:31

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 %
Diesel Range Organics (DRO)	1500	1290	1480	86.0	98.7	50.0-150			13.7	20
<i>(S) o-Terphenyl</i>				82.0	90.5	52.0-156				

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

# GLOSSARY OF TERMS

## Guide to Reading and Understanding Your Laboratory Report

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

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

### Abbreviations and Definitions

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

### Qualifier Description

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

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# 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 <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	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 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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.

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

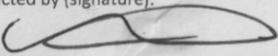
<sup>5</sup> Sr

<sup>6</sup> Qc

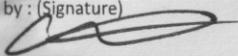
<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Company Name/Address: <b>Arcadis - Chevron - WA</b> 1100 Olive Way Suite 800 Seattle, WA 98101		Billing Information: Attn: Accounts Payable 630 Plaza Dr., Ste. 600 Highlands Ranch, CO 80129		Pres Chk		Analysis / Container / Preservative						Chain of Custody Page <u>1</u> of <u>1</u>				
Report to: <b>Sydney Clark</b>		Email To: sydney.clark@arcadis.com; Steve.Mahony@arca										 <b>MT JULIET, TN</b> 12065 Lebanon Rd Mount Juliet, TN 37122 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <a href="https://info.pacelabs.com/hubs/pas-standard-terms.pdf">https://info.pacelabs.com/hubs/pas-standard-terms.pdf</a>				
Project Description: 302095		City/State Collected: <b>Morton, WA</b>		Please Circle: <input checked="" type="radio"/> MT <input type="radio"/> CT <input type="radio"/> ET								SDG # <b>L 1575345</b> <b>D179</b>				
Phone: 206-325-5254		Client Project # 30063832		Lab Project # CHEVARCWA-302095								Acctnum: <b>CHEVARCWA</b> Template: <b>T212924</b> Prelogin: <b>P938053</b> PM: <b>110 - Brian Ford</b> PB:				
Collected by (print): <b>Christina Mroz</b>		Site/Facility ID # MAIN AVE, MORTON, WA		P.O. #								Shipped Via:				
Collected by (signature): 		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote #								Remarks Sample # (lab only)				
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>				Date Results Needed												
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	BTEX 8260D 40ml/Amb-HCl	NWTPHDX no silica 40ml/Amb-HCl-BT	NWTPHGX 40ml/Amb HCl						
mw-7-w-20230110		Grab	GW	-	1/10/23	1317	8	X	X	X						
mw-13-w-20230110		↓	GW	-	↓	1346	8	X	X	X						
mw-15-w-20230110		↓	GW	-	↓	1248	8	X	X	X						
mw-16-w-20230110		↓	GW	-	↓	1216	8	X	X	X						
mw-17-w-20230110		↓	GW	-	↓	1141	8	X	X	X						
BD-w-20230110		↓	GW	-	↓	1260	8	X	X	X						
TB-w-20230110		↓	GW	-	↓	0800	2	X		X						
			GW													

add DX with SGT per request of Sydney Clark-bjf 01/13/23.

* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other		Remarks:		pH _____ Temp _____ Flow _____ Other _____		Sample Receipt Checklist COC Seal Present/Intact: <input type="checkbox"/> NP <input checked="" type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input type="checkbox"/> Y <input type="checkbox"/> N RAD Screen <0.5 mR/hr: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N						
Relinquished by: (Signature) 		Date: 1/12/23	Time: 1200	Received by: (Signature) Shipped via Fed Ex 2		Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> HCl / MeOH <input type="checkbox"/> TBR				
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)		Temp: 2.6 + 0 = 2.6		Bottles Received: 48		If preservation required by Login: Date/Time		
Relinquished by: (Signature)		Date:	Time:	Received for lab by: (Signature) Haylee J		Date: 1/12/23		Time: 840		Hold:		Condition: NCF <input checked="" type="checkbox"/> OK

