



SEMI-ANNUAL STATUS REPORT

First Half 2022

April 14, 2022

Facility No:	<u>Former Standard Oil Bulk Plant No. 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>Panjini Balaraju Washington State Department of Ecology Southwest Regional Office, Toxics Cleanup Program Enforcement Order No. DE 3683 Facility Site ID: 7937547 CSID: 342</u>		

WORK CONDUCTED THIS PERIOD [First Half 2022]:

1. Conducted semi-annual groundwater monitoring and sampling on January 10, 2022.
2. Prepared the *Semi-Annual Status Report, First Half 2022* (this document).

WORK PROPOSED NEXT PERIOD [Second Half 2022]:

1. Conduct semi-annual groundwater monitoring and sampling during the second quarter of 2022.
2. Prepare the *Semi-Annual Status Report, second Half 2022*.

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>1.18 to 2.20</u>	(feet below top of casing)
Approximate Groundwater Elevation:	<u>947.69 to 949.51</u>	(feet above NAVD 88)
Groundwater Flow Direction	<u>South-southeast</u>	

Groundwater Gradient	0.009	(feet per foot)
Current Remediation Techniques:	None	
Permits for Discharge:	Not Applicable	
Summary of Unusual Activity:	Unable to locate Monitoring wells MW-11, MW-12, and MW-13 due to snow.	
Agency Directive Requirements:	See Attachment A	

DISCUSSION

Arcadis U.S. Inc's (Arcadis), subcontractor (Blaine Tech Services) conducted semi-annual groundwater monitoring activities on January 10, 2022. 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-11, MW-12, MW-15, and MW-16. Wells MW-13 and MW-17 are only gauged during each event. During the January 2022 sampling event, monitoring wells MW-11, MW-12, and MW-13 were covered by snow 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 recorded 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 (TPH-GRO) by Northwest Method NWTPH-Gx
- Total petroleum hydrocarbons as diesel range organics (TPH-DRO) and total petroleum hydrocarbons as heavy oil range organics (TPH-HRO) by Northwest NWTPH-Dx
- TPH-DRO and TPH-HRO 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-7 for data quality assurance.

A site location map and a site plan are shown on Figures 1 and 2, respectively. Groundwater gauging data and analytical results are presented in Table 1. The calculated groundwater flow direction is to the south-southeast with a hydraulic gradient of 0.0.009 feet/foot. Historically, groundwater flow direction at the site has been predominately to the 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. Analytical results for the collected groundwater samples are summarized below:

Site constituents of concern (COCs) were either detected at concentrations 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:

- Monitoring well MW-7 and MW-16 exceeded the MTCA Method A CUL (500 micrograms per liter [$\mu\text{g/L}$]) for TPH-DRO at detected concentrations of 813 and 665 $\mu\text{g/L}$, respectively.
- Monitoring well MW-7 exceeded the MTCA Method A CUL (500 micrograms per liter $\mu\text{g/L}$) for TPH-HRO at a detected of 566 $\mu\text{g/L}$.
- Benzene, toluene, ethylbenzene, and total xylenes were not detected at or above the laboratory reporting limit in the five wells sampled.

Wells MW-7 and MW-16 were additionally analyzed for TPH-DRO and TPH-HRO using the silica gel clean up sample preparation method. Results for TPH-DRO and TPH-HRO using silica gel cleanup were either not detected at concentrations exceeding the laboratory reporting limit, or were detected at concentrations less than MTCA Method A CULs.

Groundwater analytical results for the first semi-annual sampling event of 2022 are summarized on Figure 4. The analytical laboratory report and chain-of-custody documentation are provided in Attachment C.

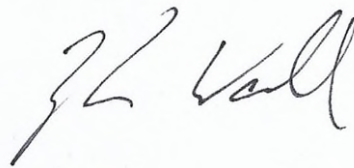
LIMITATIONS

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: April 14, 2022

Carl Donovan
Project Manager



Date: April 14, 2022

Zackary Wall, L.G.
Licensed Geologist



ZACKARY S WALL

ATTACHMENTS:

Table 1	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, 2022
Figure 4	Groundwater Analytical Map, January 10, 2022
Attachment A	Regulatory Directive, April 24, 2017
Attachment B	Field Data Sheets
Attachment C	Laboratory Report and Chain-of-Custody Documentation

TABLE



Table 1. Groundwater Gauging Data and Analytical Results
Former Standard Oil Bulk Plant No. 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)	TPH-GRO	TPH-DRO	TPH-HRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert- butyl ether	Dissolved Lead	Total Lead	Naphthalene	Comments
MTCA Method A CULs						800/1,000	500	500	5	1,000	700	1,000	20	15	15	160	
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	--	<0.047	--	--	
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	--	--	--	
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	830	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	--	--	--	--	
MW-7	5/10/2013	5-20	99.90	4.46	95.44	60	97	<67	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-7	8/8/2013	5-20	99.90	7.23	92.67	<50	51	<66	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-7	10/23/2013	5-20	99.90	4.72	95.18	65	100	<66	<0.3	<0.5	<0.5	<1.5	--	--	--	--	
MW-7	2/25/2014	5-20	99.90	3.23	96.67	83	140	<67	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-7	5/28/2014	5-20	99.90	4.08	95.82	100	210	<66	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-7	8/26/2014	5-20	99.90	7.23	92.67	<50	110	<67	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-7	11/4/2014	5-20	99.90	1.89	98.01	<50	190	<68	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-7	3/23-24/2015	5-20	99.90	4.18	95.72	<50	85	<68	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-7	5/26-27/2015	5-20	99.90	5.68	94.22	<50	70	<68	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-7	8/13/2015	5-20	99.90	8.78	91.12	<50	760	<100	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-7	11/16-17/2015	5-20	99.90	3.21	96.69	110	1,200	190	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-7	2/21-22/2016	5-20	99.90	4.22	95.68	<50	1,800	380	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-7	5/15-16/2016	5-20	99.90	5.20	94.70	110	1,500	<100	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-7	8/15-16/2016	5-20	99.90	7.08	92.82	55	730	120	<0.2	<0.2	<0.2	<0.2	--	--	--	--	
MW-7	11/15/2016	5-20	99.90	2.77	97.13	<50	930	120	<0.2	<0.2	<0.2	<0.2	--	--	--	--	
MW-7	1/10/2019	5-20	99.90	2.82	97.08	<19	710	<100	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-7	7/21/2019	5-20	99.90	5.03	94.87	<19*	940	<100	<0.2	<0.2	<0.4	<1.0	--	--	--	--	
MW-7	2/12/2020	5-20	951.11	3.11	948.00	<100	761	277	<1.00	<1.00	<1.00	<3.00	--	--	--	--	
MW-7	8/2/2020	5-20	951.11	6.02	945.09	<100	1,310	341	<1.00	<1.00	<1.00	<3.00	--	--	--	--	WELL RESURVEYED
MW-7	2/9/2021	5-20	951.11	2.61	948.50	58.6 B J	904	318 B	<1.00	<1.00	<1.00	<3.00	--	--	--	--	
MW-7 DUP	2/9/2021	--	951.11	--	--	64.9 B J	934	301 B	<1.00	<1.00	<1.00	<3.00	--	--	--	--	
MW-7	7/13/2021	5-20	951.11	4.89	946.22	63.6 B J	1,080	487	<1.00	<1.00	<1.00	<3.00	--	--	--	--	
MW-7	1/10/2022	5-20	951.11	1.60	949.51	<100	813	512	<1.00	<1.00	<1.00	<3.00	--	--	--	--	
MW-7 DUP	1/10/2022	--	--	--	--	<100	859	566	<1.00	<1.00	<1.00	<3.00	--	--	--	--	
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														
MW-11	2/4-5/2010	5-20	97.92														
MW-11	6/1/2010	5-20	97.92														
MW-11	8/10/2010	5-20	97.92														
MW-11	11/18/2010	5-20	97.92														
MW-11	3/15/2011	5-20	97.92														
MW-11	6/2/2011	5-20	97.92														
MW-11	8/25/2011	5-20	97.92														
MW-11	11/10/2011	5-20	97.92														
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	--	--	--	--	

Table 1. Groundwater Gauging Data and Analytical Results
Former Standard Oil Bulk Plant No. 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)	TPH-GRO	TPH-DRO	TPH-HRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert- butyl ether	Dissolved Lead	Total Lead	Naphthalene	Comments
MTCA Method A CULs						800/1,000	500	500	5	1,000	700	1,000	20	15	15	160	
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	2/9/2021	5-20	949.22	1.94	947.28	42.4 B J	116 J	489	<1.00	<1.00	<1.00	<3.00	--	--	--	--	
MW-11	7/13/2021	5-20	949.22	4.24	944.98	78.0 B J	<200	147 J	<1.00	<1.00	<1.00	<3.00	--	--	--	--	
MW-11	1/10/2022	5-20	950.22						UNABLE TO LOCATE								
MW-12	10/11/2004	5-20	98.25	2.64	95.61	<50	<79	<99	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-12	1/25/2005	5-20	98.25	2.70	95.55	<48	<79	<98	<0.5	<0.5	<0.5	<0.5	--	--	--	--	
MW-12	4/13/2005	5-20	98.25	2.34	95.91	<48	<84	<110	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-12	7/11/2005	5-20	98.25	3.25	95.00	<48	<81	110	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-12	8/13/2007	5-20	98.25	6.06	92.19	<50	<89	<110	<0.5	<0.5	<0.5	<1.5	--	0.047	--	--	
MW-12	5/27/2008	5-20	98.25	4.22	94.03	<50	<82	<100	<0.5	<0.5	<0.5	1	<0.5	--	--	--	
MW-12	12/2/2008	5-20	98.25	2.84	95.41	--	--	--	--	--	--	--	--	--	--	--	
MW-12	3/18/2009	5-20	98.25	2.15	96.10	<50	<29	<67	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	
MW-12	5/26-27/2009	5-20	98.25	3.50	94.75	<50	<30	<71	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	
MW-12	8/3-4/2009	5-20	98.25	6.40	91.85	<50	<30	<70	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	
MW-12	12/29-30/2009	5-20	98.25	3.00	95.25	<50	63	<67	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-12	2/4-5/2010	5-20	98.25	2.98	95.27	<50	<29	<68	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-12	6/1/2010	5-20	98.25	2.55	95.70	<50	<30	<69	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-12	8/10/2010	5-20	98.25	5.86	92.39	<50	<29	<190	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-12	11/18/2010	5-20	98.25	1.44	96.81	<50	<28	<66	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-12	3/15/2011	5-20	98.25	2.08	96.17	<50	<30	250	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-12	8/25/2011	5-20	98.25	6.36	91.89	<50	31	<68	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-12	11/10/2011	5-20	98.25	3.40	94.85	<50	<31	<72	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-12	2/10/2012	5-20	98.25	2.25	96.00	<50	39	<69	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-12	5/30/2012	5-20	98.25	3.10	95.15	<50	<30	<70	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-12	8/27/2012	5-20	98.25	6.51	91.74	<50	<29	<67	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
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</								

Table 1. Groundwater Gauging Data and Analytical Results
Former Standard Oil Bulk Plant No. 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)	TPH-GRO	TPH-DRO	TPH-HRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert- butyl ether	Dissolved Lead	Total Lead	Naphthalene	Comments	
MTCA Method A CULs						800/1,000	500	500	5	1,000	700	1,000	20	15	15	160		
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 PART OF SAMPLING PROGRAM									
MW-13	7/21/2019	3-18	99.02	3.95	95.07				NOT PART OF SAMPLING PROGRAM									
MW-13	2/12/2020	3-18	950.32	--	--				WELL INADVERTENTLY NOT GAUGED. NOT PART OF SAMPLING PROGRAM.									WELL RESURVEYED
MW-13	8/2/2020	3-18	950.32	4.20	946.12				NOT PART OF SAMPLING PROGRAM									
MW-13	2/9/2021	3-18	950.32	2.11	948.21				NOT PART OF SAMPLING PROGRAM									
MW-13	7/13/2021	3-18	950.32	3.73	946.59				NOT PART OF SAMPLING PROGRAM									
MW-13	1/10/2022	3-18	951.32						UNABLE TO LOCATE									
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	<0.5	<0.5	--	--	--		
MW-14	12/29-30/2009	3-18	98.50	3.81	94.69	<50	42	<65	1.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	2/4-5/2010	3-18	98.50	3.88	94.62	<50	37	<69	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	6/1/2010	3-18	98.50	2.96	95.54	<50	<29	<68	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	8/10/2010	3-18	98.50	6.40	92.10	<50	120	<90	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	11/18/2010	3-18	98.50	2.71	95.79	<50	<29	76	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	3/15/2011	3-18	98.50	2.91	95.59	<50	<31	94	1.6	1.4	<0.5	<1.5	--	--	--	--		
MW-14	6/2/2011	3-18	98.50	3.83	94.67	<50	<29	190	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	8/25/2011	3-18	98.50	6.55	91.95	<50	48	<80	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	11/10/2011	3-18	98.50	3.60	94.90	<50	<30	<71	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	2/10/2012	3-18	98.50	3.50	95.00	<50	80	<67	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	5/31/2012	3-18	98.50	3.40	95.10	<50	<31	<73	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	8/27/2012	3-18	98.50	6.41	92.09	<50	<29	<68	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	11/21/2012	3-18	98.50	2.86	95.64	<50	<28	<66	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	2/8/2013	3-18	98.50	3.09	95.41	<50	<29	<67	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	5/10/2013	3-18	98.50	4.44	94.06	<50	<28	<66	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	8/8/2013	3-18	98.50	6.44	92.06	<50	73	<67	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	10/23/2013	3-18	98.50	3.46	95.04	<50	<30	<69	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	2/25/2014	3-18	98.50	2.64	95.86	<50	<28	<65	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	5/28/2014	3-18	98.50	3.92	94.58	<50	<28	<66	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	8/26/2014	3-18	98.50	5.89	92.61	<50	<29	100	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	11/4/2014	3-18	98.50	2.77	95.73	<50	<29	<68	<0.3	<0.5	<0.5	<1.5	--	--	--	--		
MW-14	3/23-24/2015	3-18	98.50	3.00	95.50	<50	<28	<65	<0.5	<0.5	<0.5	<1.5	--	--	--	--		
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 PART OF MONITORING PROGRAM									
WELL ABANDONED MARCH 2018																		
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										

Table 1. Groundwater Gauging Data and Analytical Results
Former Standard Oil Bulk Plant No. 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)	TPH-GRO	TPH-DRO	TPH-HRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert- butyl ether	Dissolved Lead	Total Lead	Naphthalene	Comments
MTCA Method A CULs						800/1,000	500	500	5	1,000	700	1,000	20	15	15	160	
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	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-15	7/21/2019	3-18	97.81	2.70	95.11	<19	<45	<100	<0.2	<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	111 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	<69	0.5	0.6	0.8	2.9	--	--	--	--	
MW-16	2/10/2012	3-18	98.63	3.35	95.28	370	71	<67	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	--	--	--	--	
MW-16	10/23/2013	3-18	98.63	4.16	94.47	580	99	<67	0.7	0.5	0.9	<5.0	--	--	--	--	
MW-16	2/25/2014	3-18	98.63	2.64	95.99	660	120	<70	0.7	0.6	1	2.7	--	--	--	--	
MW-16	5/27/2014	3-18	98.63	3.80	94.83	650	140	<67	0.6	0.5	0.9	2.5	--	--	--	--	
MW-16	8/25/2014	3-18	98.63	5.87	92.76	220	57	<66	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-16	11/4/2014	3-18	98.63	2.88	95.75	480	1,800	220	<2.0	0.7	1.1	<5.0	--	--	--	--	
MW-16	3/23-24/2015	3-18	98.63	2.82	95.81	220	230	<68	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-16	5/26-27/2015	3-18	98.63	4.72	93.91	180	93	<66	<0.5	<0.5	0.5	<2.0	--	--	--	--	
MW-16	8/13/2015	3-18	98.63	7.13	91.50	100	150	<100	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-16	11/16-17/2015	3-18	98.63	2.98	95.65	1,700	1,700	250	1.3	1.2	1.5	2.1	--	--	--	--	
MW-16	2/21-22/2016	3-18	98.63	2.68	95.95	1,800	760	<100	1.3	1	1.4	2.2	--	--	--	--	
MW-16	5/15-16/2016	3-18	98.63	4.89	93.74	400	280	<100	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-16	8/15-16/2016	3-18	98.63	5.69	92.94	700	290	<100	0.5	<0.2	0.8	1.6	--	--	--	--	
MW-16	11/15/2016	3-18	98.63	2.56	96.07	940	380	<100	0.7	0.6	1	1.7	--	--	--	--	
MW-16	1/10/2019	3-18	98.63	2.31	96.32	610	590	<100	0.9 J	0.6 J	1 J	<1.5	--	--	--	--	
MW-16	7/21/2019	3-18	98.63	3.77	94.86	2,000+	550	<100	<0.2	0.5 J	<0.4	<1.0	--	--	--	--	
MW-16	2/12/2020	3-18	949.89	2.18	947.71	167	670	184 J	<1.00	<1.00	<1.00	<3.00	--	--	--	--	WELL RESURVEYED
MW-16 DUP	2/12/2020	3-18	949.89	2.18	947.71	105	665	175 J	<1.00	<1.00	<1.00	<3.00	--	--	--	--	
MW-16	8/2/2020	3-18	949.89	4.70	945.19	345 B	1,570	134 J	<1.00	<1.00	<1.00	<3.00	--	--	--	--	
MW-16	2/9/2021	3-18	949.89	2.21	947.68	292 B	642	593	<1.00	<1.00	<1.00	<3.00	--	--	--	--	
MW-16	7/13/2021	3-18	949.89	4.16	945.73	493 B	536	177 J	<1.00	<1.00	<1.00	<3.00	--	--	--	--	
MW-16 DUP	7/13/2021	3-18	949.89	--	--	413 B	550	142 J	<1.00	<1.00	<1.00	<3.00	--	--	--	--	
MW-16	1/10/2022	3-18	949.89	2.20	947.69	179	665	333	<1.00	<1.00	<1.00	0.225 J	--	--	--	--	
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	<							

Table 1. Groundwater Gauging Data and Analytical Results
Former Standard Oil Bulk Plant No. 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)	TPH-GRO	TPH-DRO	TPH-HRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert- butyl ether	Dissolved Lead	Total Lead	Naphthalene	Comments
MTCA Method A CULs						800/1,000	500	500	5	1,000	700	1,000	20	15	15	160	
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	100	110	<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												
MW-17	7/21/2019	3-18	97.76	3.54	94.22												
MW-17	2/12/2020	3-18	949.85	2.00	947.85												
MW-17	8/2/2020	3-18	949.85	4.58	945.27												
MW-17	2/9/2021	3-18	949.85	2.08	947.77												
MW-17	7/13/2021	3-18	949.85	3.98	945.87												
MW-17	1/10/2022	3-18	949.85	2.05	947.80	<100	230	200 J	<1.00	<1.00	<1.00	0.263 J	--	--	--	--	
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	<0.5	<0.5	<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	3-18	98.44	5.35	93.09	<50	31	190	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-18	11/20/2012	3-18	98.44	1.23	97.21	<50	<29	<67	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-18	2/7/2013	3-18	98.44	0.97	97.47	<50	<28	<66	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-18	5/9/2013	3-18	98.44	3.74	94.70	<50	<28	<66	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-18	8/8/2013	3-18	98.44	5.65	92.79	<50	<29	<67	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-18	10/23/2013	3-18	98.44	3.60	94.84	<50	<29	<68	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-18	2/25/2014	3-18	98.44	1.33	97.11	<50	<29	<68	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-18	5/27/2014	3-18	98.44	2.68	95.76	<50	<29	<67	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-18	8/25/2014	3-18	98.44	5.27	93.17	<50	<28	<66	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-18	11/4/2014	3-18	98.44	1.31	97.13	<50	<29	<68	<05	<0.5	<0.5	<1.5	--	--	--	--	
MW-18	3/23-24/2015	3-18	98.44	1.01	97.43	<50	<30	<71	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-18	5/26-27/2015	3-18	98.44	4.41	94.03	<50	<29	<67	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-18	8/13/2015	3-18	98.44	6.82	91.62	<50	77	<100	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-18	11/16-17/2015	3-18	98.44	1.08	97.36	<50	<46	<100	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-18	2/21-22/2016	3-18	98.44	1.19	97.25	<50	<47	<100	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-18	5/15-16/2016	3-18	98.44	3.22	95.22	<50	<46	<100	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-18	8/15-16/2016	3-18	98.44	5.21	93.23	<50	<46	<100	<0.2	<0.2	<0.2	<0.2	--	--	--	--	
MW-18	11/15/2016	3-18	98.44	0.44	98.00	<50	<45	<100	<0.2	<0.2	<0.2	<0.2	--	--	--	--	
MW-18	1/10/2019	3-18	98.44	--	--												
MW-18	7/21/2019	3-18	98.44	--	--												
MW-18	2/12/2020	3-18	949.19	0.84	948.35												
MW-19	12/2/2008	3-18	98.54	3.78	94.76	--	--	--	--	--	--	--	--	--	--	--	
MW-19	3/18/2009	3-18	98.54	2.90	95.64	<50	<29	<68	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	
MW-19	5/26-27/2009	3-18	98.54	4.56	93.98	<50	360	500	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	
MW-19	8/3-4/2009	3-18	98.54	6.88	91.66	<50	<29	<68	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	
MW-19	12/29-30/2009	3-18	98.54	3.02	95.52	<50	<29	<69	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-19	2/4-5/2010	3-18	98.54	3.75	94.79	<50	<30	<70	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-19	6/1/2010	3-18	98.54	3.14	95.40	<50	<30	<69	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-19	8/10/2010	3-18	98.54	6.41	92.13	<50	<29	<90	<0.5	<0.5	<0.5	<1.6	--	--	--	--	
MW-19	11/18/2010	3-18	98.54	1.89	96.65	<50	<29	<68	<0.5	<0.5	<0.5	<1.5	--	--	--	--	
MW-19	3/15/2011	3-18	98.54	2.78	95.76	<50	44	85	2	2	<0.5	<1.5	--	--	--	--	
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	--	--	--	--</	

Table 1. Groundwater Gauging Data and Analytical Results
Former Standard Oil Bulk Plant No. 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)	TPH-GRO	TPH-DRO	TPH-HRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert- butyl ether	Dissolved Lead	Total Lead	Naphthalene	Comments
MTCA Method A CULs						800/1,000	500	500	5	1,000	700	1,000	20	15	15	160	
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	1/10/2019	3-18	98.54	--	--												NOT PART OF MONITORING PROGRAM
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	<0.5	<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	1/10/2019	3-18	98.92	--	--												NOT PART OF MONITORING PROGRAM
WELL ABANDONED MARCH 2018																	
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	
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						UNABLE TO LOCATE								
MW-1	12/2/2008	5-15	97.55	2.17	95.38				NOT PART OF MONITORING PROGRAM								
NOT PART OF 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	
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	--	--	--	--	
ABANDONED IN OCTOBER 2006																	
MW-3	7/9/2004	5-15	100.00	6.03													

Table 1. Groundwater Gauging Data and Analytical Results
Former Standard Oil Bulk Plant No. 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)	TPH-GRO	TPH-DRO	TPH-HRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Methyl tert- butyl ether	Dissolved Lead	Total Lead	Naphthalene	Comments
MTCA Method A CULs						800/1,000	500	500	5	1,000	700	1,000	20	15	15	160	
MW-4	7/11/2005	5-15	97.88	2.18	95.70	1,800	1,200	170	54	8	43	7	--	--	--	--	
ABANDONED IN 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		--	--	--	--	--	--	--	--	--	--	--	
ABANDONED/DESTROYED																	
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	--	--	--	--	
ABANDONED IN MARCH 2007																	
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	--	--	--	--	
ABANDONED IN 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 SINCE REMEDIAL EXCAVATON ACTIVITIES											
MW-9	12/29-30/2009	5-20	97.52	3.15	94.37	NOT PART OF MONITORING PROGRAM											
MW-9	2/12/2020	5-20	949.98	--	--	NOT PART OF MONITORING PROGRAM											
NOT PART OF 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	--	--	--	--	
NOT PART OF MONITORING/SAMPLING PROGRAM																	

Table 1. Groundwater Gauging Data and Analytical Results
Former Standard Oil Bulk Plant No. 302095
149 and 167 Main Street
Morton, Washington



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).
¹ = The requirement for no headspace at the time of analysis was not met. The container used for the testing had headspace at the time of analysis.
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
TPH-DRO = Total Petroleum Hydrocarbon as Diesel Range Organics
TPH-DRO w/ SGT = Total Petroleum Hydrocarbon as Diesel Range Organics w/ Silica Gel Treatment
TPH-GRO = Total Petroleum Hydrocarbons as Gasoline-Range Organics
TPH-HRO = Total Petroleum Hydrocarbons as Heavy Oil Range Organics

Laboratory Qualifiers:

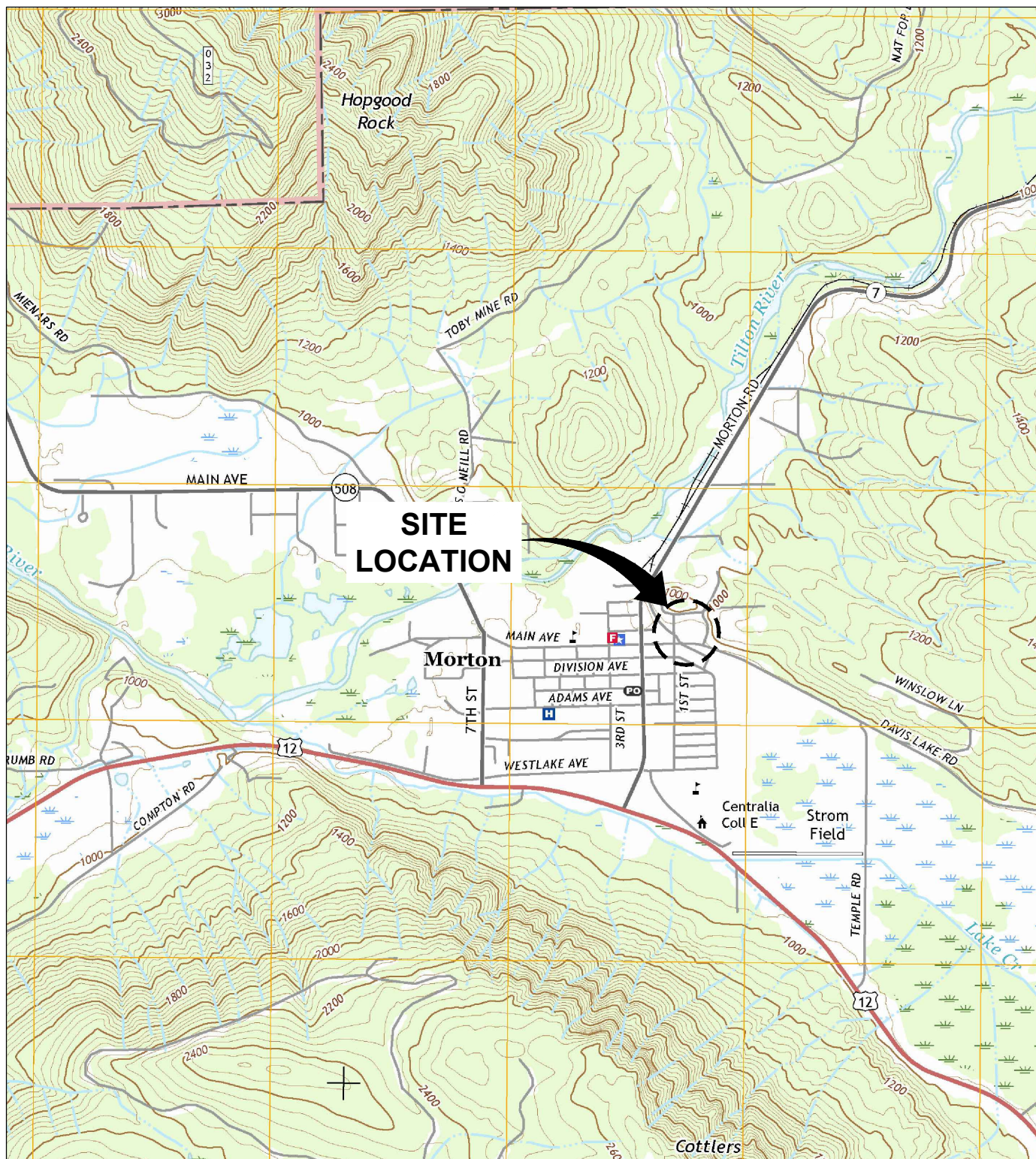
< = Not detected at or above the laboratory RL
J = Estimated value; result is greater than the laboratory Method Detection Limit (MDL) but less than the RL
B = The same analyte is found in the associated blank

Current Analytical Methods:

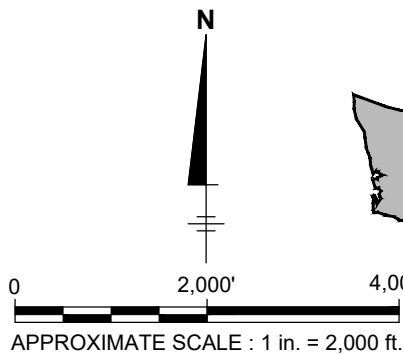
TPH-GRO analyzed by Method NWTPH-Gx
BTEX analyzed by the United States Environmental Protection Agency Method 8260D
TPH-DRO analyzed by NWTPH-Dx
TPH-HRO analyzed by NWTPH-Dx-NO SGT

FIGURES





SOURCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., MORTON, WA 2017.



WASHINGTON

FORMER STANDARD OIL BULK PLANT NO. 302095
 149 & 167 MAIN STREET
 MORTON, WASHINGTON

SITE LOCATION MAP

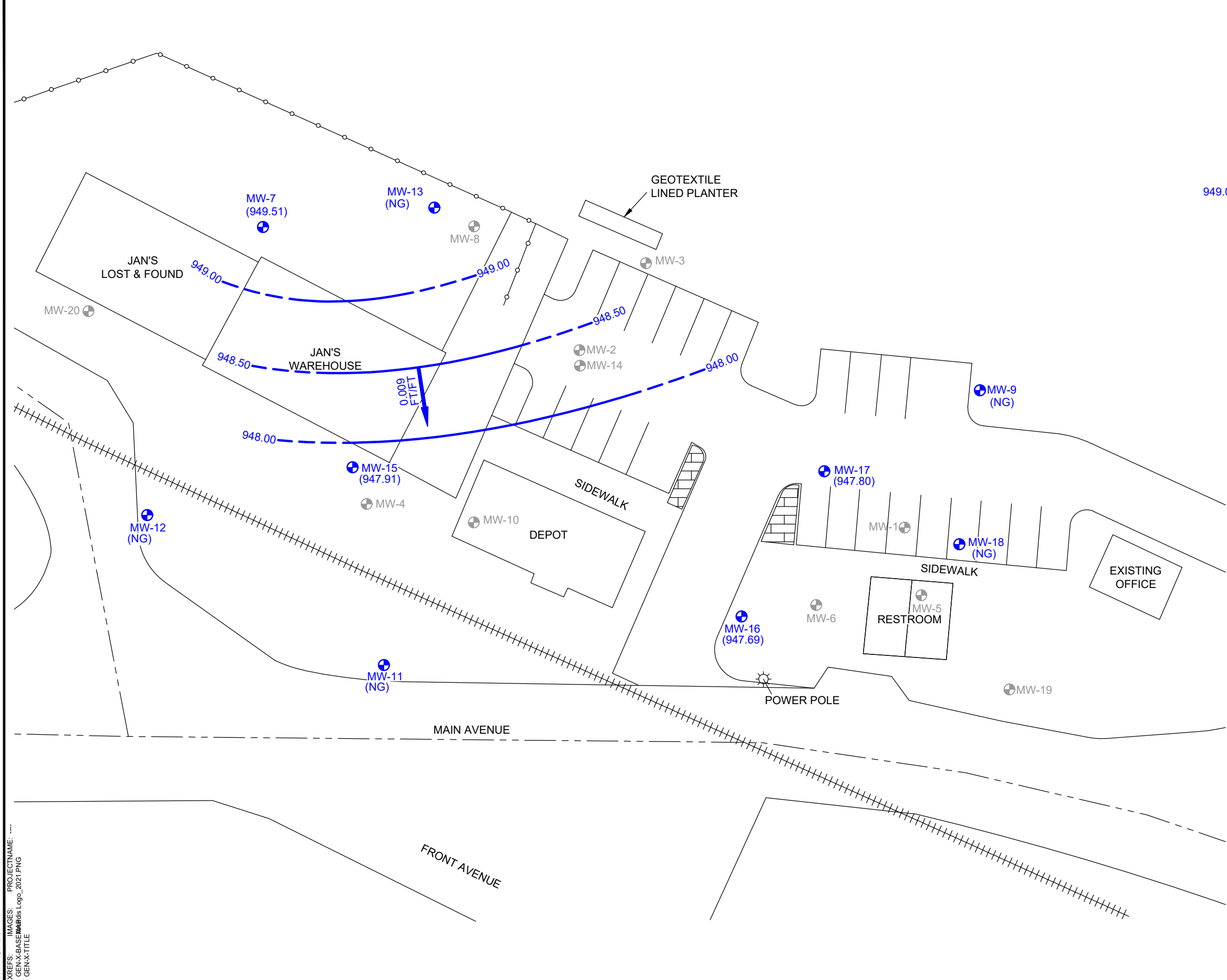


FIGURE

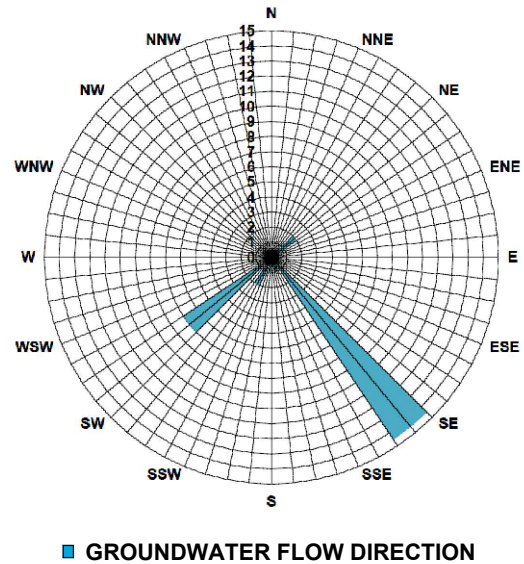
1



C:\Users\ymb2640\ACCDocs\Arcadis\AUS-CHEVRON-302095-MORTON Washington\Project Files\2020\1-in Progress\01-DWG\GWM-1-SA22-F03-GWE.dwg LAYOUT: 3 SAVED: 3/10/2022 11:18 AM ACADVER: 24.05 (LMS TECH) PAGES: 1 PLOTSTYLETABLE: ---- PLOTTED: 3/10/2022 11:21 AM



- LEGEND:**
- MW-16 GROUNDWATER MONITORING WELL
 - MW-6 ABANDONED OR DESTROYED MONITORING WELL LOCATIONS
 - FENCE LINE
 - RAILROAD TRACKS
 - (949.51) GROUNDWATER ELEVATION (FEET ABOVE NAVD 88)
 - 949.00 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
 - APPROXIMATE GROUNDWATER FLOW DIRECTION
 - 0.009 FT/FT APPROXIMATE HYDRAULIC GRADIENT (FEET/FOOT)
 - (NG) NOT GAUGED
 - NAVD 88 NORTH AMERICAN VERTICAL DATUM OF 1988

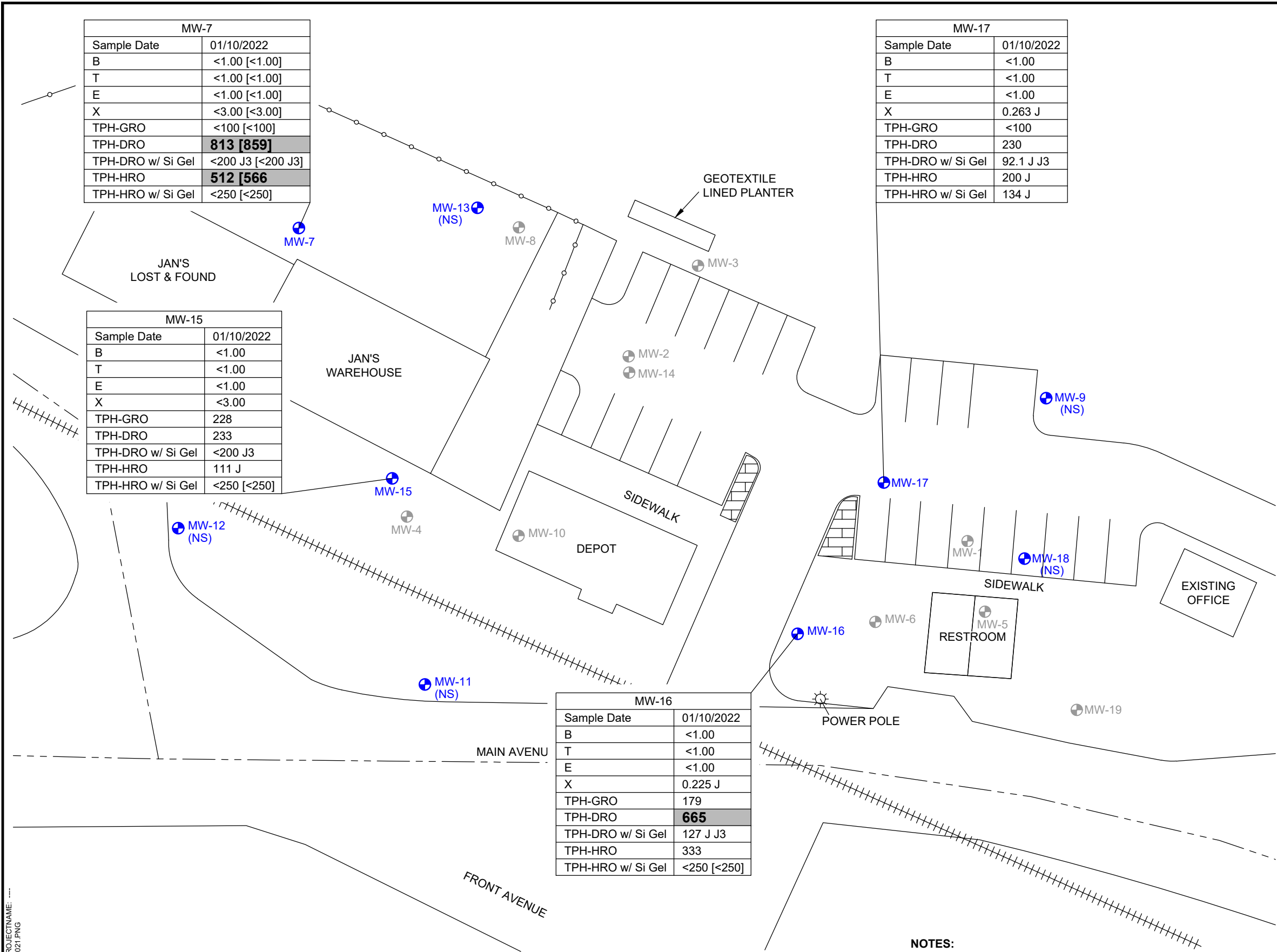


0 30' 60'
APPROXIMATE SCALE : 1 in. 30 ft

FORMER STANDARD OIL BULK PLANT NO. 302095
149 & 167 MAIN STREET
MORTON, WASHINGTON

**GROUNDWATER ELEVATION
CONTOUR MAP
JANUARY 10, 2022**





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 ESTIMATED VALUE; RESULT IS GREATER THAN THE LABORATORY METHOD DETECTION LIMIT BUT LESS THAN THE RDL

[] DUPLICATE 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
TPH-GRO	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE RANGE ORGANICS	800/1,000
TPH-DRO	TOTAL PETROLEUM HYDROCARBONS AS DIESEL RANGE ORGANICS	500
TPH-DRO w/ Si Gel	TOTAL PETROLEUM HYDROCARBONS AS DIESEL RANGE ORGANICS WITH SILICA GEL	500
TPH-HRO	TOTAL PETROLEUM HYDROCARBONS AS HEAVY OIL RANGE ORGANICS	500
TPH-HRO w/ Si Gel	TOTAL PETROLEUM HYDROCARBONS AS HEAVY OIL RANGE ORGANICS WITH SILICA GEL	500



- NOTES:**
- ALL CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER ($\mu\text{g/L}$).
 - TPH-GRO MTCA METHOD A CLEANUP LEVEL IS 800 ($\mu\text{g/L}$) IF BENZENE PRESENT IN GROUNDWATER AND 1,000 ($\mu\text{g/L}$) IF NO DETECTABLE BENZENE IN GROUNDWATER.

FORMER STANDARD OIL BULK PLANT NO. 302095
149 & 167 MAIN STREET
MORTON, WASHINGTON

**GROUNDWATER ANALYTICAL MAP
JANUARY 10, 2022**

ARCADIS

FIGURE
4

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.

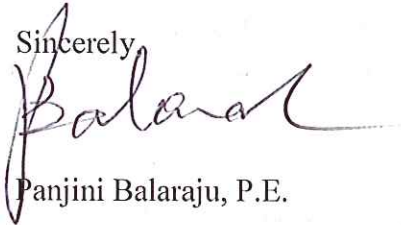
Based on my review of the above information, Ecology is here by approving your request except the abandonment of monitoring wells MW-13 and MW-17. Ecology's approval include the following:

- 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.

- 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 "Balaraju", with a stylized flourish 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

Project Number		30063832						
Client:		Chevron						
Site ID:		302095						
Site Location:		Morton, Washington						
Measuring Point:		Top of Casing						
Date(s):		01/10/2022						
Sampler(s):		Lee Bures						
Gauging Equipment:		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-15	01/10/2022	22:38	1.18	ND	17.45	--	--	--
MW-16	01/10/2022	10:28	2.2	ND	18.55	--	--	--
MW-17	01/10/2022	10:24	2.05	ND	17.80	--	--	--
MW-7	01/10/2022	10:46	1.6	ND	18.90	--	--	--

ft-bmp = feet below measuring point

ND = Not Detected

PID = Photoionization Detector Reading

ppm = parts per million

-- = Not Recorded

Project Number	30063832	Well ID	MW-15	Date	1/10/2022	
Site Location	Morton, Washington	Site ID	302095	Weather (°F)	Clear	Sampled by Lee Bures
Measuring Point Description	Top of Casing	Screen Depth Interval (ft-bmp)	3 to 18	Casing Diameter (in.)	2	Well Casing Material --
Static Water Level (ft-bmp)	1.18	Total Depth (ft-bmp)	17.45	Water Column (ft)	16.27	Gallons in Well 2.64
Water Quality Meter Make/Model	Hach 2100Q, YSI 556 MP5	Purge Method	Low-Flow	Sample Method	Grab	
Sample Time	12:40	Well Volumes Purged	0.30	Sample ID	MW-15-W-20220110	Evacuation Equipment Peristaltic
Purge Start	12:26	Gallons Purged	0.79	Duplicate ID	--	
Purge End	12:37	Total Purge Time (h:m)	0:11			

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
12:26	200	1.21	6.72	0.180	31.0	0.31	6.11	-19.5	Clear	--
12:29	200	1.21	6.71	0.178	23.0	0.15	6.45	-16.1	Clear	--
12:32	200	1.21	6.71	0.175	20.0	0.11	6.53	-16.2	Clear	--
12:35	200	1.21	6.71	0.170	20.0	0.10	6.59	-17.3	Clear	--
12:38	200	1.21	6.71	0.170	20.0	0.10	6.56	-16.6	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-20220110 Sample Time: 12:40 Sample Depth (ft-bmp): 9
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

Project Number	30063832	Well ID	MW-16	Date	1/10/2022	
Site Location	Morton, Washington	Site ID	302095	Weather (°F)	Clear	Sampled by Lee Bures
Measuring Point Description	Top of Casing	Screen Depth Interval (ft-bmp)	3 to 18	Casing Diameter (in.)	2	Well Casing Material --
Static Water Level (ft-bmp)	2.2	Total Depth (ft-bmp)	18.55	Water Column (ft)	16.35	Gallons in Well 2.66
Water Quality Meter Make/Model	Hach 2100Q,YSI 556 MP5	Purge Method	Low-Flow	Sample Method	Grab	
Sample Time	12:03	Well Volumes Purged	0.30	Sample ID	MW-16-W-20220110	Evacuation Equipment Peristaltic
Purge Start	11:45	Gallons Purged	0.79	Duplicate ID	--	
Purge End	12:00	Total Purge Time (h:m)	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
11:48	200	2.20	6.67	0.414	26.0	0.18	7.44	-27.3	Clear	--
11:51	200	2.20	6.67	0.421	15.0	0.12	7.53	-26.5	Clear	--
11:54	200	2.20	6.67	0.413	10.0	0.10	7.01	-26.7	Clear	--
11:57	200	2.20	6.68	0.417	10.0	0.09	7.03	-29.3	Clear	--
12:00	200	2.20	6.68	0.417	10.0	0.09	7.02	-29.8	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-20220110 Sample Time: 12:03 Sample Depth (ft-bmp): 9
 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

Project Number	30063832	Well ID	MW-17	Date	1/10/2022	
Site Location	Morton, Washington	Site ID	302095	Weather (°F)	Clear	Sampled by Lee Bures
Measuring Point Description	Top of Casing	Screen Depth Interval (ft-bmp)	3 to 18	Casing Diameter (in.)	2	Well Casing Material --
Static Water Level (ft-bmp)	2.05	Total Depth (ft-bmp)	17.8	Water Column (ft)	15.75	Gallons in Well 2.56
Water Quality Meter Make/Model	Hach 2100Q, YSI 556 MP5	Purge Method	Low-Flow	Sample Method	Grab	
Sample Time	11:03	Well Volumes Purged	0.31	Sample ID	MW-17-W-20220110	Evacuation Equipment Peristaltic
Purge Start	11:03	Gallons Purged	0.79	Duplicate ID	--	
Purge End	11:18	Total Purge Time (h:m)	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
11:06	200	2.05	6.58	498	37.0	0.40	7.86	-20.7	Clear	--
11:09	200	2.05	6.59	527	23.0	0.25	8.32	-22.9	Clear	--
11:12	200	2.05	6.60	524	17.0	0.22	8.86	-24.3	Clear	--
11:15	200	2.05	6.61	524	17.0	0.19	8.86	-25.6	Clear	--
11:18	200	2.05	6.61	524	17.0	0.16	8.84	-26.4	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-20220110 Sample Time: 11:03 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

Project Number	30063832	Well ID	MW-7	Date	1/10/2022		
Site Location	Morton, Washington	Site ID	302095	Weather (°F)	Clear	Sampled by	Lee Bures
Measuring Point Description	Top of Casing	Screen Depth Interval (ft-bmp)	5 to 19	Casing Diameter (in.)	2	Well Casing Material	--
Static Water Level (ft-bmp)	1.6	Total Depth (ft-bmp)	18.9	Water Column (ft)	17.30	Gallons in Well	2.81
Water Quality Meter Make/Model	Hach 2100Q, YSI 556 MP5	Purge Method	Low-Flow	Sample Method	Grab		
Sample Time	13:10	Well Volumes Purged	0.28	Sample ID	MW-7-W-20220110	Evacuation Equipment	Peristaltic
Purge Start	12:52	Gallons Purged	0.79	Duplicate ID	BD-W-20220110		
Purge End	13:07	Total Purge Time (h:m)	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
12:55	200	1.60	6.68	0.203	24.0	0.50	6.31	-15.7	Clear	--
12:58	200	1.60	6.67	0.205	17.0	0.31	6.66	-15.9	Clear	--
13:01	200	1.60	6.67	0.206	14.0	0.27	6.63	-17	Clear	--
13:04	200	1.60	6.66	0.208	14.0	0.25	6.83	-17.2	Clear	--
13:07	200	1.60	6.66	0.209	14.0	0.23	6.71	-18.3	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-20220110 Sample Time: 13:10 Sample Depth (ft-bmp): 9
 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

Photograph Log



Chevron Environmental Management Company
302095 Morton



Photograph: 1

**Description: 1SA 2022
Groundwater
Monitoring Event**

**Location: 302095
Morton, WA**

**Photograph taken by:
Blaine Tech Services
Inc.**

Date: 1/10/2022



Photograph: 2

**Description: 1SA 2022
Groundwater
Monitoring Event**

**Location: 302095
Morton, WA**

**Photograph taken by:
Blaine Tech Services
Inc.**

Date: 1/10/2022

Photograph Log



Chevron Environmental Management Company
302095 Morton



Photograph: 3

**Description: 1SA 2022
Groundwater
Monitoring Event**

**Location: 302095
Morton, WA**

Photograph taken by:
Blaine Tech Services
Inc.

Date: 1/10/2022

Billing Information:		Analysis / Container / Preservative		Chain of Custody Page 1 of 1	
Company Name/Address: Arcadis - Chevron - WA 1100 Olive Way Suite 800 Seattle, WA 98101		Attn: Accounts Payable 630 Plaza Dr., Ste. 600 Highlands Ranch, CO 80129			
Report To: Stephen Ahlquist/Sydney Clark		Email To: stephen.Ahlquist@arcadis.com; sydney.clark@ar			
Project Description: 302095		City/State Collected:			
Client Project # 30063832		Lab Project # CHEVARCWA-302095			
Site/Facility ID # MAIN AVE, MORTON, WA		P.O.#			
Collected by (print): <i>Anne Liscer</i>		Quote #			
Rush? (Lab MUST Be Notified) Same Day _____ Five Day _____ Next Day _____ 5 Day (Rad Only) _____ Two Day _____ 10 Day (Rad Only) _____ Three Day _____		Date Results Needed			
Immediately Packed on Ice N Y X		No. of Cntrs			
Sample ID	Comp/Grab	Matrix *	Depth	Date	No.
MW-7-W-20220110	Grab	GW	-	1/10/22	8
MW-15-W-20220110	Grab	GW	-	1/10/22	8
MW-16-W-20220110	Grab	GW	-	1/10/22	8
MW-17-W-20220110	Grab	GW	-	1/10/22	8
BD-V-20220110	Grab	GW	-	1/10/22	8
TB-V-20220110	Grab	GW	-	1/10/22	3
		GW			
		GW			
		GW			

* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - Waste Water DW - Drinking Water OT - Other

Samples returned via: UPS FedEx Courier Tracking # Received by: (Signature) Shipper via Fedex Date: Time: Relinquished by : (Signature)

Relinquished by : (Signature) Date: Time: Bottles Received: HCL / MeOH TBR Temp: °C Hold: Condition: NCF / OK

If preservation required by Login: Date/Time

WELLHEAD INSPECTION FORM

Client: Arcadis Site: 14 & 167 Main St, Morton WA Date: 1/10/22
 Job #: 220110-AW1 Technician: Andrew Vaiser Page 1 of 1

Well ID	Well Inspected - No Corrective Action Required	Check indicates deficiency										Well Not Inspected (explain in notes)	Notes (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)		
		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															
MW-12															
MW-13															
MW-15				X											
MW-16				X	2/3	3/3									
MW-17				X	1/1										

NOTES: _____

SOURCE RECORD **BILL OF LADING**
FOR PURGEWATER RECOVERED FROM
GROUNDWATER WELLS AT CHEVRON FACILITIES IN
THE STATE OF WASHINGTON AND OREGON. THE
PURGE- WATER WHICH HAS BEEN RECOVERED FROM
GROUND- WATER WELLS IS COLLECTED BY THE
CONTRACTOR AND HAULED TO THEIR FACILITY IN
KENT, WASHINGTON FOR TEMPORARILY HOLDING
PENDING TRANSPORT BY OTHERS TO FINAL
DESTINATION.

The contractor performing this work is BLAINE TECH SERVICES, INC. (BLAINE TECH), 22727 72ND Ave South, Suite D – 102, Kent, WA 98032. BLAINE TECH. is authorized by Chevron Environmental Management Company (CHEVRON EMC) to recover, collect, apportion into loads, and haul the purgewater that is drawn from wells at the CHEVRON EMC facility indicated below and to deliver that purgewater to BLAINE TECH for temporarily holding. Transport routing of the purgewater may be direct from one CHEVRON EMC facility to BLAINE TECH; from one CHEVRON EMC facility to BLAINE TECH via another CHEVRON EMC facility; or any combination thereof. The well purgewater is and remains the property of CHEVRON EMC.

This Source Record **BILL OF LADING** was initiated to cover the recovery of Non-Hazardous Well Purgewater from wells at the Chevron facility described below:

below	302095	Steve Anquist
CHEVRON #		Chevron Project Manager
Street number	149 & 167	
street name	Main St	
city	Norton	
state	WA	

[illegible]

Blaine Tech Services, Inc.

Permit To Work

for Chevron EMC Sites

Client: Arcois

Date 1/10/22

Site Address: 149 & 167 main St, Morton, WA

Job Number: 220110 AWI

Technician(s): Andrew Wiser

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

☐☒

Working at height

☐☒

Lock-out/Tag-out

☐☒

Excavations greater than 4 feet deep

☐☒

Excavations within 3 feet of a buried active electrical line or product piping
or within 10 feet of a high pressure gas line.

☐☒

Use of overhead equipment within 15 feet of an overhead electrical power
line or pole supporting one

☐☒

Hot work

☐☒

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

☐☒

If so is it in the folder?

☐☐

Is it current?

☐☐

Do you understand the Traffic Control Plan and what equipment you will need?

☐☐

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:

Andrew Wiser
Name

Field Tech
Title

1/10/22
Date

0924
Time

ATTACHMENT C

Laboratory Report and Chain-of-Custody Documentation



Arcadis - Chevron - WA

Sample Delivery Group: L1450917
Samples Received: 01/13/2022
Project Number: 30063832
Description: 302095
Site: MAIN AVE, MORTON, WA 98356
Report To: Stephen Ahlquist/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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¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc

SAMPLE SUMMARY

MW-7-W-20220110 L1450917-01 GW

Collected by
Andrew Waser

Collected date/time
01/10/22 13:10

Received date/time
01/13/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1802692	1	01/15/22 08:53	01/15/22 08:53	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1802388	1	01/14/22 14:46	01/14/22 14:46	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1802580	1	01/18/22 17:29	01/19/22 06:00	DMG	Mt. Juliet, TN

MW-15-W-20220110 L1450917-02 GW

Collected by
Andrew Waser

Collected date/time
01/10/22 12:40

Received date/time
01/13/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1802692	1	01/15/22 09:16	01/15/22 09:16	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1802388	1	01/14/22 15:05	01/14/22 15:05	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1802580	1	01/18/22 17:29	01/19/22 06:20	DMG	Mt. Juliet, TN

MW-16-W-20220110 L1450917-03 GW

Collected by
Andrew Waser

Collected date/time
01/10/22 12:03

Received date/time
01/13/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1802692	1	01/15/22 09:39	01/15/22 09:39	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1802388	1	01/14/22 15:24	01/14/22 15:24	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1802580	1	01/18/22 17:29	01/19/22 06:41	DMG	Mt. Juliet, TN

MW-17-W-20220110 L1450917-04 GW

Collected by
Andrew Waser

Collected date/time
01/10/22 11:21

Received date/time
01/13/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1802692	1	01/15/22 10:02	01/15/22 10:02	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1802388	1	01/14/22 15:43	01/14/22 15:43	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1802580	1	01/18/22 17:29	01/19/22 19:28	DMG	Mt. Juliet, TN

BD-W-20220110 L1450917-05 GW

Collected by
Andrew Waser

Collected date/time
01/10/22 12:00

Received date/time
01/13/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1802692	1	01/15/22 10:25	01/15/22 10:25	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1802388	1	01/14/22 16:02	01/14/22 16:02	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1802580	1	01/18/22 17:29	01/19/22 07:21	DMG	Mt. Juliet, TN

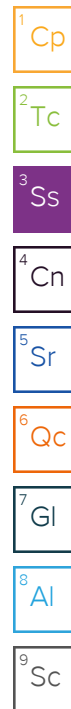
TB-W-20220110 L1450917-06 GW

Collected by
Andrew Waser

Collected date/time
01/10/22 09:00

Received date/time
01/13/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1802692	1	01/15/22 05:22	01/15/22 05:22	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1802388	1	01/14/22 14:26	01/14/22 14:26	ACG	Mt. Juliet, TN



CASE NARRATIVE

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



Brian Ford
Project Manager

Sample Delivery Group (SDG) Narrative

pH outside of method requirement.

Lab Sample ID

[L1450917-04](#)

Project Sample ID

[MW-17-W-20220110](#)

Method

NWTPHDX-NO SGT

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	01/15/2022 08:53	WG1802692
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	106			78.0-120		01/15/2022 08:53	WG1802692

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	01/14/2022 14:46	WG1802388
Toluene	U		0.278	1.00	1	01/14/2022 14:46	WG1802388
Ethylbenzene	U		0.137	1.00	1	01/14/2022 14:46	WG1802388
Total Xylenes	U		0.174	3.00	1	01/14/2022 14:46	WG1802388
(S) Toluene-d8	93.2			80.0-120		01/14/2022 14:46	WG1802388
(S) 4-Bromofluorobenzene	109			77.0-126		01/14/2022 14:46	WG1802388
(S) 1,2-Dichloroethane-d4	107			70.0-130		01/14/2022 14:46	WG1802388

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

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)	813		66.7	200	1	01/19/2022 06:00	WG1802580
Residual Range Organics (RRO)	512		83.3	250	1	01/19/2022 06:00	WG1802580
(S) <i>o</i> -Terphenyl	100			52.0-156		01/19/2022 06:00	WG1802580

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	228		31.6	100	1	01/15/2022 09:16	WG1802692
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	96.9			78.0-120		01/15/2022 09:16	WG1802692

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	01/14/2022 15:05	WG1802388
Toluene	U		0.278	1.00	1	01/14/2022 15:05	WG1802388
Ethylbenzene	U		0.137	1.00	1	01/14/2022 15:05	WG1802388
Total Xylenes	U		0.174	3.00	1	01/14/2022 15:05	WG1802388
(S) Toluene-d8	91.9			80.0-120		01/14/2022 15:05	WG1802388
(S) 4-Bromofluorobenzene	109			77.0-126		01/14/2022 15:05	WG1802388
(S) 1,2-Dichloroethane-d4	109			70.0-130		01/14/2022 15:05	WG1802388

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

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)	233		66.7	200	1	01/19/2022 06:20	WG1802580
Residual Range Organics (RRO)	111	J	83.3	250	1	01/19/2022 06:20	WG1802580
(S) <i>o</i> -Terphenyl	95.0			52.0-156		01/19/2022 06:20	WG1802580

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	179		31.6	100	1	01/15/2022 09:39	WG1802692
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	104			78.0-120		01/15/2022 09:39	WG1802692

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	01/14/2022 15:24	WG1802388
Toluene	U		0.278	1.00	1	01/14/2022 15:24	WG1802388
Ethylbenzene	U		0.137	1.00	1	01/14/2022 15:24	WG1802388
Total Xylenes	0.225	J	0.174	3.00	1	01/14/2022 15:24	WG1802388
(S) Toluene-d8	94.6			80.0-120		01/14/2022 15:24	WG1802388
(S) 4-Bromofluorobenzene	111			77.0-126		01/14/2022 15:24	WG1802388
(S) 1,2-Dichloroethane-d4	109			70.0-130		01/14/2022 15:24	WG1802388

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

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)	665		66.7	200	1	01/19/2022 06:41	WG1802580
Residual Range Organics (RRO)	333		83.3	250	1	01/19/2022 06:41	WG1802580
(S) <i>o</i> -Terphenyl	106			52.0-156		01/19/2022 06:41	WG1802580

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	01/15/2022 10:02	WG1802692
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	106			78.0-120		01/15/2022 10:02	WG1802692

1
Cp2
Tc3
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	01/14/2022 15:43	WG1802388
Toluene	U		0.278	1.00	1	01/14/2022 15:43	WG1802388
Ethylbenzene	U		0.137	1.00	1	01/14/2022 15:43	WG1802388
Total Xylenes	0.263	J	0.174	3.00	1	01/14/2022 15:43	WG1802388
(S) Toluene-d8	90.3			80.0-120		01/14/2022 15:43	WG1802388
(S) 4-Bromofluorobenzene	111			77.0-126		01/14/2022 15:43	WG1802388
(S) 1,2-Dichloroethane-d4	108			70.0-130		01/14/2022 15:43	WG1802388

4
Cn5
Sr6
Qc7
Gl8
Al

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)	230		66.7	200	1	01/19/2022 19:28	WG1802580
Residual Range Organics (RRO)	200	J	83.3	250	1	01/19/2022 19:28	WG1802580
(S) <i>o</i> -Terphenyl	93.0			52.0-156		01/19/2022 19:28	WG1802580

9
Sc

Volatile Organic Compounds (GC) by Method NWTPHGX

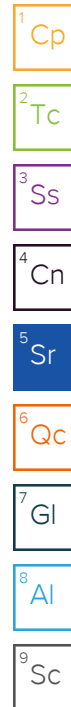
Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	U		31.6	100	1	01/15/2022 10:25	WG1802692
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	106			78.0-120		01/15/2022 10:25	WG1802692

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	01/14/2022 16:02	WG1802388
Toluene	U		0.278	1.00	1	01/14/2022 16:02	WG1802388
Ethylbenzene	U		0.137	1.00	1	01/14/2022 16:02	WG1802388
Total Xylenes	U		0.174	3.00	1	01/14/2022 16:02	WG1802388
(S) Toluene-d8	91.3			80.0-120		01/14/2022 16:02	WG1802388
(S) 4-Bromofluorobenzene	109			77.0-126		01/14/2022 16:02	WG1802388
(S) 1,2-Dichloroethane-d4	110			70.0-130		01/14/2022 16:02	WG1802388

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)	859		66.7	200	1	01/19/2022 07:21	WG1802580
Residual Range Organics (RRO)	566		83.3	250	1	01/19/2022 07:21	WG1802580
(S) <i>o</i> -Terphenyl	95.5			52.0-156		01/19/2022 07:21	WG1802580



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	01/15/2022 05:22	WG1802692
(S) a,a,a-Trifluorotoluene(FID)	106			78.0-120		01/15/2022 05:22	WG1802692

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	01/14/2022 14:26	WG1802388
Toluene	U		0.278	1.00	1	01/14/2022 14:26	WG1802388
Ethylbenzene	U		0.137	1.00	1	01/14/2022 14:26	WG1802388
Total Xylenes	U		0.174	3.00	1	01/14/2022 14:26	WG1802388
(S) Toluene-d8	90.1			80.0-120		01/14/2022 14:26	WG1802388
(S) 4-Bromofluorobenzene	114			77.0-126		01/14/2022 14:26	WG1802388
(S) 1,2-Dichloroethane-d4	110			70.0-130		01/14/2022 14:26	WG1802388

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3750836-2 01/15/22 04:50

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	106			78.0-120

Laboratory Control Sample (LCS)

(LCS) R3750836-1 01/15/22 03:55

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	4860	88.4	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			103	78.0-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3750694-2 01/14/22 13:54

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.0941	1.00
Ethylbenzene	U		0.137	1.00
Toluene	U		0.278	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	89.1			80.0-120
(S) 4-Bromofluorobenzene	111			77.0-126
(S) 1,2-Dichloroethane-d4	107			70.0-130

Laboratory Control Sample (LCS)

(LCS) R3750694-1 01/14/22 09:31

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	5.00	5.81	116	70.0-123	
Ethylbenzene	5.00	5.02	100	79.0-123	
Toluene	5.00	4.90	98.0	79.0-120	
Xylenes, Total	15.0	14.9	99.3	79.0-123	
(S) Toluene-d8			90.6	80.0-120	
(S) 4-Bromofluorobenzene			111	77.0-126	
(S) 1,2-Dichloroethane-d4			106	70.0-130	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3751345-1 01/19/22 02:37

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
(S) o-Terphenyl	100			52.0-156

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

(LCS) R3751345-2 01/19/22 02:57 • (LCSD) R3751345-3 01/19/22 03:18

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	1610	1610	107	107	50.0-150			0.000	20
(S) o-Terphenyl				93.5	94.0	52.0-156				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

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

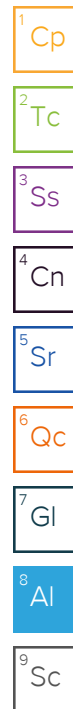
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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 ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

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

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

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



[illegible]

