



April 8, 2021
Project No. 0747.01.12

Michael R. Warfel, LG, LHG, RG
Washington State Department of Ecology
3190 160th Avenue SE
Bellevue, Washington 98008

Re: Third Quarterly Compliance Groundwater Monitoring Event
North Cascade Ford Property, Sedro-Woolley, Washington
VCP Number: NW3031, CSID: 12075, FSID: 58313566

Dear Mr. Warfel:

In March 2021, on behalf of VSF Properties, LLC, Maul Foster & Alongi, Inc. (MFA) conducted the third quarterly monitoring well sampling activities at the North Cascade Ford property, located at 116 W Ferry Street in Sedro-Woolley, Washington (the Property) (see Figure 1). The North Cascade Ford Site (the Site) includes the Property and a portion of the adjacent property to the north, owned by the Burlington Northern Santa Fe Railway Company (see Figures 1 and 2).

Activities were conducted in accordance with the groundwater compliance monitoring plan (CMP) (MFA, 2020a), the addendum to the groundwater CMP (MFA, 2020c), and the Washington State Model Toxics Control Act (MTCA) (Washington Administrative Code [WAC] 173-340-410(b)) requirements for performance monitoring.

BACKGROUND

Previous investigations identified environmental impacts in three areas of the Site, referred to as areas of concern (AOCs) 1 through 3 (see Figure 2) (MFA, 2015, 2017a,b, 2020b,c).

Chemicals of concern (COCs) in AOCs 1 through 3 include diesel-range organics (DRO); lube-oil-range organics (ORO); gasoline-range organics (GRO); benzene, toluene, ethylbenzene, total xylenes (BTEX); and/or total naphthalenes.

Historical groundwater analytical results associated with monitoring wells in AOCs 1 and 2 and reconnaissance groundwater samples in AOC 3 are presented in Table 1.

In March 2020, a cleanup action was completed in AOCs 1 through 3 (MFA, 2020b). Following the remedial action, the groundwater CMP and the associated addendum were developed in coordination with the Washington State Department of Ecology to implement performance groundwater monitoring at the Site (MFA, 2020a,c). Per WAC 173-340(b), the purpose of performance monitoring is to confirm that a cleanup action has attained cleanup levels (CULs).

The first and second quarterly compliance groundwater monitoring events were conducted in September and December 2020, respectively (MFA, 2020d, 2021). The third groundwater monitoring event is described herein.

FIELD AND ANALYTICAL METHODS

Groundwater monitoring activities were conducted in March 2021. Sample locations, sample depths, and chemical analyses are summarized in Table 2. Compliance monitoring well locations are shown on Figure 2.

Potentiometric Surface

On March 17, 2021, MFA measured static water levels in the compliance monitoring wells (see Table 3). A potentiometric surface map is provided as Figure 3. The estimated potentiometric surface contours are similar to those previously observed and indicate that shallow groundwater at the Site is hydraulically discontinuous and show minimal groundwater migration at this area of the Property.

Monitoring Well Sampling

MFA collected ten groundwater samples from nine compliance monitoring wells on the Property (MW01R, MW02R, MW04, MW06, MW07, and MW09 through MW12) on March 17, 2021, including a field duplicate sample from monitoring well MW02R. Chemical analyses and analytical methods are detailed in Table 2. Water quality field parameters (e.g., temperature, specific conductance, pH, turbidity) were allowed to stabilize prior to sample collection. During purging, the flow rates, water levels, and water quality parameters were recorded on field sampling data sheets (see Attachment A). Groundwater samples were submitted to Friedman & Bruya, Inc., for laboratory analysis under standard chain-of-custody procedures.

RESULTS

The laboratory analytical report is provided as Attachment B, and analytical data are presented in Table 4. Exceedances of the MTCA Method A CUL for DRO are shown on Figure 4, and site trends for DRO and ORO concentrations are presented in Figures 5 and 6. Analytical data and the laboratory's internal quality assurance and quality control data were reviewed to assess whether they met project-specific data quality objectives. A data validation memorandum summarizing data evaluation procedures, data usability, and deviations from specific field and/or laboratory methods is included as Attachment C. The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

AOC 1: Former Auto Repair Shop

Three groundwater samples were collected from AOC 1 monitoring wells MW01R, MW07, and MW09 and analyzed for BTEX, GRO, DRO, and ORO.

All detections of DRO and ORO in AOC 1 were below their respective MTCA Method A CULs.

No BTEX constituents or GRO were detected in the groundwater samples from AOC 1.

AOC 2: Former Underground Storage Tanks

Six groundwater samples, including one field duplicate, were collected from AOC 2 monitoring wells MW02R, MW04, MW06, MW10, and MW12 and analyzed for GRO, DRO, ORO, and BTEX.

DRO were detected in groundwater samples at MW02R, MW04, and MW10. Only one monitoring well, MW02R, had a detection above the MTCA Method A CUL, at 680 micrograms per liter (ug/L).

ORO were detected only in MW02R at 310 ug/L, below the MTCA Method A CUL of 500 ug/L.

No BTEX constituents or GRO were detected in the groundwater samples from AOC 2.

AOC 3: Former Coal Storage Sheds/Possible Buried Object

One groundwater sample was collected from AOC 3 monitoring well MW11 and analyzed for GRO, DRO, ORO, BTEX, and total naphthalenes.

No COCs were detected in the groundwater sample from AOC 3.

SUMMARY

Results from the groundwater monitoring indicate the following:

- **AOC 1**
 - No detections of COCs exceeded their respective MTCA Method A CULs.
- **AOC 2**
 - DRO concentrations remain slightly above the MTCA Method A CUL in groundwater at one monitoring well, MW02R.
- **AOC 3**
 - No COCs were detected.

Since quarterly groundwater monitoring began in September 2020, concentrations in all monitoring wells have decreased with only one monitoring well containing DRO

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concentrations slightly above the MTCA Method A CUL. It is anticipated that DRO and ORO concentrations in groundwater will continue to decrease during future quarterly monitoring events.

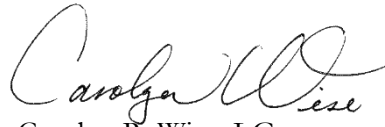
The next quarterly groundwater monitoring event is scheduled for June 2021.

If you have any questions, please feel free to contact either of us.

Sincerely,

Maul Foster & Alongi, Inc.

04-08-2021


Carolyn R. Wise, LG
Project Geologist

Michael R. Murray, LHG
Senior Hydrogeologist

Attachments: Limitations
References
Tables
Figures
A—Water Field Sampling Data Sheets
B—Analytical Laboratory Report
C—Data Validation Memorandum

cc: Larry Setchell, Setchell NW Legal Services, P.S.
Holly Stafford, Chmelik, Sitkin & David, P.S.

LIMITATIONS

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

REFERENCES

MFA. 2015. Preliminary remedial investigation and feasibility study, North Cascade Ford property, Sedro-Woolley, Washington. Prepared for VSF Properties, LLC. Maul Foster & Alongi, Inc., Bellingham, Washington. December 9.

MFA. 2017a. Letter (re: 2016 data gap investigation results, North Cascade Ford property, Sedro-Woolley, Washington) to L. Setchell, Helsell Fetterman LLP, from H. Good and J. Clary, Maul Foster & Alongi, Inc., Bellingham, Washington. January 24.

MFA. 2017b. Supplemental data gap investigation report, North Cascade Ford property, Sedro-Woolley, Washington. Prepared for VSF Properties, LLC. Maul Foster & Alongi, Inc., Bellingham, Washington. August 18.

MFA. 2020a. Groundwater compliance monitoring plan, North Cascade Ford property, Sedro-Woolley, Washington. Prepared for VSF Properties, LLC. Maul Foster & Alongi, Inc., Bellingham, Washington. July 8.

MFA. 2020b. Remedial action completion report, North Cascade Ford property, Sedro-Woolley, Washington. Prepared for VSF Properties, LLC. Maul Foster & Alongi, Inc., Bellingham, Washington. July 13.

MFA. 2020c. Memorandum (re: addendum to groundwater compliance monitoring plan, North Cascade Ford property, 116 W. Ferry Street, Sedro-Woolley, Washington, Facility Site ID: 58313566; Cleanup Site ID: 12075) to M. Warfel, Washington State Department of Ecology, from J. Maul, Maul Foster & Alongi, Inc., Bellingham, Washington. August 10.

MFA. 2020d. Letter (re: monitoring well installation and first quarterly compliance groundwater monitoring event, North Cascade Ford property, Sedro-Woolley, Washington, VCP Number: NW3031, CSID: 12075, FSID: 58313566) to M. Warfel, Washington State Department of Ecology, from J. Maul and C. Wise, Maul Foster & Alongi, Inc., Bellingham, Washington. November 24.

MFA. 2021. Letter (re: second quarterly compliance groundwater monitoring event, North Cascade Ford property, Sedro-Woolley, Washington, VCP Number: NW3031, CSID: 12075, FSID: 58313566) to M. Warfel, Washington State Department of Ecology, from J. Maul and C. Wise, Maul Foster & Alongi, Inc., Bellingham, Washington. January 26.

TABLES



Table 1
Historical Groundwater Analytical Results
VSF Properties, LLC, North Cascade Ford Property
Sedro-Woolley, Washington

AOC	Location	Sample Name	Collection Date	Collection Depth (ft bgs) ^(a)	Benzene	Ethylbenzene	Toluene	Xylenes ^(b)	Gasoline-Range Organics	Diesel-Range Organics	Lube-Oil-Range Organics	Total Naphthalenes
MTCA Method A Cleanup Level:					5	700	1,000	1,000	800	500	500	160
1	MW01	MW1-W-8.5	05/15/2012	5.61-13.44	0.3	0.2 U	0.2 U	0.4 U	400	1,300	240	10.53
		FIELD DUPLICATE			0.3	0.2 U	0.2 U	0.4 U	380	1,200	220	11.36
		MW01-GW-20121019	10/09/2012	9.87-13.44	--	--	--	--	--	1,800	490	11.18
		MW01	04/10/2014	NM	0.2 U	0.2 U	0.2 U	0.4 U	250 U	1,700	870	--
		MWDUP			0.2 U	0.2 U	0.2 U	0.4 U	250 U	1,600	930	--
		MW01-GW-140618	06/18/2014	6.09-13.45	--	--	--	--	--	1,400	310	--
		FD-GW-140618			--	--	--	--	--	1,700	350	--
		MW01-GW-091014	09/10/2014	7.74-13.44	--	--	--	--	--	1,300	300	--
		FD-091014			--	--	--	--	--	1,400	390	--
		MW01-GW-121014	12/10/2014	6.08-13.46	--	--	--	--	--	2,400	1,400	--
		FD-121014			--	--	--	--	--	1,900	1,200	--
		MW01-GW-112816	11/28/2016	6.12-13.43	--	--	--	--	--	1,300	610 U	--
		MWDUP-GW-112816			--	--	--	--	--	1,300	590 U	--
		MW01-GW-042617	04/26/2017	5.35-13.40	--	--	--	--	100 U	620	510 J	--
		MWDUP-GW-042617			--	--	--	--	100 U	560	410 U	--
		MW01-GW-101718	10/17/2018	9.70-13.40	--	--	--	--	500 U	900	1,500	--
		MW01-GW-032819	03/28/2019	6.82-13.41	--	--	--	--	370 J	2,400	2,200	--
	MW05	MW05-GW-042617	04/26/2017	5.76-10.60	--	--	--	--	490	1,300	1,100	--
		MW05-GW-032819	03/28/2019	6.93-10.63	--	--	--	--	600 J	1,500	460	--
	MW07	MW07-GW-042617	04/26/2017	7.85-19.74	--	--	--	--	100 U	260 U	410 U	--
		MW07-GW-101718	10/17/2018	9.25-19.74	--	--	--	--	100 U	250 U	400 U	--
		MW07-GW-032819	03/28/2019	7.95-19.74	--	--	--	--	100 U	250 U	410 U	--
	MW08	MW08-GW-042617	04/26/2017	7.38-15.80	--	--	--	--	400 U	1,000	690	--
		MW08-GW-101718	10/17/2018	10.05-15.80	--	--	--	--	100 U	700	580	--
		MWDUP-GW-101718			--	--	--	--	500 U	780	970	--
		MW08-GW-032819	03/28/2019	6.85-15.82	--	--	--	--	100 U	950	460	--
		MWDUP-GW-032819			--	--	--	--	100 U	1,000	510	--
2	MW02 (decommissioned in September 2016)	MW2-W-9	05/16/2012	6.65-13.85	0.2 U	0.2 U	0.2 U	0.4 U	250 U	1,900	240	ND
		MW02-GW-20121019	10/09/2012	9.29-13.84	--	--	--	--	--	690	200 U	--
		MW02	04/10/2014	6.12-13.81	--	--	--	--	--	11,000	1,300	--
		MW02-GW-140618	06/18/2014	6.98-13.80	--	--	--	--	--	3,800	410	--
		MW02-GW-091014	09/10/2014	8.37-13.84	--	--	--	--	--	770	200 U	--
		MW02-GW-121014	12/10/2014	7.11-13.85	--	--	--	--	--	1,300	410	--
	MW02R (replacement well for MW02)	MW02R-GW-042617	04/26/2017	6.60-14.80	--	--	--	--	--	750	410 U	--
		MW02R-GW-101718	10/17/2018	9.90-14.80	--	--	--	--	--	480	450	--
		MW02R-GW-032819	03/28/2019	7.60-14.79	--	--	--	--	--	680	470	--



Table 1
Historical Groundwater Analytical Results
VSF Properties, LLC, North Cascade Ford Property
Sedro-Woolley, Washington

AOC	Location	Sample Name	Collection Date	Collection Depth (ft bgs) ^(a)	Benzene	Ethylbenzene	Toluene	Xylenes ^(b)	Gasoline-Range Organics	Diesel-Range Organics	Lube-Oil-Range Organics	Total Naphthalenes
MTCA Method A Cleanup Level:					5	700	1,000	1,000	800	500	500	160
2	MW04	MW04-GW-042617	04/26/2017	6.39-13.60	--	--	--	--	--	260	450	--
		MW04-GW-101718	10/17/2018	10.23-13.60	--	--	--	--	--	250 U	420 U	--
		MW04-GW-032819	03/28/2019	7.40-13.58	--	--	--	--	--	260 U	410 U	--
	MW06	MW06-GW-042617	04/26/2017	7.66-19.74	--	--	--	--	--	260 U	410 U	--
		MW06-GW-101718	10/17/2018	10.6-19.74	--	--	--	--	100 U	250 U	400 U	--
		MW06-GW-032819	03/28/2019	5.73-13.88	--	--	--	--	100 U	260 U	410 U	--
3	GP51	GP51-W-11.0	11/16/2016	8.85-12.0	15 J	480 J	6.1 J	1000 J	7,400 J	--	--	--
	GP76	GP76-W-10.0	04/25/2017	6.0-15.0	5.8	230	10 U	8.4	6,900	2,800 J	420 U	428
<p>NOTES:</p> <p>Analytical results are shown in micrograms per liter (parts per billion).</p> <p>Bolding indicates a detection.</p> <p>Shading indicates a MTCA Method A CUL exceedance; non-detect results ("U") were not compared with screening criteria.</p> <p>-- = not analyzed.</p> <p>AOC = area of concern.</p> <p>CUL = cleanup level.</p> <p>ft bgs = feet below ground surface.</p> <p>J = result is an estimated value.</p> <p>MTCA = Model Toxics Control Act.</p> <p>MW = monitoring well.</p> <p>ND = not detected.</p> <p>NM = water level not measured because of unanticipated presence of free product.</p> <p>U = analyte not detected at or above method reporting limit.</p> <p>^(a)Sample collection depths are from top of water table or top of screened interval, whichever is deeper, to bottom of screened interval.</p> <p>^(b)Total xylenes are sum of m,p-xylene and o-xylene. When both results are non-detect, the higher reporting limit is used.</p>												

Table 2
Groundwater Sampling and Analysis Summary
VSF Properties, LLC, North Cascade Ford Property
Sedro-Woolley, Washington



AOC	Well ID	Screened Interval (feet bgs)	Sample Date	Analytical Schedule					
				DRO	ORO	GRO	EPH/VPH	BTEX	Naphth.
1	MW01R	5 - 15	09/22/2020	X	X	X	--	X	--
			10/14/2020 ^(a)	X	--	X	X	--	X
			12/16/2020	X	X	X	--	X	--
			03/17/2021	X	X	X	--	X	--
	MW07	5 - 20	09/22/2020	X	X	X	--	X	--
			12/16/2020	X	X	X	--	X	--
			03/17/2021	X	X	X	--	X	--
	MW09	5 - 20	09/22/2020	X	X	X	--	X	--
			12/16/2020	X	X	X	--	X	--
			03/17/2021	X	X	X	--	X	--
2	MW02R	5 - 15	09/22/2020	X	X	X	--	X	--
			12/16/2020	X	X	X	--	X	--
			03/17/2021	X	X	X	--	X	--
	MW04	4 - 14	09/22/2020	X	X	X	--	X	--
			12/16/2020	X	X	X	--	X	--
			03/17/2021	X	X	X	--	X	--
	MW06	5 - 20	09/22/2020	X	X	X	--	X	--
			12/16/2020	X	X	X	--	X	--
			03/17/2021	X	X	X	--	X	--
	MW10	5 - 20	09/22/2020	X	X	X	--	X	--
			10/14/2020 ^(a)	X	--	X	X	--	X
			12/16/2020	X	X	X	--	X	--
			03/17/2021	X	X	X	--	X	--
	MW12	5 - 15	09/22/2020	X	X	X	--	X	--
			12/16/2020	X	X	X	--	X	--
			03/17/2021	X	X	X	--	X	--

Table 2
Groundwater Sampling and Analysis Summary
VSF Properties, LLC, North Cascade Ford Property
Sedro-Woolley, Washington



AOC	Well ID	Screened Interval (feet bgs)	Sample Date	Analytical Schedule					
				DRO	ORO	GRO	EPH/VPH	BTEX	Naphth.
3	MW11	5 - 20	09/22/2020	X	X	X	--	X	X
			12/16/2020	X	X	X	--	X	X
			03/17/2021	X	X	X	--	X	X

NOTES:

-- = not analyzed.

AOC = area of concern.

bgs = below ground surface.

BTEX = benzene, toluene, ethylbenzene, and total xylenes; analysis by EPA Method 8021.

DRO = diesel-range organics; analysis by NWTPH-Dx method.

EPA = U.S. Environmental Protection Agency.

EPH/VPH = extractable petroleum hydrocarbons/volatile petroleum hydrocarbons; analysis by NWTPH-EPH/VPH.

GRO = gasoline-range organics; analysis by NWTPH-Gx method.

ID = identification.

Naphth. = naphthalenes; analysis by EPA Method 8270 SIM.

NWTPH = Northwest Total Petroleum Hydrocarbons.

ORO = oil-range organics; analysis by NWTPH-Dx method.

SIM = selected ion monitoring.

X= yes.

^(a)Non-quarterly groundwater event that was conducted to evaluate EPH/VPH concentrations in two wells for potential cleanup level development.

Table 3
Water Levels
VSF Properties, LLC, North Cascade Ford Property
Sedro-Woolley, Washington



Location	MP Elevation (feet, NAVD 88)	Measurement Date	NAPL Thickness (feet)	Depth to Water (feet bgs)	NAPL-Corrected Depth to Water (feet bgs) ^(a)	Groundwater Elevation (feet, NAVD 88)
MW01 (decommissioned in February 2020)	56.09	05/15/2012	--	5.61	NA	50.48
		10/09/2012	--	9.87	NA	46.22
		12/03/2012	--	6.96	NA	49.13
		04/10/2014	NM ^(b)	NM ^(b)	NA	NM ^(b)
		06/17/2014	NM ^(c)	6.01	NA	50.16
		06/18/2014	--	6.09	NA	50.00
		09/10/2014	NM ^(c)	7.74	NA	48.43
		12/10/2014	0.01 ^(d)	6.09	6.08	50.09
		04/26/2017	--	5.35	NA	50.74
		05/31/2017	--	5.96	NA	50.13
		10/17/2018	0.02	9.70	9.69	46.40
		12/06/2018	NM ^(e)	NA ^(e)	NA ^(e)	NA ^(e)
		03/28/2019	NM ^(e)	NA ^(e)	NA ^(e)	NA ^(e)
MW01R	56.32	09/22/2020	--	9.94	NA	46.38
		10/14/2020	--	7.82	NA	48.50
		12/16/2020	--	5.84	NA	50.48
		03/17/2021	--	5.39	NA	50.93
MW02 (decommissioned in September 2016)	56.73	05/15/2012	--	6.65	NA	50.08
		10/09/2012	--	9.29	NA	47.44
		12/03/2012	--	8.45	NA	48.28
		04/10/2014	--	6.12	NA	50.61
		06/17/2014	--	6.96	NA	49.77
		06/18/2014	--	6.98	NA	49.75
		09/10/2014	--	8.37	NA	48.36
		12/10/2014	--	7.11	NA	49.62

Table 3
Water Levels
VSF Properties, LLC, North Cascade Ford Property
Sedro-Woolley, Washington

Location	MP Elevation (feet, NAVD 88)	Measurement Date	NAPL Thickness (feet)	Depth to Water (feet bgs)	NAPL-Corrected Depth to Water (feet bgs) ^(a)	Groundwater Elevation (feet, NAVD 88)
MW02R	56.59	04/26/2017	--	6.60	NA	49.99
		05/31/2017	--	7.07	NA	49.52
		10/17/2018	--	9.90	NA	46.69
		12/06/2018	--	8.80	NA	47.79
		03/28/2019	--	7.60	NA	48.99
		09/22/2020	--	9.28	NA	47.31
		10/14/2020	--	9.41	NA	47.18
		12/16/2020	--	7.79	NA	48.80
		03/17/2021	--	6.23	NA	50.36
MW03	55.08	05/15/2012	--	5.40	NA	49.68
		10/09/2012	--	8.11	NA	46.97
		12/03/2012	--	5.28	NA	49.80
		04/10/2014	--	5.00	NA	50.08
		06/17/2014	--	5.66	NA	49.42
		06/18/2014	--	5.87	NA	49.21
		09/10/2014	--	6.94	NA	48.14
		12/10/2014	--	5.10	NA	49.98
		05/31/2017	--	5.75	NA	49.33
		10/17/2018	--	7.72	NA	47.36
		12/06/2018	--	5.92	NA	49.16
		03/28/2019	--	5.73	NA	49.35

Table 3
Water Levels
VSF Properties, LLC, North Cascade Ford Property
Sedro-Woolley, Washington

Location	MP Elevation (feet, NAVD 88)	Measurement Date	NAPL Thickness (feet)	Depth to Water (feet bgs)	NAPL-Corrected Depth to Water (feet bgs) ^(a)	Groundwater Elevation (feet, NAVD 88)
MW04	56.32	04/26/2017	--	6.39	NA	49.93
		05/31/2017	--	6.88	NA	49.44
		10/17/2018	--	10.23	NA	46.09
		12/06/2018	--	8.62	NA	47.70
		03/28/2019	--	7.40	NA	48.92
		09/22/2020	--	9.06	NA	47.26
		12/16/2020	--	7.71	NA	48.61
		03/17/2021	--	6.04	NA	50.28
MW05 (decommissioned in February 2020)	56.25	04/26/2017	--	5.76	NA	50.49
		05/31/2017	--	6.35	NA	49.90
		10/17/2018	--	NA ^(f)	NA ^(f)	NA ^(f)
		12/06/2018	--	8.05	NA	48.20
		03/28/2019	--	6.93	NA	49.32
MW06	56.58	04/26/2017	--	7.66	NA	48.92
		05/31/2017	--	8.06	NA	48.52
		10/17/2018	--	10.60	NA	45.98
		12/06/2018	--	9.10	NA	47.48
		03/28/2019	--	5.73	NA	50.85
		09/22/2020	--	10.84	NA	45.74
		12/16/2020	--	8.25	NA	48.33
		03/17/2021	--	7.11	NA	49.47

Table 3
Water Levels
VSF Properties, LLC, North Cascade Ford Property
Sedro-Woolley, Washington

Location	MP Elevation (feet, NAVD 88)	Measurement Date	NAPL Thickness (feet)	Depth to Water (feet bgs)	NAPL-Corrected Depth to Water (feet bgs) ^(a)	Groundwater Elevation (feet, NAVD 88)
MW07	56.46	04/26/2017	--	7.85	NA	48.61
		05/31/2017	--	8.02	NA	48.44
		10/17/2018	--	9.25	NA	47.21
		12/06/2018	--	9.15	NA	47.31
		03/28/2019	--	7.95	NA	48.51
	NA ^(g)	09/22/2020	--	10.42 ^(g)	NA ^(g)	NA ^(g)
	56.30	12/16/2020	--	8.24	NA	48.06
		03/17/2021	--	6.92	NA	49.38
MW08 (decommissioned in February 2020)	56.48	04/26/2017	--	7.38	NA	49.10
		05/31/2017	--	8.01	NA	48.47
		10/17/2018	--	10.05	NA	46.43
		12/06/2018	--	9.02	NA	47.46
		03/28/2019	--	6.85	NA	49.63
MW09	56.66	09/22/2020	--	9.26	NA	47.40
		10/14/2020	--	8.46	NA	48.20
		12/16/2020	--	6.17	NA	50.49
		03/17/2021	--	5.70	NA	50.96
MW10	56.26	09/22/2020	--	9.71	NA	46.55
		10/14/2020	--	9.21	NA	47.05
		12/16/2020	--	7.13	NA	49.13
		03/17/2021	--	5.80	NA	50.46
MW11	56.2	09/22/2020	--	10.48	NA	45.72
		12/16/2020	--	6.51	NA	49.69
		03/17/2021	--	5.46	NA	50.74
MW12	56.39	09/22/2020	--	10.24	NA	46.15
		12/16/2020	--	7.85	NA	48.54
		03/17/2021	--	6.67	NA	49.72

Table 3
Water Levels
VSF Properties, LLC, North Cascade Ford Property
Sedro-Woolley, Washington



NOTES:

-- = NAPL not observed.

bgs = below ground surface.

MP = measuring point.

MW = monitoring well.

NA = not applicable.

NAPL = nonaqueous-phase liquid.

NAVD 88 = North American Vertical Datum of 1988.

NM = not measured.

^(a)Water level corrected for presence of NAPL, using assumed product density of 0.8 grams per cubic centimeter.

^(b)NAPL was observed, but interface probe was not available to measure NAPL thickness and water level.

^(c)NAPL was observed on probe and tubing, but measurable and extractable quantity was not present.

^(d)NAPL thickness was measured, but extractable quantity was not present.

^(e)NAPL was present, coating entire probe tip and tubing; coated probe tip prevented measurement of thickness or water level.

^(f)Water level may not be representative of groundwater elevation because screened interval was above low water table.

^(g)The well monument was compressed during implementation of the remedial action, and the casing had to be cut down to properly secure the monument. A water level measurement was not collected at this time. A new well monument was installed on 10/01/2020.

Table 4
Groundwater Analytical Results—Compliance Monitoring
VSF Properties, LLC, North Cascade Ford Property
Sedro-Woolley, Washington

AOC	Location	Collection Date	Benzene	Ethylbenzene	Toluene	Xylenes (total)	GRO	DRO	ORO	Total Naphthalenes ^(a)
Units:			ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
MTCA Method A CUL: ⁽¹⁾			5	700	1,000	1,000	1,000 ^(b)	500	500	160
1	MW01R	09/22/2020	1 U	1 U	1 U	3.7	160	1,900	610	--
		10/14/2020	20 U	20 U	20 U	60 U	100 U	200	260 U	20 U
		12/16/2020	1 U	1 U	1 U	3 U	100 U	250	250 U	--
		03/17/2021	1 U	1 U	1 U	3 U	100 U	120	250 U	--
	MW07	09/22/2020	1 U	1 U	1 U	3 U	100 U	130	250 U	--
		12/16/2020	1 U	1 U	1 U	3 U	100 U	89	250 U	--
		03/17/2021	1 U	1 U	1 U	3 U	100 U	96	250 U	--
	MW09	09/22/2020	1 U	1 U	1 U	3 U	100 U	640	620	--
		12/16/2020	1 U	1 U	1 U	3 U	100 U	230	300	--
		12/16/2020	1 U	1 U	1 U	3 U	100 U	210	390	--
		03/17/2021	1 U	1 U	1 U	3 U	100 U	120	250 U	--
2	MW02R	09/22/2020	1 U	1 U	1 U	3 U	100 U	780	450	--
		12/16/2020	1 U	1 U	1 U	3 U	100 U	600	390	--
		03/17/2021	1 U	1 U	1 U	3 U	100 U	680	310	--
		03/17/2021	1 U	1 U	1 U	3 U	100 U	580	270	--
	MW04	09/22/2020	1 U	1 U	1 U	3 U	100 U	260	250 U	--
		12/16/2020	1 U	1 U	1 U	3 U	100 U	220	280	--
		03/17/2021	1 U	1 U	1 U	3 U	100 U	220	250 U	--
	MW06	09/22/2020	1 U	1 U	1 U	3 U	100 U	50 U	250 U	--
		12/16/2020	1 U	1 U	1 U	3 U	100 U	50 U	250 U	--
		03/17/2021	1 U	1 U	1 U	3 U	100 U	50 U	250 U	--
	MW10	09/22/2020	1 U	1 U	1 U	3 U	370	1,900	250 U	--
		10/14/2020	20 U	20 U	20 U	60 U	550	2,000	400	--
		12/16/2020	1 U	1 U	1 U	3 U	100 U	160	250 U	--
		03/17/2021	1 U	1 U	1 U	3 U	100 U	140	250 U	--
	MW12	09/22/2020	1 U	1 U	1 U	3 U	100 U	50 U	250 U	--
		12/16/2020	1 U	1 U	1 U	3 U	100 U	50 U	250 U	--
		03/17/2021	1 U	1 U	1 U	3 U	100 U	50 U	250 U	--
3	MW11	09/22/2020	1 U	30	1 U	16	390	350	300 U	18.8
		09/22/2020	1 U	30	1 U	17	380	200	250 U	21.7
		12/16/2020	1 U	1 U	1 U	3 U	100 U	50 U	250 U	0.4 U
		03/17/2021	1 U	1 U	1 U	3 U	100 U	50 U	250 U	0.4 U

Table 4
Groundwater Analytical Results—Compliance Monitoring
VSF Properties, LLC, North Cascade Ford Property
Sedro-Woolley, Washington



NOTES:

Bolding indicates a detection.

Shading indicates a MTCA Method A CUL exceedance; non-detect results ("U") were not compared with screening criteria.

-- = not analyzed.

AOC = area of concern.

CUL = cleanup level.

DRO = diesel-range organics.

GRO = gasoline-range organics.

MTCA = Model Toxics Control Act.

ORO = lube-oil-range organics.

U = analyte not detected at or above method reporting limit.

ug/L = micrograms per liter (parts per billion).

^(a)Total naphthalenes are the sum of 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene. When all results are non-detect, the highest reporting limit is shown.

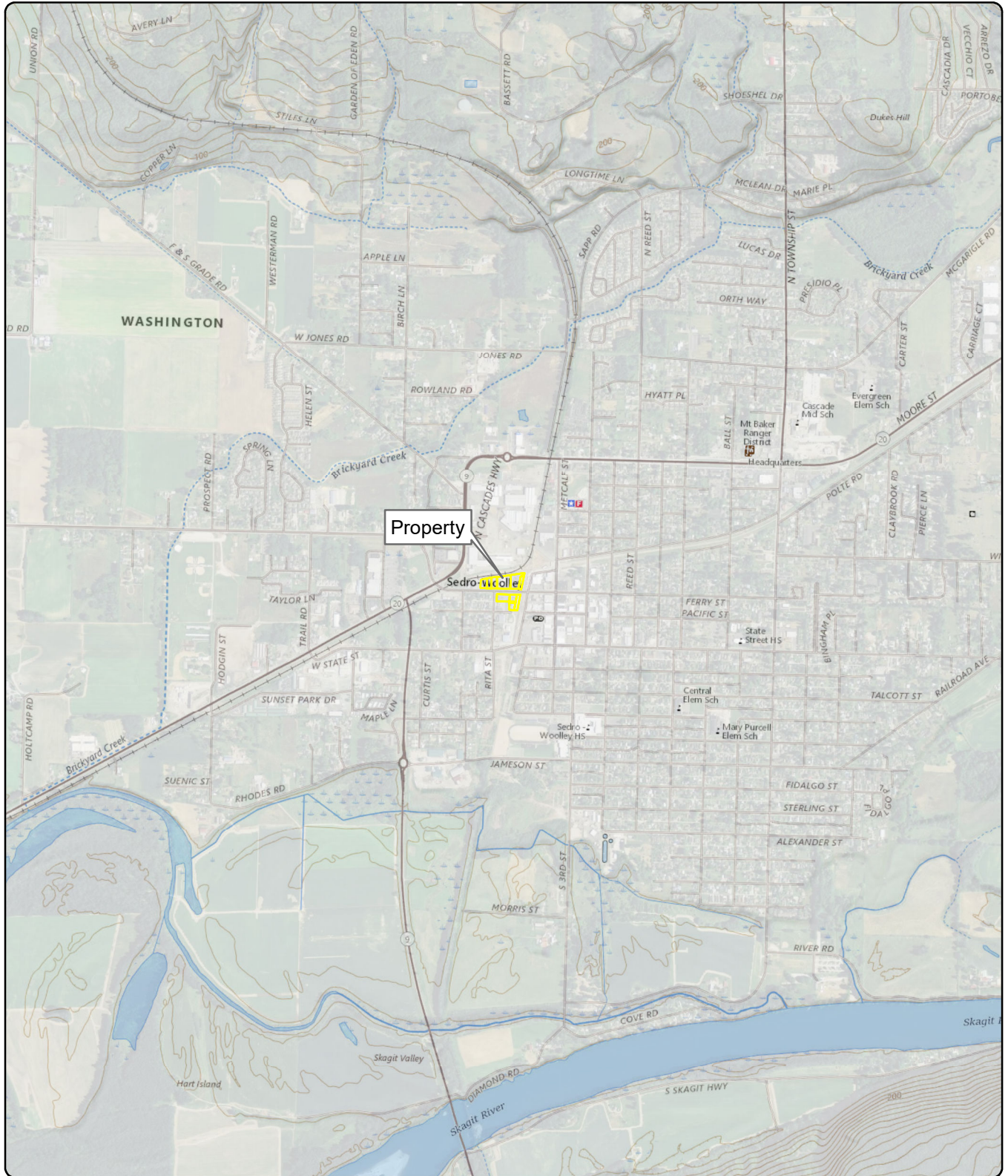
^(b)MTCA Method A CUL with no detectable benzene.

REFERENCES:

⁽¹⁾Washington State Department of Ecology. Cleanup Levels, and Risk Calculation table. February 2021.

FIGURES





Property Address: 116 W Ferry Street, Sedro-Woolley, Washington
Source: U.S. Geological Survey (1990) 7.5-minute
topographic quadrangle: Sedro-Woolley North
Section 24, Township 35 North, Range 4 East

Legend

 Property Parcel

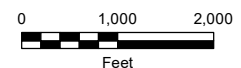
Figure 1 Property Location

North Cascade Ford Property
Sedro-Woolley, Washington



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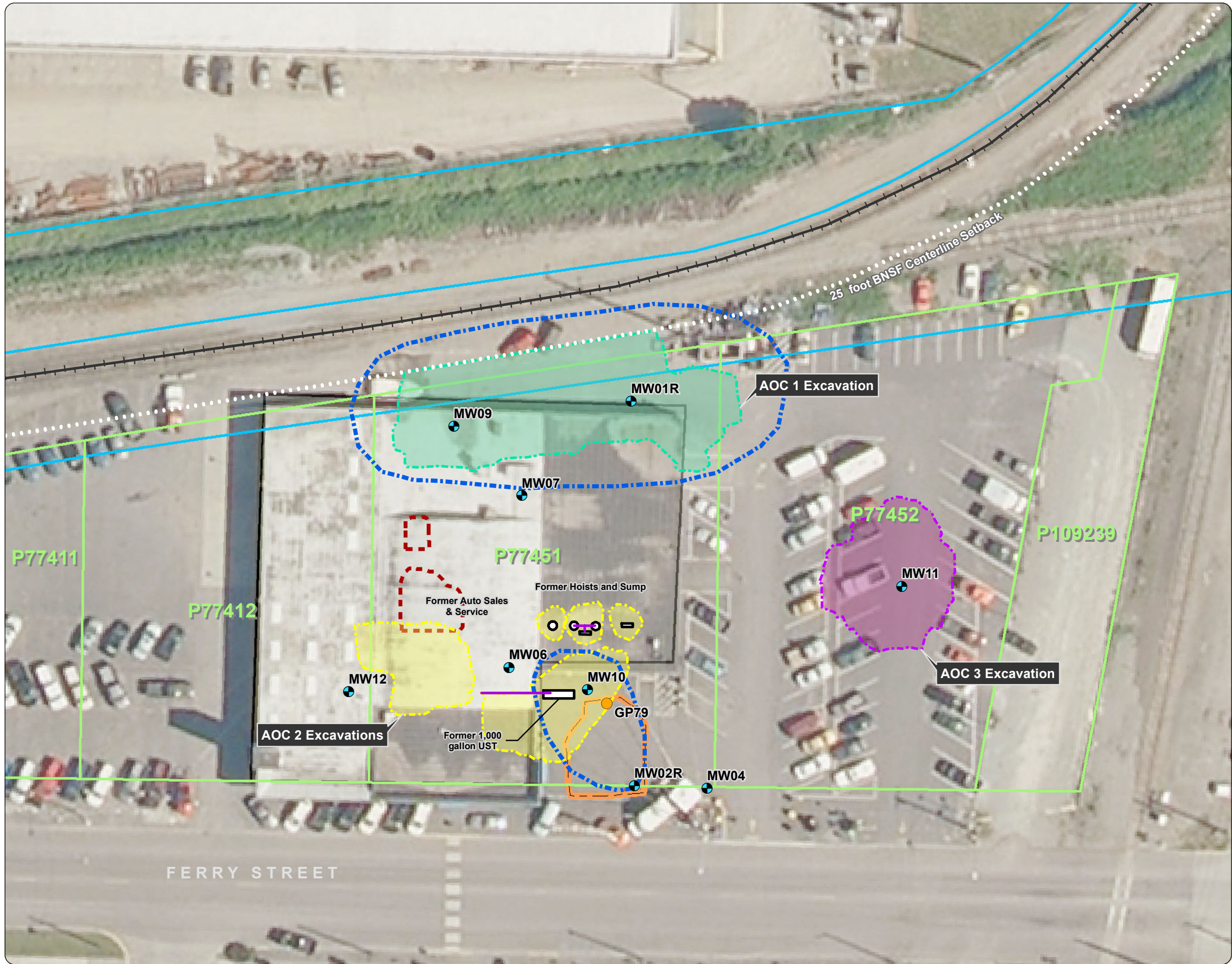


Figure 2
Compliance Monitoring
Well Network

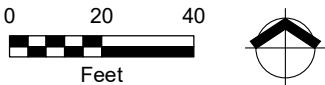
North Cascade Ford Property
Sedro-Woolley, Washington

Legend

- Compliance Monitoring Well
- Boring
- Product Line
- AOC 1 Excavation (MFA, 2020)
- AOC 2 Excavation (MFA, 2020)
- AOC 3 Excavation (MFA, 2020)
- Estimated Extent of Petroleum Impacts in Groundwater
- UST Interim Action (MFA, 2016)
- Hoist Removal Excavation (ZGA, 2017)
- Former Building Footprint
- Property Parcel
- BNSF-Owned Parcel

Notes:
All features are approximate.
All structures on the property were removed prior to remedial action.
The excavations areas are set back from the BNSF railroad centerline by 25 feet.
The surveyed Property parcel boundaries do not coincide with the adjacent parcel boundaries obtained from Skagit County; therefore, there is an overlap between the Property and BNSF parcels.
AOC = area of concern.
BNSF = Burlington Northern Santa Fe Railway.
Property = North Cascade Ford Property.
UST = underground storage tank.
ZGA = Zipper Geo Associates.

Sources:
Adjacent parcel boundaries obtained from Skagit County.
Aerial photograph obtained from ArcGIS Online.
Excavation extents surveyed by Pacific Geomatic Services, Inc. in March 2020.
Property parcel boundaries surveyed by Wilson Engineering, LLC.



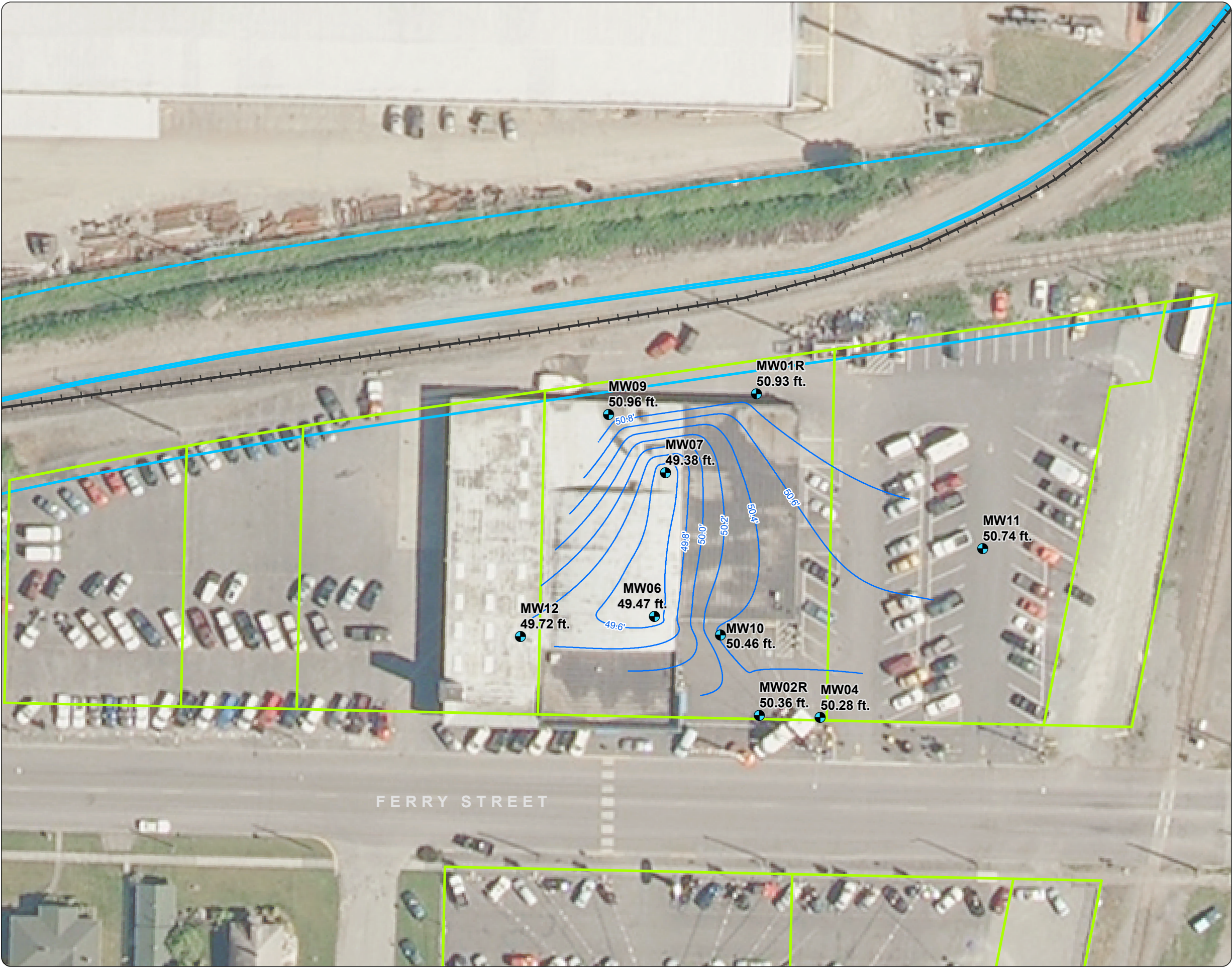


Figure 3
Groundwater Elevation
Contours - March 2021

North Cascade Ford Property
Sedro-Woolley, Washington

Legend

- Compliance Monitoring Well
- Groundwater Elevation Contour (feet NAVD 88; 0.2-ft interval)
- Property Parcel
- BNSF-Owned Parcel

Notes:
The surveyed Property parcel boundaries do not coincide with the adjacent parcel boundaries obtained from Skagit County; therefore, there is an overlap between the Property and BNSF parcels. Water levels measured on March 17, 2021. BNSF = Burlington Northern Santa Fe Railway. ft = feet. NAVD 88 = North American Vertical Datum of 1988.



Sources:
Adjacent parcel boundaries obtained from Skagit County.
Aerial photograph obtained from Mapbox.
Property parcel boundaries surveyed by Wilson Engineering, LLC.



This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

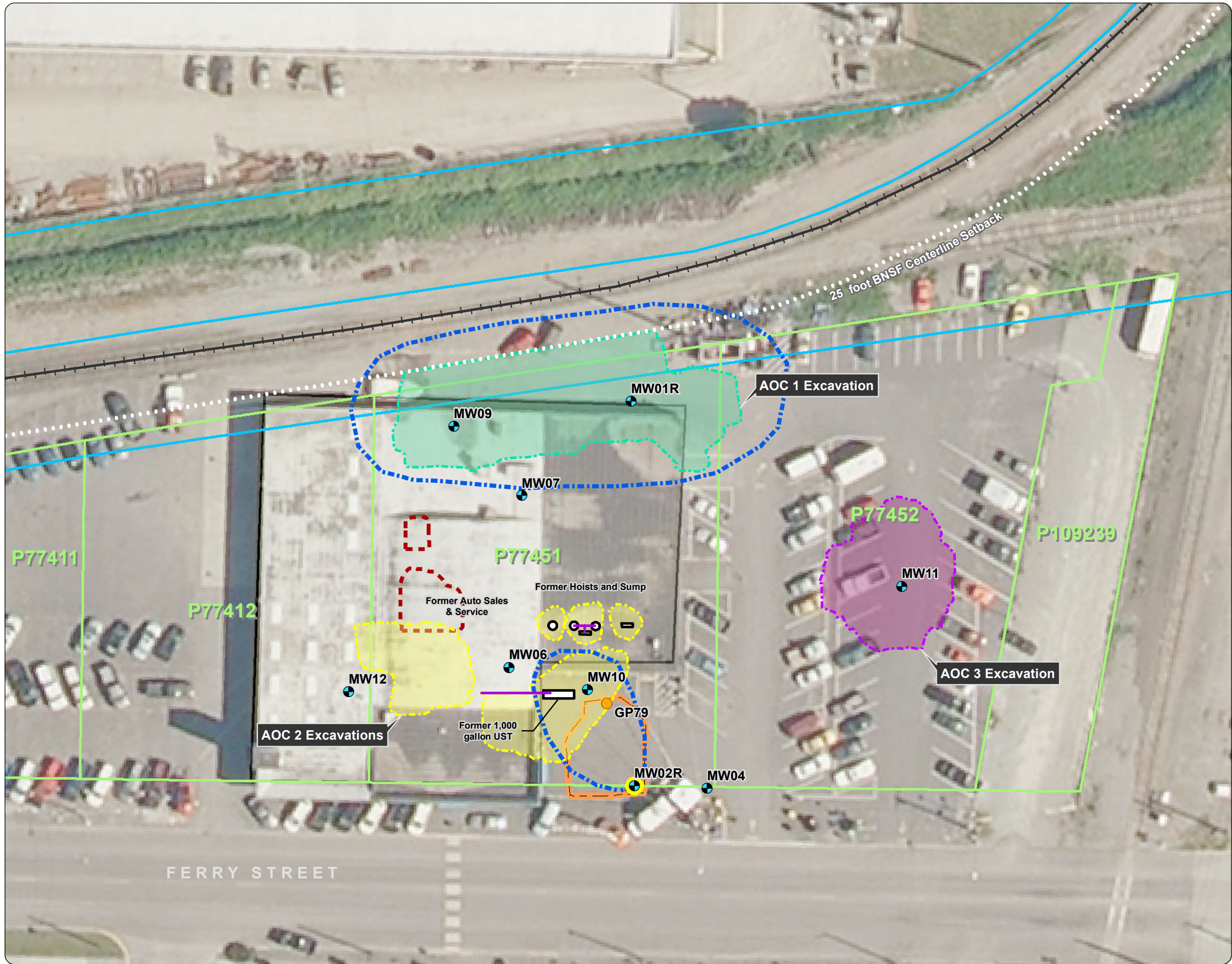


Figure 4
Groundwater Exceedances -
March 2021

North Cascade Ford Property
Sedro-Woolley, Washington

Legend

- Compliance Monitoring Well
- Boring
- DRO Exceedance
- Product Line
- AOC 1 Excavation (MFA, 2020)
- AOC 2 Excavation (MFA, 2020)
- AOC 3 Excavation (MFA, 2020)
- Estimated Extent of Petroleum Impacts in Groundwater
- UST Interim Action (MFA, 2016)
- Hoist Removal Excavation (ZGA, 2017)
- Former Building Footprint
- Property Parcel
- BNSF-Owned Parcel

Notes:
All features are approximate.
All structures on the property were removed prior to remedial action.
The excavations areas are set back from the BNSF railroad centerline by 25 feet.
The surveyed Property parcel boundaries do not coincide with the adjacent parcel boundaries obtained from Skagit County; therefore, there is an overlap between the Property and BNSF parcels.
AOC = area of concern.
BNSF = Burlington Northern Santa Fe Railway.
DRO = diesel-range organics.
Property = North Cascade Ford Property.
UST = underground storage tank.
ZGA = Zipper Geo Associates.

Sources:
Adjacent parcel boundaries obtained from Skagit County.
Aerial photograph obtained from ArcGIS Online.
Excavation extents surveyed by Pacific Geomatic Services, Inc. in March 2020.
Property parcel boundaries surveyed by Wilson Engineering, LLC.

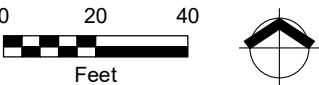


Figure 5
Diesel-Range Organics Concentrations
North Cascade Ford Property
Sedro-Woolley, Washington

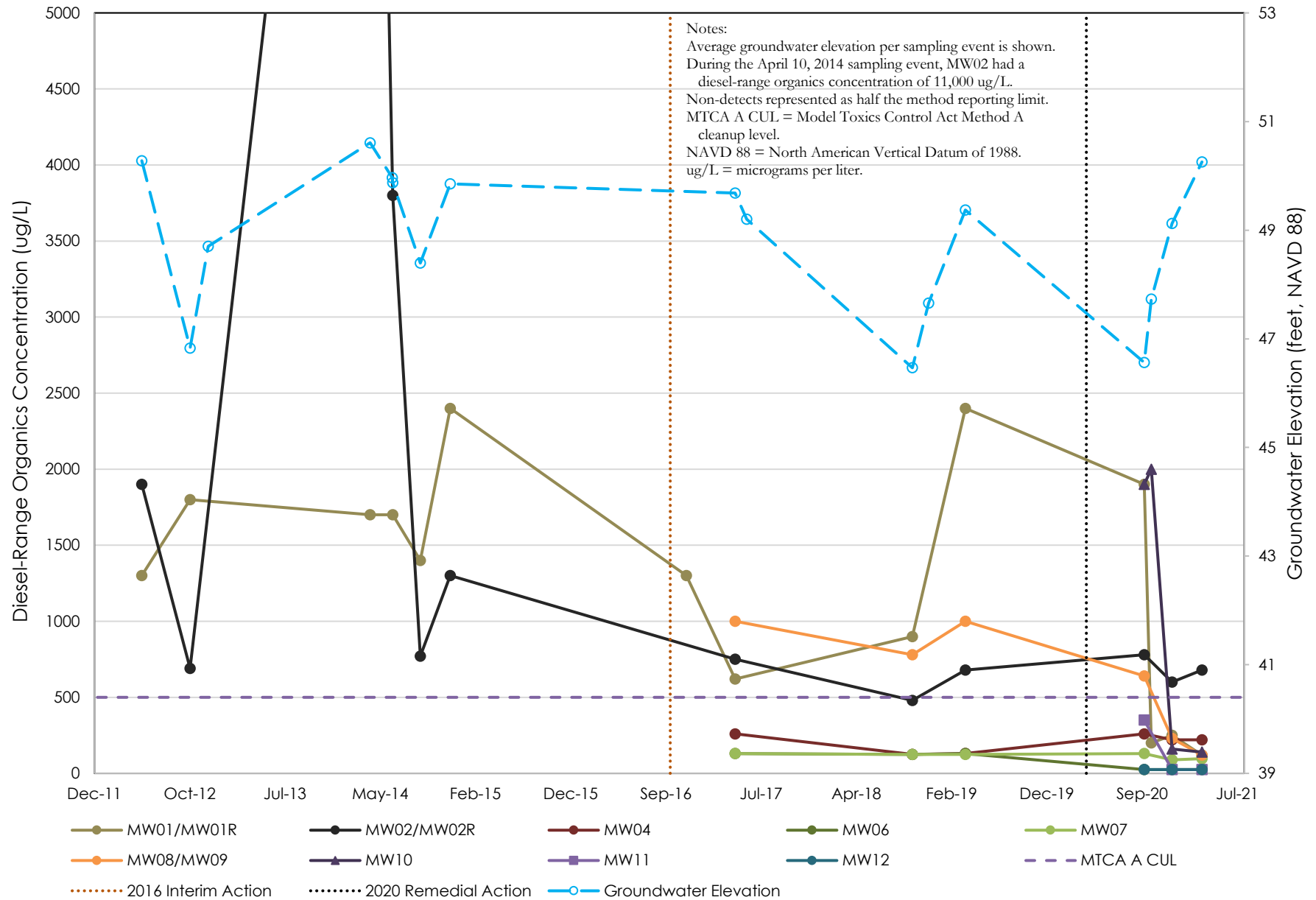
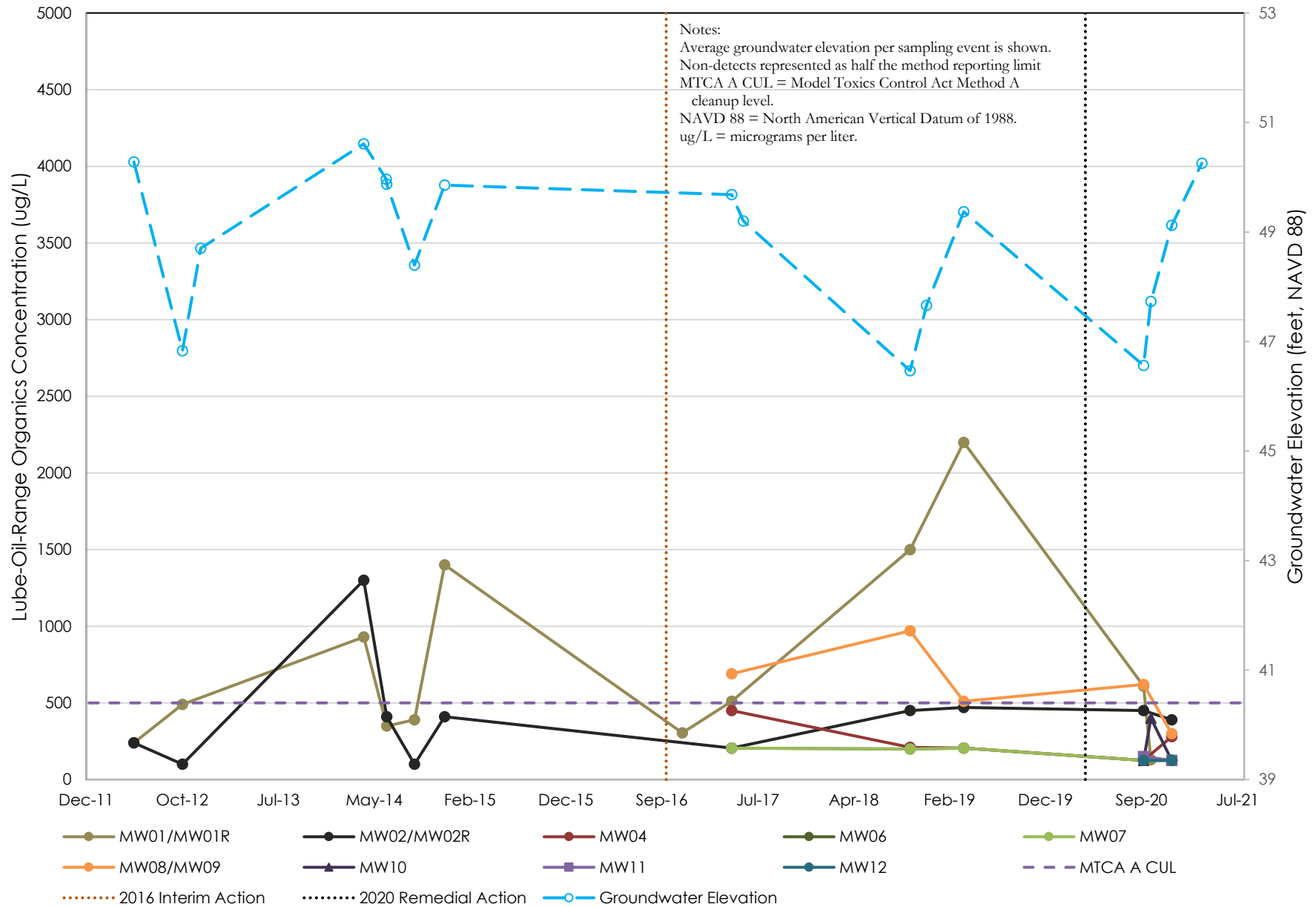


Figure 6
Lube-Oil-Range Organics Concentrations
North Cascade Ford Property
Sedro-Woolley, Washington



ATTACHMENT A

WATER FIELD SAMPLING DATA SHEETS



Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1

Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	Sample Location	MW01R				
Project #	0747.01.12	Sampler	A. Bixby				
Project Name	North Cascade Ford	Sampling Date	3/17/2021				
Sampling Event	March 2021	Sample Name	MW01R-GW-031721				
Sub Area		Sample Depth	10				
FSDS QA:	C. Wise 3/23/2021	Easting		Northing		TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
3/17/2021	7:44	14.77		5.39		9.38	1.53

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	1:22:00 PM	4.1	0.2	9.88	9.6	239	15.01	178.9	12.4
	1:25:00 PM	4.2	0.2	9.87	9.4	240.5	14.96	179.4	8.32
	1:28:00 PM	4.3	0.2	9.86	9.5	239.9	14.89	180.6	4.46
Final Field Parameters	1:31:00 PM	4.4	0.2	9.86	9.4	239.2	14.83	180.6	5.02

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

White particulates in initial purge, cloudy, then clear; gray tint; no odor; no sheen.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	1:40:00 PM	VOA-Glass	3	No
			Amber Glass	1	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	4	

General Sampling Comments

Began purge at 12:10. Tubing clogged with white, granular particulates multiple times. Pause purging with peristaltic pump to remove two bailers of water from well. Replace tubing and resume purging with peristaltic pump at 12:30.

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1

Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	Sample Location	MW02R				
Project #	0747.01.12	Sampler	A. Bixby				
Project Name	North Cascade Ford	Sampling Date	3/17/2021				
Sampling Event	March 2021	Sample Name	MW02R-GW-031721				
Sub Area		Sample Depth	10				
FSDS QA:	C. Wise 3/23/2021	Easting		Northing		TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
3/17/2021	7:15	14.84		6.23		8.61	1.4

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	9:00:00 AM	2.1	0.2	6.88	9.3	480.4	0.33	136.5	3.18
	9:03:00 AM	2.2	0.2	6.89	9.4	479.8	0.33	135.3	2.56
	9:06:00 AM	2.3	0.2	6.89	9.4	481.4	0.31	134.5	2.71
Final Field Parameters	9:09:00 AM	2.5	0.2	6.9	9.3	480.9	0.32	133.6	2.68

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations: Clear; slight yellow tint; no odor; no sheen.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	9:10:00 AM	VOA-Glass	3	No
			Amber Glass	1	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	4	

General Sampling Comments

Began purge at 8:00.
Field duplicate MWDUP-GW-031721 collected here.

Maul Foster & Alongi, Inc.

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Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	Sample Location	MW04				
Project #	0747.01.12	Sampler	A. Bixby				
Project Name	North Cascade Ford	Sampling Date	3/17/2021				
Sampling Event	March 2021	Sample Name	MW04-GW-031721				
Sub Area		Sample Depth	10				
FSDS QA:	C. Wise 3/23/2021	Easting		Northing		TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
3/17/2021	7:19	13.61		6.04		7.57	1.23

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	8:30:00 AM	1.2	0.3	6.61	11.1	531.3	0.62	154.2	3.62
	8:33:00 AM	1.4	0.3	6.64	11.1	530	0.62	149.5	4.88
	8:36:00 AM	1.6	0.3	6.67	11.2	528.5	0.59	146.8	3.81
Final Field Parameters	8:39:00 AM	1.9	0.3	6.69	11.2	528.2	0.57	144.4	2.76

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations: Clear; colorless; no odor; no sheen.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	8:40:00 AM	VOA-Glass	3	No
			Amber Glass	1	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	4	

General Sampling Comments

Began purge at 7:55.

Maul Foster & Alongi, Inc.

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Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	Sample Location	MW06				
Project #	0747.01.12	Sampler	A. Bixby				
Project Name	North Cascade Ford	Sampling Date	3/17/2021				
Sampling Event	March 2021	Sample Name	MW06-GW-031721				
Sub Area		Sample Depth	13				
FSDS QA:	C. Wise 3/23/2021	Easting		Northing		TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
3/17/2021	7:28	19.77		7.11		12.66	2.06

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	10:13:00 AM	1.9	0.3	6.92	11.9	525.7	0.88	164.4	9.04
	10:16:00 AM	2.1	0.3	6.74	12	520.4	0.83	163.9	8.19
	10:19:00 AM	2.4	0.3	6.63	12.1	518.4	0.77	162.8	7.38
	10:21:00 AM	2.6	0.3	6.65	12.1	513.4	0.74	161.5	6.04
	10:23:00 AM	2.8	0.3	6.61	12	511.2	0.77	161.3	5.93
Final Field Parameters	10:26:00 AM	3	0.3	6.59	12.1	509.4	0.74	160.7	5.65

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear; orange tint; no odor; no sheen.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	10:30:00 AM	VOA-Glass	3	No
			Amber Glass	1	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	4	

General Sampling Comments

Began purge at 9:24.

Maul Foster & Alongi, Inc.

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Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	Sample Location	MW07				
Project #	0747.01.12	Sampler	A. Bixby				
Project Name	North Cascade Ford	Sampling Date	3/17/2021				
Sampling Event	March 2021	Sample Name	MW07-GW-031721				
Sub Area		Sample Depth	13				
FSDS QA:	C. Wise 3/23/2021	Easting		Northing		TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
3/17/2021	7:41	19.64		6.92		12.72	2.07

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	12:40:00 PM	3.5	0.2	7.47	12.8	391.4	1.63	189	23.7
	12:43:00 PM	3.6	0.2	7.39	12.7	390.9	1.59	186.4	14.1
	12:46:00 PM	3.7	0.2	7.37	12.7	390	1.56	184.3	13.7
Final Field Parameters	12:49:00 PM	3.8	0.2	7.34	12.8	389.7	1.53	182.5	12.1

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Abundant orange particulates in initial purge, then cloudy (116 NTUs after 25 minutes of purging), then clear; no odor; no sheen.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	1:00:00 PM	VOA-Glass	3	No
			Amber Glass	1	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	4	

General Sampling Comments

Began purge at 11:22.

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1

Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	Sample Location	MW09				
Project #	0747.01.12	Sampler	A. Bixby				
Project Name	North Cascade Ford	Sampling Date	3/17/2021				
Sampling Event	March 2021	Sample Name	MW09-GW-031721				
Sub Area		Sample Depth	13				
FSDS QA:	C. Wise 3/23/2021	Easting		Northing		TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
3/17/2021	7:37	20		5.7		14.3	2.33

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	11:25:00 AM	2.1	0.2	9.58	9.4	231	17.87	164.3	5.93
	11:28:00 AM	2.3	0.2	9.63	9.4	234	17.51	164.9	3.41
	11:31:00 AM	2.4	0.2	9.68	9.4	233.7	17.2	166.8	4.28
Final Field Parameters	11:34:00 AM	2.5	0.2	9.71	9.4	234.2	17.31	168	2.71

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations: Clear; colorless; no odor; no sheen.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	11:40:00 AM	VOA-Glass	3	No
			Amber Glass	1	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	4	

General Sampling Comments

Began purge at 10:40.

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1

Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	Sample Location	MW10				
Project #	0747.01.12	Sampler	A. Bixby				
Project Name	North Cascade Ford	Sampling Date	3/17/2021				
Sampling Event	March 2021	Sample Name	MW10-GW-031721				
Sub Area		Sample Depth	12.5				
FSDS QA:	C. Wise 3/23/2021	Easting		Northing		TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
3/17/2021	7:24	19.84		5.8		14.04	2.29

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	9:44:00 AM	2.3	0.2	9.31	9.7	388.3	10.53	156.3	3.85
	9:47:00 AM	2.5	0.2	9.32	9.7	387.7	10.45	155.3	2.75
	9:50:00 AM	2.6	0.2	9.36	9.7	385.9	10.39	155.8	2.07
Final Field Parameters	9:53:00 AM	2.7	0.2	9.37	9.8	386.2	10.35	157.2	1.93

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations: Clear; colorless; no odor; no sheen.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	10:00:00 AM	VOA-Glass	3	No
			Amber Glass	1	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	4	

General Sampling Comments

Began purge at 8:50.

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1

Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	Sample Location	MW11				
Project #	0747.01.12	Sampler	A. Bixby				
Project Name	North Cascade Ford	Sampling Date	3/17/2021				
Sampling Event	March 2021	Sample Name	MW11-GW-031721				
Sub Area		Sample Depth	13				
FSDS QA:	C. Wise 3/23/2021	Easting		Northing		TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
3/17/2021	7:49	19.67		5.46		14.21	2.32

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	2:02:00 PM	2.1	0.2	11.29	10.6	593.5	27.31	185.9	4.6
	2:05:00 PM	2.2	0.2	11.35	10.7	592.6	27.29	185.7	4.31
	2:08:00 PM	2.3	0.2	11.36	10.7	592.4	27.17	185.6	3.54
Final Field Parameters	2:11:00 PM	2.4	0.2	11.36	10.7	593.5	27.31	185	3.49

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations: Clear; colorless; no odor; no sheen.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	2:20:00 PM	VOA-Glass	3	No
			Amber Glass	2	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	5	

General Sampling Comments

Began purge at 13:15.

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1

Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	Sample Location	MW12				
Project #	0747.01.12	Sampler	A. Bixby				
Project Name	North Cascade Ford	Sampling Date	3/17/2021				
Sampling Event	March 2021	Sample Name	MW12-GW-031721				
Sub Area		Sample Depth	10				
FSDS QA:	C. Wise 3/23/2021	Easting		Northing		TOC	

Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
3/17/2021	7:33	14.68		6.67		8.01	1.31

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
(2) Peristaltic Pump	10:50:00 AM	1.5	0.3	6.15	12	540.5	0.41	161.2	15.5
	10:53:00 AM	1.7	0.3	6.13	12	540.6	0.42	159.9	13.2
	10:56:00 AM	2	0.3	6.14	12.1	540.2	0.44	159.8	13.5
Final Field Parameters	10:59:00 AM	2.3	0.3	6.13	12.2	541.2	0.41	158.9	12.9

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations: Clear; slight gray tint; no odor; no sheen.

Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	11:00:00 AM	VOA-Glass	3	No
			Amber Glass	1	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	4	

General Sampling Comments

Began purge at 10:07.

ATTACHMENT B

ANALYTICAL LABORATORY REPORT



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

March 25, 2021

Carolyn Wise, Project Manager
Maul Foster Alongi
1329 N State St, Suite 301
Bellingham, WA 98225

Dear Ms Wise:

Included are the results from the testing of material submitted on March 18, 2021 from the North Cascade Ford 0747.01.12, F&BI 103360 project. There are 10 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
MFA0325R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on March 18, 2021 by Friedman & Bruya, Inc. from the Maul Foster Alongi North Cascade Ford 0747.01.12, F&BI 103360 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Maul Foster Alongi</u>
103360 -01	MW01R-GW-031721
103360 -02	MW02R-GW-031721
103360 -03	MWDUP-GW-031721
103360 -04	MW04-GW-031721
103360 -05	MW06-GW-031721
103360 -06	MW07-GW-031721
103360 -07	MW09-GW-031721
103360 -08	MW10-GW-031721
103360 -09	MW11-GW-031721
103360 -10	MW12-GW-031721
103360 -11	Trip Blank

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/25/21

Date Received: 03/18/21

Project: North Cascade Ford 0747.01.12, F&BI 103360

Date Extracted: 03/22/21

Date Analyzed: 03/22/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES AND TPH AS GASOLINE
USING METHODS 8021B AND NWTPH-Gx**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 52-124)
MW01R-GW-031721 103360-01	<1	<1	<1	<3	<100	74
MW02R-GW-031721 103360-02	<1	<1	<1	<3	<100	74
MWDUP-GW-031721 103360-03	<1	<1	<1	<3	<100	74
MW04-GW-031721 103360-04	<1	<1	<1	<3	<100	74
MW06-GW-031721 103360-05	<1	<1	<1	<3	<100	74
MW07-GW-031721 103360-06	<1	<1	<1	<3	<100	74
MW09-GW-031721 103360-07	<1	<1	<1	<3	<100	74
MW10-GW-031721 103360-08	<1	<1	<1	<3	<100	72
MW11-GW-031721 103360-09	<1	<1	<1	<3	<100	75
MW12-GW-031721 103360-10	<1	<1	<1	<3	<100	74
Method Blank 01-582 MB	<1	<1	<1	<3	<100	71

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/25/21

Date Received: 03/18/21

Project: North Cascade Ford 0747.01.12, F&BI 103360

Date Extracted: 03/22/21

Date Analyzed: 03/22/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES
USING METHOD 8021B**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Surrogate (% Recovery)</u> Limit (52-124)
Trip Blank 103360-11	<1	<1	<1	<3	74
Method Blank 01-582 MB	<1	<1	<1	<3	71

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/25/21

Date Received: 03/18/21

Project: North Cascade Ford 0747.01.12, F&BI 103360

Date Extracted: 03/19/21

Date Analyzed: 03/19/21

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL AND MOTOR OIL
USING METHOD NWTPH-Dx
Results Reported as ug/L (ppb)**

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> (% Recovery) (Limit 41-152)
MW01R-GW-031721 103360-01	120 x	<250	93
MW02R-GW-031721 103360-02	680 x	310 x	120
MWDUP-GW-031721 103360-03	580 x	270 x	98
MW04-GW-031721 103360-04	220 x	<250	96
MW06-GW-031721 103360-05	<50	<250	108
MW07-GW-031721 103360-06	96 x	<250	101
MW09-GW-031721 103360-07	120 x	<250	98
MW10-GW-031721 103360-08	140 x	<250	105
MW11-GW-031721 103360-09	<50	<250	106
MW12-GW-031721 103360-10	<50	<250	109
Method Blank 01-702 MB	<50	<250	105

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW11-GW-031721	Client:	Maul Foster Alongi
Date Received:	03/18/21	Project:	North Cascade Ford 0747.01.12
Date Extracted:	03/19/21	Lab ID:	103360-09 1/2
Date Analyzed:	03/20/21	Data File:	031938.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	42	15	61
Phenol-d6	33	10	46
Nitrobenzene-d5	92	17	143
2-Fluorobiphenyl	85	50	150
2,4,6-Tribromophenol	84	50	150
Terphenyl-d14	96	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.4
2-Methylnaphthalene	<0.4
1-Methylnaphthalene	<0.4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	North Cascade Ford 0747.01.12
Date Extracted:	03/19/21	Lab ID:	01-696 mb2
Date Analyzed:	03/20/21	Data File:	031929.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	17	15	61
Phenol-d6	11	10	46
Nitrobenzene-d5	96	17	143
2-Fluorobiphenyl	102	50	150
2,4,6-Tribromophenol	74	50	150
Terphenyl-d14	104	50	150

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
2-Methylnaphthalene	<0.2
1-Methylnaphthalene	<0.2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/25/21

Date Received: 03/18/21

Project: North Cascade Ford 0747.01.12, F&BI 103360

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES, AND TPH AS GASOLINE
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 103360-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	97	65-118
Toluene	ug/L (ppb)	50	90	72-122
Ethylbenzene	ug/L (ppb)	50	89	73-126
Xylenes	ug/L (ppb)	150	87	74-118
Gasoline	ug/L (ppb)	1,000	97	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/25/21

Date Received: 03/18/21

Project: North Cascade Ford 0747.01.12, F&BI 103360

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS
DIESEL EXTENDED USING METHOD NWTPH-D_x**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	112	124	63-142	10

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 03/25/21

Date Received: 03/18/21

Project: North Cascade Ford 0747.01.12, F&BI 103360

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	5	78	73	70-130	7
2-Methylnaphthalene	ug/L (ppb)	5	83	79	70-130	5
1-Methylnaphthalene	ug/L (ppb)	5	83	79	70-130	5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

103360

SAMPLE CHAIN OF CUSTODY

ME 3/18/21 E04/VW4
1 of 2Report to Carolyn WiseCompany Maul Foster & AlongiAddress 1329 N State St, Suite 301City, State, ZIP Bellingham, WA 98225Phone 360-690-5982 Email cwise@maulfoster.com

SAMPLERS (signature)

PROJECT NAME

North Cascade Ford

PO #

0747.01.12

REMARKS

INVOICE TO

accounting@

Project specific RLs? - Yes / No

maulfoster.com

TURNAROUND TIME

☒ Standard turnaround☐ RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Archive samples☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED										Notes
						Distilled by NWTPH-Dx	GRS by NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Total naphthalenes by EPA 8270 SIM			
MW01R-GW-031721	01 A-D	3/17/21	1340	W	4	X	X	X								
MW02R-GW-031721	02	3/17/21	0910	W	4	X	X	X								
MW03R-GW-031721	03	3/17/21	0910	W	4	X	X	X								
MW04-GW-031721	04	3/17/21	0840	W	4	X	X	X								
MW06-GW-031721	05	3/17/21	1030	W	4	X	X	X								
MW07-GW-031721	06	3/17/21	1300	W	4	X	X	X								
MW09-GW-031721	07	3/17/21	1140	W	4	X	X	X								Samples received at 4°C
MW10-GW-031721	08	3/17/21	1000	W	4	X	X	X								
MW11-GW-031721	09 A-E	3/17/21	1420	W	5	X	X	X					X			
MW12-GW-031721	10 A-D	3/17/21	1100	W	4	X	X	X								

Friedman & Bruya, Inc.

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SIGNATURE

Relinquished by:

Received by:

Relinquished by:

Received by:

PRINT NAME

COMPANY

DATE

TIME

Amanda Bixby

MFA

3/17/21 1700

Khari Hoang

FBT

3/18/21 14:10

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <i>Chuck Bixby</i>	Amanda Bixby	MFA	3/17/21	1700
Received by: <i>PK</i>	Khori Hocung	FBI	3/18/21	14.10
Relinquished by:				
Received by:				

ATTACHMENT C

DATA VALIDATION MEMORANDUM



DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. 0747.01.12 | APRIL 1, 2021 | VSF PROPERTIES, LLC

Maul Foster & Alongi, Inc. (MFA) conducted an independent review of the quality of analytical results for groundwater samples collected at the North Cascade Ford property, located at 116 W Ferry Street in Sedro-Woolley, Washington. The samples were collected on March 17, 2021.

Friedman & Bruya, Inc. (FBI) performed the analyses. FBI report number 103360 was reviewed. The analyses performed and samples analyzed are listed below.

Analysis	Reference
BTEX	EPA 8021B
Diesel- and Motor-Oil- Range Hydrocarbons	NWTPH-Dx
Gasoline-Range Hydrocarbons	NWTPH-Gx
Semivolatile Organic Compounds	EPA 8270E
NOTES: BTEX = benzene, toluene, ethylbenzene, xylenes. EPA = U.S. Environmental Protection Agency. NWTPH = Northwest Total Petroleum Hydrocarbons.	

Samples Analyzed		
Report 103360		
MW01R-GW-031721	MW06-GW-031721	MW11-GW-031721
MW02R-GW-031721	MW07-GW-031721	MW12-GW-031721
MWDUP-GW-031721	MW09-GW-031721	Trip Blank
MW04-GW-031721	MW10-GW-031721	--

DATA QUALIFICATIONS

Analytical results were evaluated according to applicable sections of U.S. Environmental Protection Agency (EPA) procedures (EPA, 2017) and appropriate laboratory and method-specific guidelines (EPA, 1986; FBI, 2019).

Data validation procedures were modified, as appropriate, to accommodate quality-control requirements for methods not specifically addressed by the EPA procedures (e.g., NWTPH-Dx).

According to report 103360, FBI indicated that all detected NWTPH-Dx diesel-range hydrocarbon and motor-oil-range hydrocarbon results had chromatographic patterns that did not resemble the fuel standards used for quantitation. The results were reported as diesel and motor-oil-range hydrocarbons; thus, qualification was not required.

The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

HOLDING TIMES, PRESERVATION, AND SAMPLE STORAGE

Holding Times

Extractions and analyses were performed within the recommended holding time criteria.

Preservation and Sample Storage

The samples were preserved and stored appropriately.

BLANKS

Method Blanks

Laboratory method blank analyses were performed at the required frequencies. For purposes of data qualification, the method blanks were associated with all samples prepared in the analytical batch.

All laboratory method blank results were non-detect to method reporting limits (MRLs).

Trip Blanks

As stated in report 103360, the samples submitted for EPA Method 8021B analysis consisted of the sample delivery group and one associated trip blank sample. The trip blank sample was non-detect to MRLs.

Equipment Rinse Blanks

Equipment rinse blanks were not required for this sampling event, as all samples were collected using dedicated, single-use equipment.

SURROGATE RECOVERY RESULTS

The samples were spiked with surrogate compounds to evaluate laboratory performance on individual samples.

All surrogate recoveries were within acceptance limits.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

Matrix spike/matrix spike duplicate (MS/MSD) results are used to evaluate laboratory precision and accuracy. MS/MSD results were not provided in report 103360; batch precision and accuracy were evaluated with laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) results. No action by the reviewer was required.

LABORATORY DUPLICATE RESULTS

Duplicate results are used to evaluate laboratory precision. All duplicate samples were extracted and analyzed at the required frequency. Laboratory duplicate results within five times the MRL were not evaluated for precision.

According to report 103360, the NWTPH-Dx and EPA Method 8270E precision was evaluated through LCS/LCSD results. No action by the reviewer was required.

All laboratory duplicate relative percent differences (RPDs) were within acceptance limits.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS

An LCS/LCSD is spiked with target analytes to provide information on laboratory precision and accuracy. The LCS/LCSD samples were extracted and analyzed at the required frequency.

All LCS/LCSD results were within acceptance limits for percent recovery and RPD.

FIELD DUPLICATE RESULTS

Field duplicate samples measure both field and laboratory precision. One field duplicate was submitted for analysis (MW02R-GW-031721/ MWDUP-GW-031721). MFA uses acceptance criteria of 100 percent RPD for results that are less than five times the MRL, or 50 percent RPD for results that are greater than five times the MRL. Non-detect data are not used in the evaluation of field duplicate results. All analytes were within the acceptance criteria.

REPORTING LIMITS

FBI used routine reporting limits for non-detect results, except for samples requiring dilutions because of high analyte concentrations and/or matrix interferences.

According to report 103360, the EPA Method 8270E analysis was performed with a 1:2 dilution of sample MW11-GW-031721. The reviewer confirmed that the dilution was routine and required for the analysis. No action was required.

DATA PACKAGE

The data packages were reviewed for transcription errors, omissions, and anomalies. None were found.

REFERENCES

EPA. 1986. Test methods for evaluating solid waste, physical/chemical methods. EPA publication SW-846. 3d ed. U.S. Environmental Protection Agency. Final updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), V (2015), VI phase I (2017), VI phase II (2018), and VI phase III (2019).

EPA. 2017. EPA contract laboratory program, national functional guidelines for Superfund organic methods data review. EPA 540-R-2017-002. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. January.

FBI. 2019. Quality assurance manual. Rev. 16. Friedman & Bruya, Inc., Seattle, Washington. October 2.