MAUL FOSTER ALONGI
2815 2nd Avenue, Suite 540 | Seattle, WA 98121 | 206 858 7620 | www.maulfoster.com

April 11, 2019
Project No. 0747.01.10

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

Re: Quarterly Groundwater Monitoring Results
North Cascade Ford Property, Sedro-Woolley, Washington

Dear Mr. Warfel:

In October and December 2018, Maul Foster & Alongi, Inc. (MFA) conducted quarterly groundwater monitoring events at the North Cascade Ford property at 116 West Ferry Street in Sedro-Woolley, Washington (the Property) (see Figure 1), per the Washington State Department of Ecology's (Ecology) request. Results of these events are provided in this letter.

BACKGROUND

The North Cascade Ford Site (the Site) includes the Property as well as an adjacent property to the north, owned by the Burlington Northern Santa Fe Railway Company (BNSF) (see Figures 1 and 2). Previous investigations conducted as part of environmental due diligence, as well as preliminary remedial investigation activities, have identified environmental impacts in four areas of the Site, referred to as Areas of Concern (AOCs) 1 through 4 (Figure 2) (MFA, 2015, 2017).

Groundwater monitoring was conducted in October 2018 to assess hydrogeologic conditions in AOCs 1 and 2 prior to remedial action implementation. Following completion of the October 2018 monitoring event, Ecology requested additional analyses of groundwater in AOC 4; a second groundwater monitoring event was conducted at the Property in December 2018.

FIELD PROCEDURES

During the October and December 2018 monitoring events, static water levels were measured from all monitoring wells on the Property before groundwater samples were collected (see Table 1). Groundwater-monitoring and sampling activities were conducted in accordance with industry-standard sampling protocols, using low-flow sampling methods, a peristaltic pump, a YSI water quality meter, a turbidity meter, and disposable tubing. Water quality parameters were recorded on field sampling data sheets (Attachment A). Monitoring well installation details for all monitoring wells on the Property are summarized in the May 2012 site investigation results letter and the August 2017 data gap investigation report (MFA, 2012, 2017).

Consistent with previous sampling events, free product was encountered in one monitoring well (MW01) during the October and December 2018 monitoring events. An oil interface probe and a disposable bailer were used to measure the free product thickness in the well. During the October 2018 monitoring event, a peristaltic pump and disposable tubing were used to extract free product before sampling the monitoring well.

On October 17, 2018, groundwater samples were collected from six monitoring wells located on the Property in AOCs 1 and 2: MW01, MW02R, MW04, MW06, MW07, and MW08 (Figure 2). Monitoring well MW05, in AOC 1, was not sampled because there was insufficient water in the well at the time of sampling. At Ecology's request, monitoring well MW03 in AOC 4 was sampled on December 7, 2018.

Monitoring Well Redevelopment

Because monitoring well MW03 had not been sampled since 2014, it required redevelopment prior to sampling. Redevelopment of this well, conducted on December 6, 2018, consisted of using a disposable bailer to surge and bail the well, followed by purging with a peristaltic pump and disposable tubing. After redevelopment, turbidity was measured at 7.26 nephelometric turbidity units, and all other field-measured water quality parameters had stabilized (see Attachment B). Following redevelopment, at least 24 hours were allowed for monitoring well MW03 to recharge and stabilize. MW03 was sampled on December 7, 2018 (see Attachment A).

Management of Investigation-Derived Waste

Investigation-derived waste generated during the October and December 2018 monitoring events was placed in appropriately labeled drums, which are being stored on the Property temporarily, pending off-site disposal.

Laboratory Analysis

Using standard chain-of-custody procedures, groundwater samples were submitted to OnSite Environmental, Inc., of Redmond, Washington. Samples were analyzed for:

- Diesel- and heavy-oil-range organics (DRO and ORO, respectively) by Northwest Total Petroleum Hydrocarbons (NWTPH) method Dx
- Gasoline-range organics (GRO) by NWTPH-Gx
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX) by U.S. Environmental Protection Agency (USEPA) method 8021B

RESULTS

Water level measurements and analytical results are summarized in Tables 1 and 2, respectively. The laboratory analytical reports for the October and December 2018 monitoring events are included as Attachment C. A data validation memorandum summarizing data evaluation procedures, usability of data, and deviations from field and/or laboratory methods, is presented as Attachment D. Analytical data and the laboratory's internal quality assurance and quality control data were reviewed to ensure that they meet data quality objectives. The data were validated and are considered acceptable for their intended use, with the appropriate qualifiers assigned.

During the October 2018 sampling event, groundwater was encountered between 7.72 and 10.6 feet below ground surface (see Table 1). During the December 2018 sampling event, groundwater was encountered between 5.92 and 9.15 feet below the monitoring well measuring points. Water levels were generally lower during these sampling events in comparison to previous sampling events (see Table 1). Generally, the highest water levels at the Property have been measured in the spring (i.e., April 2014 and 2017 events).

Potentiometric surface maps from October and December 2018 are provided as Figures 3 and 4, respectively. Groundwater elevation measurements during these events indicated that groundwater flow direction varied across the Property, with components of flow to the northeast, southwest, southeast, and northwest.

AOC 1: Auto Repair Shop

Four groundwater samples, including one field duplicate, from three monitoring wells (MW01, MW07, and MW08) were analyzed for GRO, DRO, and ORO. GRO were not detected in any samples (see Table 2). DRO and ORO were detected in three samples from two monitoring wells (MW01 and MW08). The highest concentrations of DRO and ORO were detected in MW01, at 900 micrograms per liter (ug/L) and 1,500 ug/L, respectively. GRO, DRO, and ORO were not detected in the samples from monitoring well MW07. Monitoring well MW05 was not sampled because the well lacked sufficient water.

The detections of DRO and ORO in samples from monitoring wells MW01 and MW08 were above their respective Model Toxics Control Act (MTCA) Method A cleanup levels (CULs). Analytical results are presented in Table 2.

AOC 2: Former Underground Storage Tanks

Three groundwater samples from three monitoring wells (MW02R, MW04, and MW06) were analyzed for DRO and ORO. Monitoring well MW06 was also analyzed for GRO. Concentrations of DRO and ORO were detected in MW02R, at 480 ug/L and 450 ug/L,

respectively (see Table 2). No detections of DRO or ORO were identified in samples collected from MW04 or MW06, and GRO was not detected at MW06.

The detections of DRO and ORO at MW02R were below their respective MTCA Method A CULs.

AOC 3: Former Coal Storage Sheds/Possible Buried Object

There are no groundwater monitoring wells in AOC 3.

AOC 4: Former Auto Services

Two groundwater samples from MW03 were analyzed for GRO and BTEX; no detectable concentrations were found.

SUMMARY

Comparison of the October and December 2018 monitoring results to previous monitoring events indicates the following:

- Free product remains in MW01 but varies from immeasurable to less than 0.02 foot thick.
- Localized groundwater flow variations, especially beneath the auto sales and service building, likely are influenced by variabilities of the subsurface soil and hydrogeologic conditions at the Property.
- AOC 1: DRO and ORO concentrations remain above MTCA Method A CULs in monitoring wells MW01 and MW08, consistent with previous observations.
- AOC 2: DRO and ORO were detected below MTCA Method A CULs in monitoring well MW02R. This is the first monitoring event with concentrations of DRO and ORO below their respective MTCA Method A CULs in all AOC 2 monitoring wells.
- AOC 4: There were no detections of GRO or BTEX at monitoring well MW03.

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

Sincerely,

Maul Foster & Alongi, Inc.

James J. Maul, LHG
Principal Hydrogeologist

Carolyn R. Wise, GIT
Project Geologist

Attachments: Limitations
References
Tables
Figures
A—Field Sampling Data Sheets
B—MW03 Well Redevelopment Form
C—Laboratory Analytical Report
D—Data Validation Memorandum

cc: Holly Stafford, Chmelik, Sitkin & Davis P.S.
Larry Setchell, Helsell Fetterman, LLP

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. 2012. Letter (re: May 2012 site investigation results, North Cascade Ford property, Sedro-Woolley, Washington) to F. Chmelik, Chmelik, Sitkin, & Davis, PS, from H. Hirsch and J. Maul, Maul Foster & Alongi, Inc., Bellingham, Washington. July 30.

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

MFA. 2016. Interim remedial action completion report, North Cascade Ford property, Sedro-Woolley, Washington. Maul Foster & Alongi, Inc., Bellingham, Washington. November 8.

MFA. 2017. 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. 2018. Feasibility study addendum, North Cascade Ford property, Sedro-Woolley, Washington. Maul Foster & Alongi, Inc., Bellingham, Washington. November 21.

TABLES

Table 1
Water Level Measurements
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)	NAPL-Corrected Depth to Water (feet)[a]	Groundwater Elevation (feet, NAVD 88)
MW01	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[d]	NA[d]	NA[d]	NA[d]
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
MW02R (replacement well for MW02)	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

Table 1
Water Level Measurements
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)	NAPL-Corrected Depth to Water (feet)[a]	Groundwater Elevation (feet, NAVD 88)
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	49.33
		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
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
MW05	56.25	04/26/2017	--	5.76	NA	50.49
		05/31/2017	--	6.35	NA	49.90
		10/17/2018	--	NA[e]	NA[e]	NA[e]
		12/06/2018	--	8.05	NA	48.20
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

Table 1
Water Level Measurements
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)	NAPL-Corrected Depth to Water (feet)[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
MW08	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

NOTES:
-- = NAPL not observed.
Max = maximum.
Min = minimum.
MP = measuring point.
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 gram 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.

[d]NAPL was present, coating entire probe tip and tubing; coated probe tip prevented measurement of thickness or water level.

[e]Water level may not be representative of groundwater elevation because screened interval was above low water table.

Table 2
Groundwater Analytical Results (ug/L)
VSF Properties, LLC, North Cascade Ford Property
Sedro-Woolley, Washington

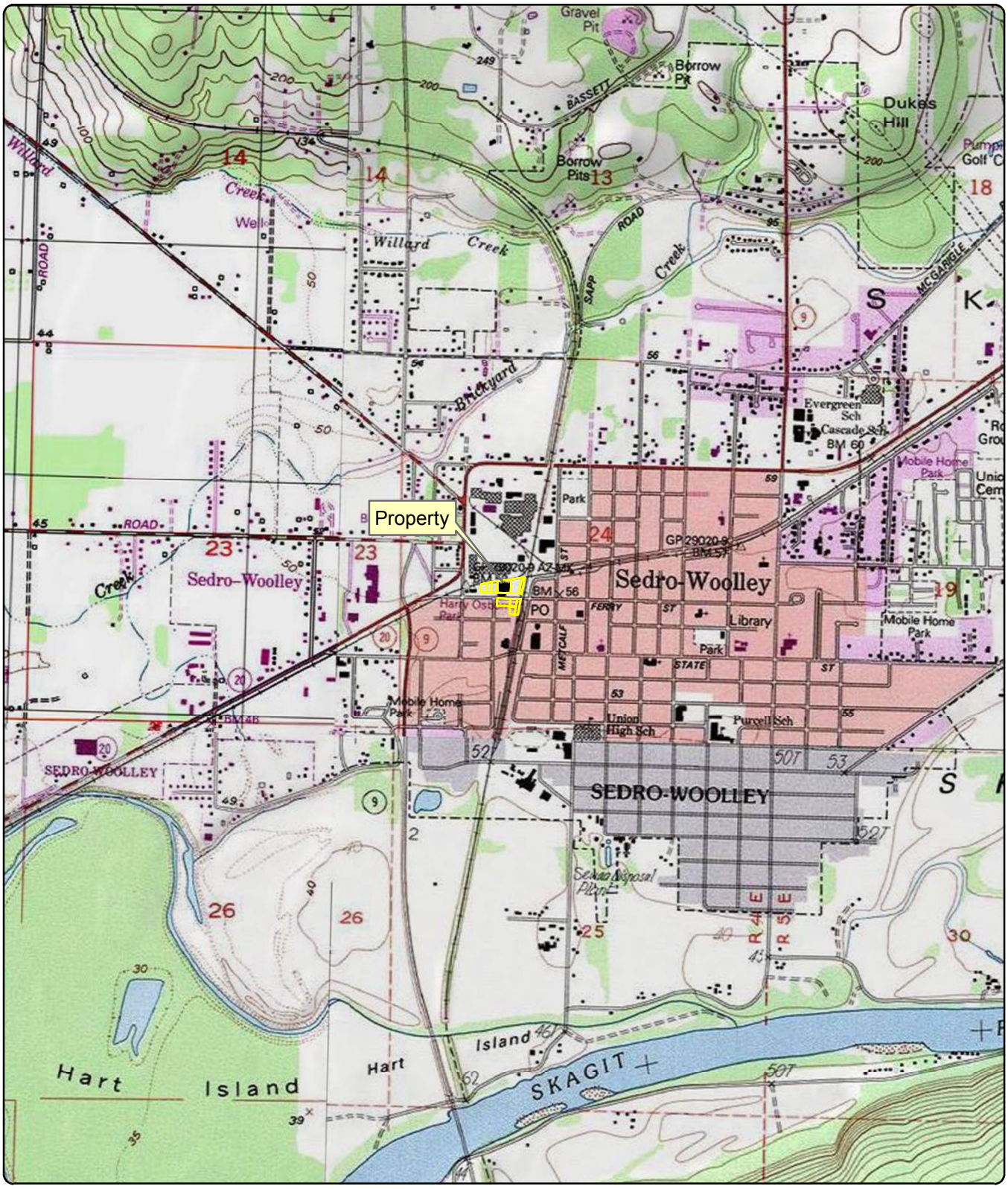
AOC	Location	Sample Name	Collection Date:	Collection Depth (ft bgs)[a]	Benzene	Ethylbenzene	Toluene	m,p-Xylene	o-Xylene	Xylenes[b]	Gasoline-Range Organics	Diesel-Range Organics	Heavy-Oil-Range Organics
MTCA Method A Cleanup Level					5	700	1,000	NV	NV	1,000	800[b]	500	500
1	MW01	MW1-W-8.5	05/15/2012	5.61-13.44	**0.3**	0.2 U	0.2 U	0.4 U	0.4 U	0.4 U	**400**	**1300**	**240**
		FIELD DUPLICATE			**0.3**	0.2 U	0.2 U	0.4 U	0.4 U	0.4 U	**380**	**1200**	**220**
		MW01-GW-20121019	10/09/2012	9.87-13.44	--	--	--	--	--	--	--	**1800**	**490**
		MW01	04/10/2014	NM	0.2 U	0.2 U	0.2 U	0.4 U	0.4 U	0.4 U	250 U	**1700**	**870**
		MWDUP			0.2 U	0.2 U	0.2 U	0.4 U	0.4 U	0.4 U	250 U	**1600**	**930**
		MW01-GW-140618	06/18/2014	6.09-13.45	--	--	--	--	--	--	--	**1400**	**310**
		FD-GW-140618			--	--	--	--	--	--	--	**1700**	**350**
		MW01-GW-091014	09/10/2014	7.74-13.44	--	--	--	--	--	--	--	**1300**	**300**
		FD-091014			--	--	--	--	--	--	--	**1400**	**390**
		MW01-GW-121014	12/10/2014	6.08-13.46	--	--	--	--	--	--	--	**2400**	**1400**
		FD-121014			--	--	--	--	--	--	--	**1900**	**1200**
		MW01-GW-112816	11/28/2016	6.12-13.43	--	--	--	--	--	--	--	**1300**	610 U
		MWDUP-GW-112816			--	--	--	--	--	--	--	**1300**	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**	**1500**
	MW05	MW05-GW-042617	04/26/2017	5.76-10.60	--	--	--	--	--	--	**490**	**1300**	**1100**
	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
	MW08	MW08-GW-042617	04/26/2017	7.38-15.80	--	--	--	--	--	--	400 U	**1000**	**690**
		MW08-GW-101718	10/17/2018	10.05-15.80	--	--	--	--	--	--	100 U	**700**	**580**
		MWDUP-GW-101718			--	--	--	--	--	--	500 U	**780**	**970**
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	0.4 U	0.4 U	250 U	**1900**	**240**
		MW02-GW-20121019	10/09/2012	9.29-13.84	--	--	--	--	--	--	--	**690**	200 U
		MW02	04/10/2014	6.12-13.81	--	--	--	--	--	--	--	**11000**	**1300**
		MW02-GW-140618	06/18/2014	6.98-13.80	--	--	--	--	--	--	--	**3800**	**410**
		MW02-GW-091014	09/10/2014	8.37-13.84	--	--	--	--	--	--	--	**770**	200 U
		MW02-GW-121014	12/10/2014	7.11-13.85	--	--	--	--	--	--	--	**1300**	**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**
	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
	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

Table 2
Groundwater Analytical Results (ug/L)
VSF Properties, LLC, North Cascade Ford Property
Sedro-Woolley, Washington

AOC	Location	Sample Name	Collection Date:	Collection Depth (ft bgs)[a]	Benzene	Ethylbenzene	Toluene	m,p-Xylene	o-Xylene	Xylenes[b]	Gasoline-Range Organics	Diesel-Range Organics	Heavy-Oil-Range Organics
MTCA Method A Cleanup Level					5	700	1,000	NV	NV	1,000	800[b]	500	500
4	MW03	MW3-W-9	05/15/2012	5.40-13.85	0.2 U	0.2 U	0.2 U	0.4 U	0.4 U	0.4 U	250 U	--	--
		MW03-GW-121009	10/09/2012	8.11-13.85	**0.19 J**	0.2 U	0.2 U	0.4 U	0.4 U	0.4 U	250 U	**360**	**260**
		FD-GW-20121019			**0.2**	0.2 U	0.2 U	0.4 U	0.4 U	0.4 U	250 U	**310**	**200**
		MW03	04/10/2014	5.00-13.85	--	--	--	--	--	--	--	**340**	**370**
		MW03-GW-140618	06/18/2014	5.87-13.83	--	--	--	--	--	--	--	**320**	200 U
		MW03-GW-091014	09/10/2014	6.94-13.85	--	--	--	--	--	--	--	**210**	200 U
		MW03-GW-121014	12/10/2014	5.10-13.84	--	--	--	--	--	--	--	**210**	**300**
		MW03-GW-120718	12/07/2018	5.92-13.89	1 U	1 U	1 U	1 U	1 U	1 U	100 U	--	--
		MWDUP-GW-120718		5.92-13.89	1 U	1 U	1 U	1 U	1 U	1 U	100 U	--	--

NOTES:
CUL exceedances highlighted.
Detected concentrations are compared to MTCA Method A CULs for groundwater.
Detections in **bold.**
-- = not analyzed.
AOC = area of concern.
CUL = cleanup level.
ft bgs = feet below ground surface.
J = Result is an estimated value.
MTCA = Model Toxics Control Act.
NM = Because of unanticipated presence of free product, water level not measured.
U = Analyte not detected at or above method reporting limit.
ug/L = micrograms per liter (parts per billion).
[a]Sample collection depths are from top of water table or top of screened interval, whichever is deeper, to bottom of screened interval.
[b]Total xylenes are sum of m,p-xylene and o-xylene. When both results are non-detect, the higher reporting limit is used.

FIGURES



Property Address: 116 W Ferry Street, Sedro-Woolley, Washington
Source: US 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

VSF Properties, LLC
North Cascade Ford Property
Sedro-Woolley, Washington

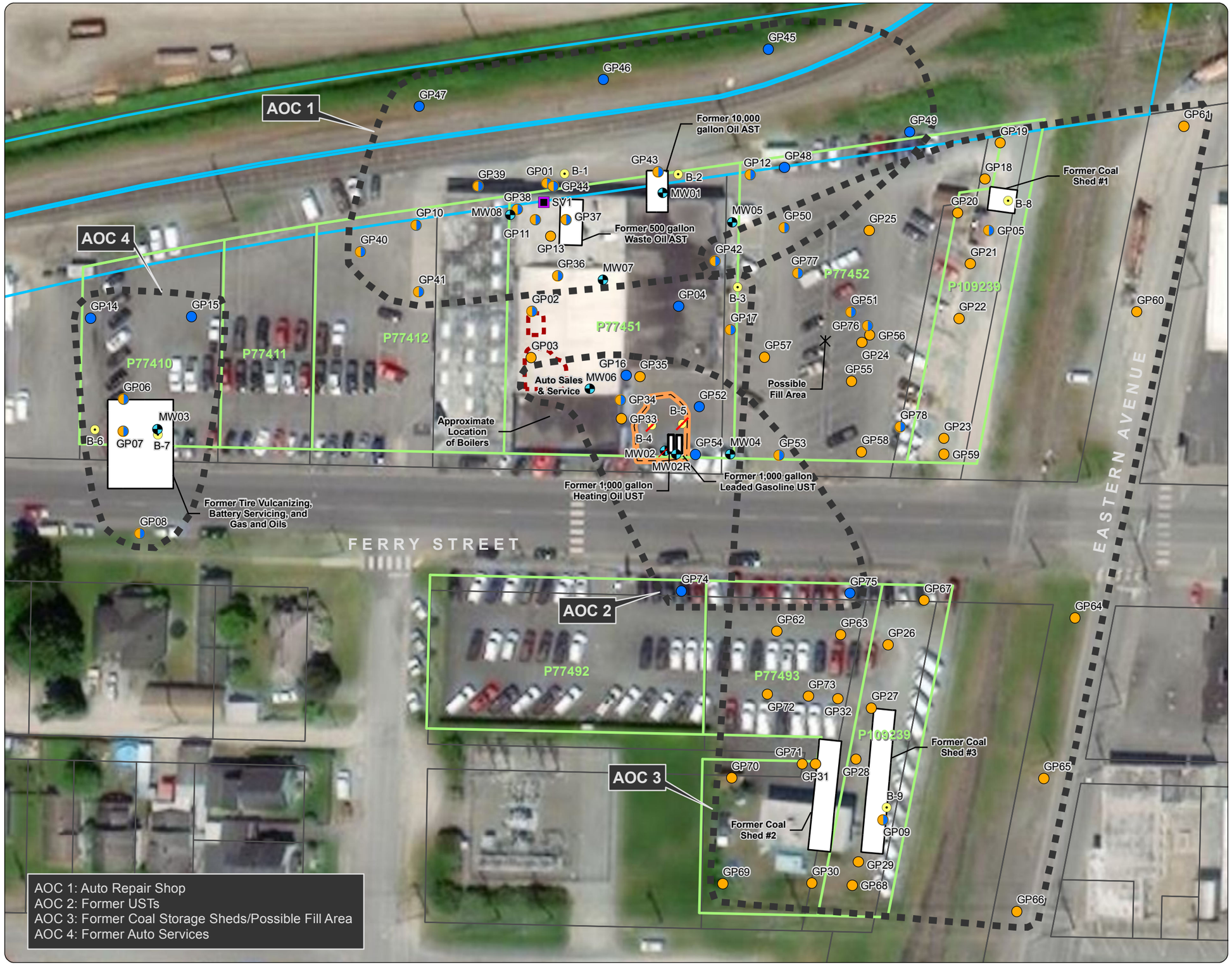
0 1,000 2,000
Feet

MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfoster.com

Path: X:\0747.01\Projects\0203\Fig1_PropertyLocation.mxd
Print Date: 1/24/2019
Approved By: H. Good
Produced By: abixby
Project: 0747.01.06

Figure 2
Site Features and Areas of Concern

VSF Properties, LLC
North Cascade Ford Property
Sedro-Woolley, Washington



AOC 1: Auto Repair Shop
AOC 2: Former USTs
AOC 3: Former Coal Storage Sheds/Possible Fill Area
AOC 4: Former Auto Services

Legend

- UST Removal Excavation Area
- Hoist Removal Excavation Area
- Property Parcel
- BNSF-owned Parcel
- Sub-slab Soil Vapor Probe
- Monitoring Well Location
- Monitoring Well Location (decommissioned)
- Phase II ESA Boring Location
- Phase II ESA Boring Location (soil removed)
- MFA Boring, Groundwater
- MFA Boring, Soil
- MFA Boring, Soil and Groundwater

NOTES:
AOC boundaries represent the extent of investigation locations included in the assessment of environmental impacts associated with potential releases in each AOC and are not necessarily representative of the extent of contamination associated with each AOC.
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.
AST = aboveground storage tank.
BNSF = Burlington Northern Santa Fe Railway.
ESA = environmental site assessment.
MFA = Maul Foster & Alongi, Inc.
Property = North Cascade Ford Property.
UST = underground storage tank.

0 30 60
Feet

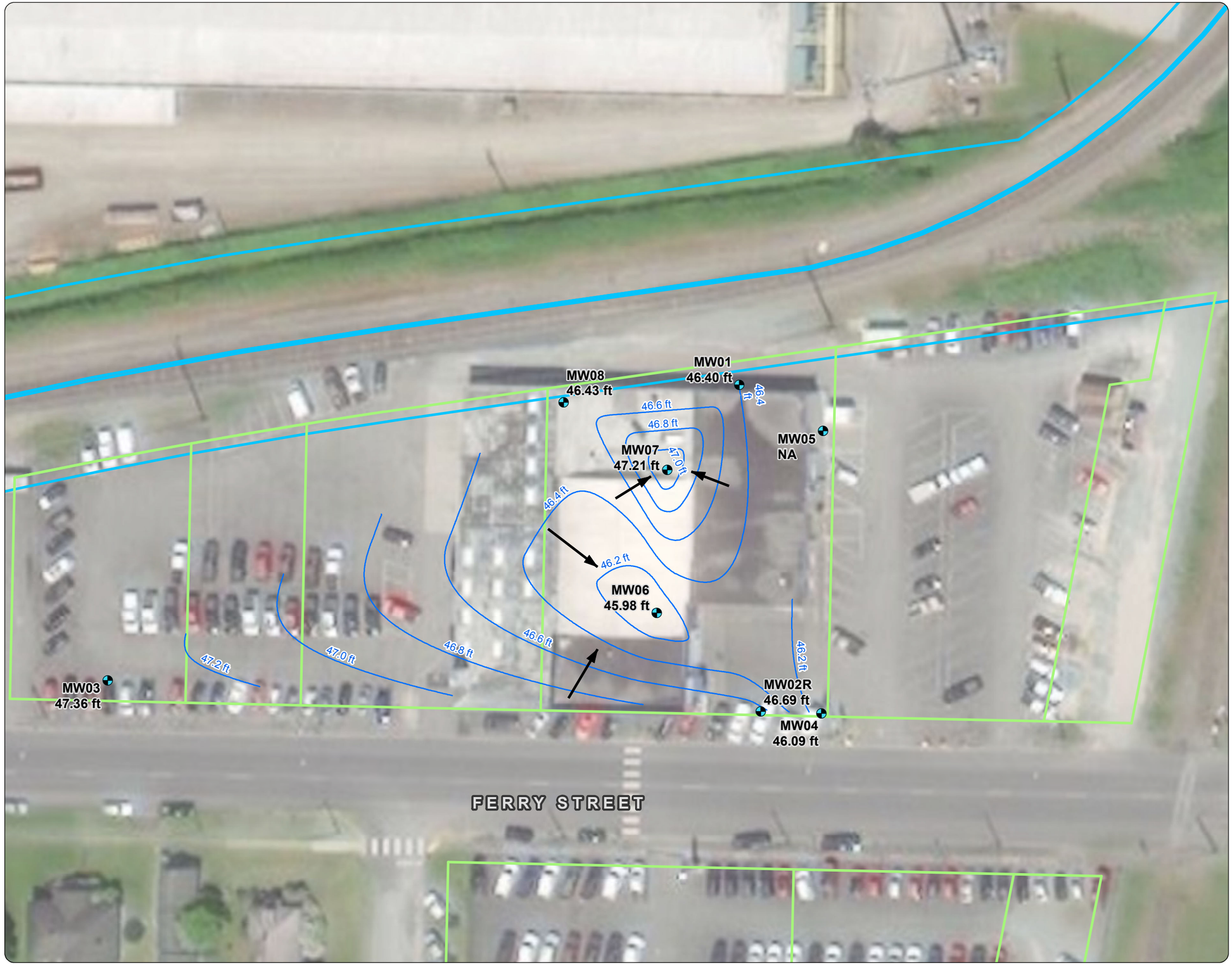
Source: Aerial photograph obtained from ArcGIS Online. Property parcel boundaries surveyed by Wilson Engineering, LLC. Adjacent parcel boundaries obtained from Skagit County.

MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfoster.com

Path: X:\0747.01\Projects\02\03\Fig2_SiteFeatures_AOCs.mxd
Print Date: 1/31/2019
Approved By: H. Good
Produced By: abixby
Project: 0747.01.07

Figure 3
Groundwater Elevation Contours - October 2018

VSF Properties, LLC
North Cascade Ford Property
Sedro-Woolley, Washington



Legend

- Monitoring Well Location
- Property Parcel
- BNSF-owned Parcel
- Groundwater Flow Direction

Notes:
BNSF = Burlington Northern Santa Fe Railway.
ft = feet.
NA = not available. Very little water was present in the monitoring well during sampling; therefore, the water level measurement was not considered representative of the water table.
NAVD = North American Vertical Datum of 1988.
Water levels measured on October 17, 2018.
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.

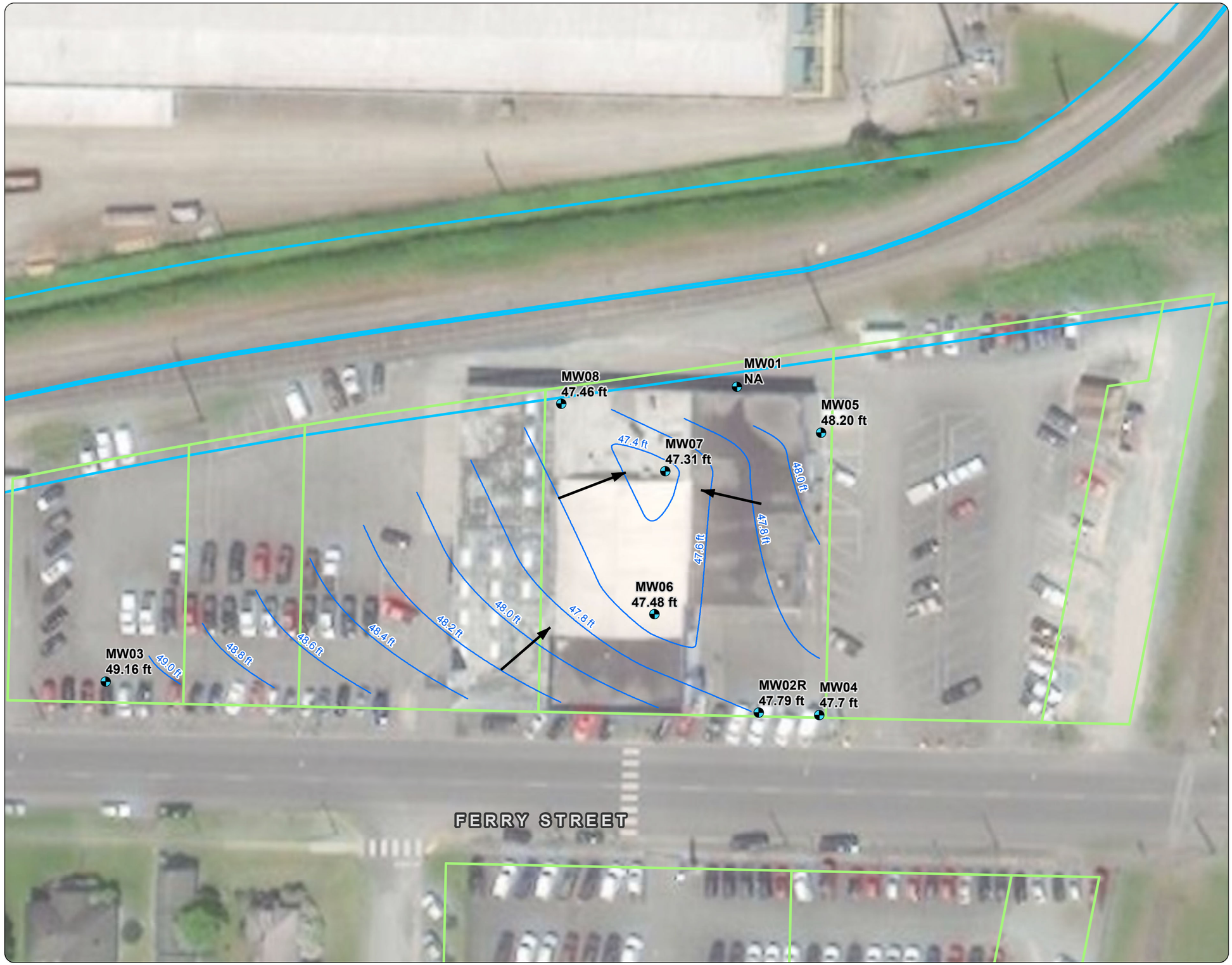
0 25 50
Feet

Source: Aerial photograph (2015) obtained from Skagit County iMap. Property parcel boundaries surveyed by Wilson Engineering, LLC. Adjacent parcel boundaries obtained from Skagit County.

MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfoster.com

Figure 4
Groundwater Elevation Contours - December 2018

VSF Properties, LLC
North Cascade Ford Property
Sedro-Woolley, Washington



Legend

- Monitoring Well Location
- Property Parcel
- BNSF-owned Parcel
- Groundwater Flow Direction

Notes:
BNSF = Burlington Northern Santa Fe Railway.
ft = feet.
NA = not available. Thick, viscous free product adhered to the oil-water interface probe sensor and prevented the probe from reading the water level.
NAVD = North American Vertical Datum of 1988.
Water levels measured on December 6, 2018.
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.

0 25 50
Feet

Source: Aerial photograph (2015) obtained from Skagit County iMap. Property parcel boundaries surveyed by Wilson Engineering, LLC. Adjacent parcel boundaries obtained from Skagit County.

MAUL FOSTER ALONGI
p. 971 544 2139 | www.maulfoster.com

Path: X:\0747.01\Projects\02\03\Fig4_GroundwaterElevationContours_Dec2018.mxd
Print Date: 1/31/2019
Approved By: C. Wise
Produced By: abixby
Project: 0747.01.06

ATTACHMENT A

FIELD SAMPLING DATA SHEETS

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	**Sample Location**	MW-01
Project #	0747.01.02	**Sampler**	C. Wise & A. Bixby
Project Name	North Cascade Ford	**Sampling Date**	10/17/2018
Sampling Event	October 2018	**Sample Name**	MW01-GW-101718
Sub Area		**Sample Depth**	11.5
FSDS QA:	CRW 1/10/2019	**Easting**	**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
10/17/2018	9:30	13.4	9.68	9.7	0.02	3.7	0.6

(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									
Final Field Parameters									

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:

Dark brown, viscous liquid coating probe tip.

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	2	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	5	

General Sampling Comments

Removed two gallons of water from well casing using bailer. Placed tubing down well until base of tubing was located at the center of the water column, then collected grab sample.

Signature _____

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	**Sample Location**	MW-02R
Project #	0747.01.02	**Sampler**	C. Wise & A. Bixby
Project Name	North Cascade Ford	**Sampling Date**	10/17/2018
Sampling Event	October 2018	**Sample Name**	MW02R-GW-101718
Sub Area		**Sample Depth**	12.2
FSDS QA:	CRW 1/10/2019	**Easting**	**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
10/17/2018	8:30	14.8		9.9		4.9	0.8

(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	3:45:00 PM	0.5	0.2	6.83	18.08	423	0.65	-89.9	16.2
	3:50:00 PM	0.7	0.2	6.83	17.99	412	0.56	-92	11.7
	3:55:00 PM	0.9	0.2	6.85	17.82	400	0.54	-91.9	8.4
	4:00:00 PM	1.2	0.2	6.87	17.67	396	0.58	-87.1	6.45
Final Field Parameters	4:05:00 PM	1.4	0.2	6.88	17.51	394	0.56	-86.8	6.45

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: Hydrocarbon-like odor, sheen on purge water.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	4:15:00 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 purging at 15:35.

Signature _____

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	**Sample Location**	MW-03
Project #	0747.01.02	**Sampler**	
Project Name	North Cascade Ford	**Sampling Date**	
Sampling Event	October 2018	**Sample Name**	
Sub Area		**Sample Depth**	
FSDS QA:	CRW 1/10/2019	**Easting**	**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
10/17/2018	9:07	13.85		7.72		6.13	1

(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**
Final Field Parameters									

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:

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
			VOA-Glass		
			Amber Glass		
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	0	

General Sampling Comments

Monitoring well was not sampled because it is not included in monitoring well network.

Signature _____

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	**Sample Location**	MW-03		
Project #	0747.01.02	**Sampler**	A. Bixby		
Project Name	North Cascade Ford	**Sampling Date**	12/7/2018		
Sampling Event	December 2018	**Sample Name**	MW03-GW-120718		
Sub Area		**Sample Depth**	9.9		
FSDS QA:	CRW 1/10/2019	**Easting**		**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
12/7/2018	12:35	13.86		5.92		7.94	1.3

(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	1:15:00 PM	2.5	0.3	6.23	14.04	206	0.89	19.9	2.86
	1:20:00 PM	2.7	0.3	6.24	13.24	208	0.86	12.3	3.25
	1:25:00 PM	2.9	0.3	6.22	13.19	212	0.83	8.6	3.68
Final Field Parameters	1:30:00 PM	3.1	0.3	6.22	13.06	213	0.8	5.5	3.53

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. No odor. No sheen.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	1:35:00 PM	VOA-Glass	9	No
			Amber Glass		
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	9	

General Sampling Comments Began purge at 12:40 PM. Collected MWDUP-GW-120718.

Signature _____

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	**Sample Location**	MW-04		
Project #	0747.01.02	**Sampler**	C. Wise & A. Bixby		
Project Name	North Cascade Ford	**Sampling Date**	10/17/2018		
Sampling Event	October 2018	**Sample Name**	MW04-GW-101718		
Sub Area		**Sample Depth**	12		
FSDS QA:	CRW 1/10/2019	**Easting**		**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
10/17/2018	8:22	13.6		10.23		3.37	0.55

(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	4:35:00 PM	0.8	0.2	6.81	17.58	338	4.96	59.3	29.5
	4:40:00 PM	1	0.2	6.81	17.51	338	4.94	61.5	28
Final Field Parameters	4:45:00 PM	1.2	0.2	6.8	17.43	338	4.83	63.7	25.4

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:

Some organic debris present during initial purge. No odor or visible sheen.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	5:00:00 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 purging at 15:13, at 15:37 well became dry after removing approximately 0.75-gallons. Paused purging to allow for groundwater recharge. Resumed purging at 16:31.

Signature _____

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	**Sample Location**	MW-05
Project #	0747.01.02	**Sampler**	
Project Name	North Cascade Ford	**Sampling Date**	
Sampling Event	October 2018	**Sample Name**	
Sub Area		**Sample Depth**	
FSDS QA:	CRW 1/10/2019	**Easting**	**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
10/17/2018	9:23	10.65		10.55		0.1	0.02

(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**
Final Field Parameters									

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:

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
			VOA-Glass		
			Amber Glass		
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	0	

General Sampling Comments

Attempted to purge at 14:50, but no water was present in the well.

Signature _____

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	**Sample Location**	MW-06				
Project #	0747.01.02	**Sampler**	C. Wise & A. Bixby				
Project Name	North Cascade Ford	**Sampling Date**	10/17/2018				
Sampling Event	October 2018	**Sample Name**	MW06-GW-101718				
Sub Area		**Sample Depth**	15				
FSDS QA:	CRW 1/10/2019	**Easting**		**Northing**		**TOC**	

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
10/17/2018	8:38	19.72		10.6		9.12	1.5

(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	2:05:00 PM	0.8	0.2	6.38	17.37	259	0.58	-1.6	21.7
	2:10:00 PM	1	0.2	6.39	17.38	258	0.51	-6.8	12.1
	2:15:00 PM	1.2	0.2	6.39	17.39	257	0.52	-9.2	10.7
	2:20:00 PM	1.4	0.2	6.4	17.35	257	0.39	-10.8	8.77
	2:25:00 PM	1.6	0.2	6.4	17.34	256	0.35	-11.9	5.53
Final Field Parameters	2:30:00 PM	1.8	0.2	6.4	17.38	256	0.35	-12.2	5.53

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: No sheen or odor. Initial purge had organic debris. Clear.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	2:30:00 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 13:50.

Signature _____

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	**Sample Location**	MW-07		
Project #	0747.01.02	**Sampler**	C. Wise & A. Bixby		
Project Name	North Cascade Ford	**Sampling Date**	10/17/2018		
Sampling Event	October 2018	**Sample Name**	MW07-GW-101718		
Sub Area		**Sample Depth**	14.5		
FSDS QA:	CRW 1/10/2019	**Easting**		**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
10/17/2018	8:48	19.73		9.25		10.48	1.7

(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	11:35:00 AM	2.2	0.2	6.41	16.88	338	0.61	21.5	158
	11:40:00 AM	2.4	0.2	6.42	16.89	338	0.52	14.5	148
	11:45:00 AM	2.6	0.2	6.42	16.92	338	0.52	11.5	128
	11:50:00 AM	2.8	0.2	6.41	16.93	336	0.53	9.6	109
	11:55:00 AM	3	0.2	6.41	16.95	335	0.53	7.9	90
	12:00:00 PM	3.2	0.2	6.4	16.98	335	0.59	6	84.4
Final Field Parameters	12:05:00 PM	3.4	0.2	6.4	16.99	335	0.55	3.3	81.6

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: Cloudy. Orange hue to purge water.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	12:10:00 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 10:53.

Signature _____

Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

Water Field Sampling Data Sheet

Client Name	VSF Properties, LLC	**Sample Location**	MW-08		
Project #	0747.01.02	**Sampler**	C. Wise & A. Bixby		
Project Name	North Cascade Ford	**Sampling Date**	10/17/2018		
Sampling Event	October 2018	**Sample Name**	MW08-GW-101718		
Sub Area		**Sample Depth**	13		
FSDS QA:	CRW 1/10/2019	**Easting**		**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
10/17/2018	8:58	15.8		10.05		5.75	0.94

(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	12:50:00 PM	1	0.2	6.51	14.83	503	0.56	-44.3	50.5
	12:55:00 PM	1.2	0.2	6.51	14.81	499	1.1	-51.2	37.3
	1:00:00 PM	1.4	0.2	6.51	14.78	494	1.06	-56.2	30.8
	1:05:00 PM	1.6	0.2	6.5	14.79	488	0.58	-58.3	24.1
	1:10:00 PM	1.8	0.2	6.5	14.78	482	0.54	-60.8	21.1
	1:15:00 PM	2	0.2	6.5	14.77	478	0.52	-61.9	20.8
Final Field Parameters	1:20:00 PM	2.2	0.2	6.5	14.76	474	0.5	-62.8	20.9

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: Slightly cloudy. Strong odor. No sheen.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	1:30:00 PM	VOA-Glass	6	No
			Amber Glass	4	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	10	

General Sampling Comments Began purge at 12:30. Collected MWDUP-GW-101718.

Signature _____

ATTACHMENT B

MW03 WELL REDEVELOPMENT FORM

MAUL FOSTER ALONGI

Well Development Form

Project No.	0747.01.02	Date	12/6/2018		
Site Location:	Sedro-Woolley, Washington	Well:	MW-03		
Name:	North Cascade Ford	Initial DTB:	13.7'	Final DTB	13.7
Development Method:	Bailer, Peristaltic Pump	Initial DTW	5.88'	Final DTW	6.5
Total Water Removed	21.4 gallons	Pore Volume:	1.2 gallons		
Water Contained	5-gallon buckets	Casing Diameter:	2'		
Estimated Specific Capacity	--	Meter No.	--		

Time	Cum. Vol Removed	Turbidity NTU	pH	Conductivity (uS/cm)	Temp °C	DO (mg/L)	Eh	Comments
1050	--	--	--	--	--	--	--	Begin surging with bailer.
1100	--	--	--	--	--	--	--	Begin purging with bailer.
1120	6	112	--	--	--	--	--	
1130	8	322	--	--	--	--	--	
1140	12	191	--	--	--	--	--	
1147	15	160						
1150	15		--	--	--	--	--	Begin purging with peristaltic pump.
1154	15.5	75.7	--	--	--	--	--	
1200	15.8	42.1	--	--	--	--	--	
1208	16.5	20.5	--	--	--	--	--	
1220	18	16.9	--	--	--	--	--	Collect parameters with YSI.
1225	18.5	12.5	6.29	217	13.55	1.2	14.5	
1230	19	10.6	6.27	201	13.6	1.19	0.7	
1235	19.5	11	6.26	195	13.7	0.94	-7.8	
1240	20	9.97	6.26	194	13.7	0.83	-13.4	
1245	20.5	7	6.26	194	13.67	0.79	-23	
1250	20.8	7.36	6.26	194	13.64	0.75	-23.3	
1255	21.4	7.26	6.26	194	13.63	0.73	-24	Well redevelopment completed.

ATTACHMENT C

ANALYTICAL LABORATORY REPORT

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 24, 2018

Carolyn Wise
Maul Foster & Alongi, Inc.
1329 North State Street, Suite 301
Bellingham, WA 98225

Re: Analytical Data for Project 0747.01.09
Laboratory Reference No. 1810-236

Dear Carolyn:

Enclosed are the analytical results and associated quality control data for samples submitted on October 18, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: October 24, 2018
Samples Submitted: October 18, 2018
Laboratory Reference: 1810-236
Project: 0747.01.09

Case Narrative

Samples were collected on October 17, 2018 and received by the laboratory on October 18, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: October 24, 2018
Samples Submitted: October 18, 2018
Laboratory Reference: 1810-236
Project: 0747.01.09

GASOLINE RANGE ORGANICS
NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW01-GW-101718**					
Laboratory ID:	10-236-01					
Gasoline	**ND**	500	NWTPH-Gx	10-18-18	10-18-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*89*	*66-117*				
Client ID:	**MW06-GW-101718**					
Laboratory ID:	10-236-04					
Gasoline	**ND**	100	NWTPH-Gx	10-18-18	10-18-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*89*	*66-117*				
Client ID:	**MW07-GW-101718**					
Laboratory ID:	10-236-05					
Gasoline	**ND**	100	NWTPH-Gx	10-18-18	10-18-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*89*	*66-117*				
Client ID:	**MW08-GW-101718**					
Laboratory ID:	10-236-06					
Gasoline	**ND**	100	NWTPH-Gx	10-18-18	10-18-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*87*	*66-117*				
Client ID:	**MWDUP-GW-101718**					
Laboratory ID:	10-236-07					
Gasoline	**ND**	500	NWTPH-Gx	10-18-18	10-18-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*87*	*66-117*				
Client ID:	**Trip Blanks**					
Laboratory ID:	10-236-08					
Gasoline	**ND**	100	NWTPH-Gx	10-18-18	10-18-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*89*	*66-117*				

Date of Report: October 24, 2018
Samples Submitted: October 18, 2018
Laboratory Reference: 1810-236
Project: 0747.01.09

GASOLINE RANGE ORGANICS
NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1018W1					
Gasoline	**ND**	100	NWTPH-Gx	10-18-18	10-18-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*88*	*66-117*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	10-242-01										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*88*	*88*	*66-117*			

Date of Report: October 24, 2018
Samples Submitted: October 18, 2018
Laboratory Reference: 1810-236
Project: 0747.01.09

GASOLINE RANGE ORGANICS
NWTPH-Gx
CONTINUING CALIBRATION SUMMARY

Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
CCVH1018G-1	2.50	2.75	-10	+/- 20%
CCVH1018G-2	2.50	2.56	-2	+/- 20%

Date of Report: October 24, 2018
Samples Submitted: October 18, 2018
Laboratory Reference: 1810-236
Project: 0747.01.09

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW01-GW-101718**					
Laboratory ID:	10-236-01					
Diesel Range Organics	**0.90**	0.25	NWTPH-Dx	10-19-18	10-19-18	
Lube Oil Range Organics	**1.5**	0.41	NWTPH-Dx	10-19-18	10-19-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				
Client ID:	**MW02R-GW-101718**					
Laboratory ID:	10-236-02					
Diesel Range Organics	**0.48**	0.25	NWTPH-Dx	10-19-18	10-19-18	
Lube Oil Range Organics	**0.45**	0.40	NWTPH-Dx	10-19-18	10-19-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*87*	*50-150*				
Client ID:	**MW04-GW-101718**					
Laboratory ID:	10-236-03					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	10-19-18	10-19-18	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	10-19-18	10-19-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*102*	*50-150*				
Client ID:	**MW06-GW-101718**					
Laboratory ID:	10-236-04					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	10-19-18	10-19-18	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	10-19-18	10-19-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*95*	*50-150*				
Client ID:	**MW07-GW-101718**					
Laboratory ID:	10-236-05					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	10-19-18	10-19-18	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	10-19-18	10-19-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*93*	*50-150*				
Client ID:	**MW08-GW-101718**					
Laboratory ID:	10-236-06					
Diesel Range Organics	**0.70**	0.26	NWTPH-Dx	10-19-18	10-19-18	
Lube Oil Range Organics	**0.58**	0.41	NWTPH-Dx	10-19-18	10-19-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*92*	*50-150*				

Date of Report: October 24, 2018
Samples Submitted: October 18, 2018
Laboratory Reference: 1810-236
Project: 0747.01.09

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MWDUP-GW-101718**					
Laboratory ID:	10-236-07					
Diesel Range Organics	**0.78**	0.26	NWTPH-Dx	10-19-18	10-19-18	
Lube Oil Range Organics	**0.97**	0.41	NWTPH-Dx	10-19-18	10-19-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				

Date of Report: October 24, 2018
Samples Submitted: October 18, 2018
Laboratory Reference: 1810-236
Project: 0747.01.09

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1019W1					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	10-19-18	10-19-18	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	10-19-18	10-19-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*81*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	10-236-01										
	ORIG	DUP									
Diesel Range Organics	**0.904**	**0.627**	NA	NA		NA		NA	36	NA	
Lube Oil Range Organics	**1.47**	**0.955**	NA	NA		NA		NA	42	NA	
Surrogate:											
o-Terphenyl						*106*	*94*	*50-150*			
SPIKE BLANK											
Laboratory ID:	SB1019W1										
Diesel Fuel #2	**1.04**		1.00		NA	**104**		51-129	NA	NA	
Surrogate:											
o-Terphenyl						*108*		*50-150*			

Date of Report: October 24, 2018
Samples Submitted: October 18, 2018
Laboratory Reference: 1810-236
Project: 0747.01.09

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
CONTINUING CALIBRATION SUMMARY

Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
CCV1019F-V3	100	98.6	1.4	+/-15%
CCV1019F-V4	100	96.4	3.6	+/-15%
CCV1019F-V5	100	97.6	2.4	+/-15%
CCV1019F-V6	100	98.1	1.9	+/-15%
CCV1019R-V4	100	95.0	5.0	+/-15%
CCV1019R-V5	100	95.8	4.2	+/-15%
CCV1019R-V6	100	96.3	3.7	+/-15%
CCV1019R-V7	100	94.7	5.3	+/-15%

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Maul Foster Alongi
Project Number: 0747.01.09
Project Name: N. Cascade Ford
Project Manager: Carolyn Wise
Sampled by: Amanda Bixby

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 10-236

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
1	MW01-GW-101718	10/17/18	1030	W	5			X	X																		
2	MW02R-GW-101718				5				X																		
3	MW04-GW-101718		1700		5				X																		
4	MW06-GW-101718		1430		5			X	X																		
5	MW07-GW-101718		1210		5			X	X																		
6	MW08-GW-101718		1330		5			X	X																		
7	MWDUP-GW-101718		1330		5			X	X																		
8	Trip Blanks		—		~~5~~ 3 KA 10-18			X																			

	Signature	Company	Date	Time
Relinquished	Carolyn Wise	MFA	10/17/18	
Received	Kelsea Green	OSE	10/18/18	1021
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☒ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☒

Sample/Cooler Receipt and Acceptance Checklist

Client: MFA

Client Project Name/Number: 0747.01.09

OnSite Project Number: 10-236

Initiated by: KL

Date Initiated: 10/18/18

1.0 Cooler Verification

1.1 Were there custody seals on the outside of the cooler?	Yes	(No)	N/A	1 2 3 4
1.2 Were the custody seals intact?	Yes	No	(N/A)	1 2 3 4
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	(N/A)	1 2 3 4
1.4 Were the samples delivered on ice or blue ice?	(Yes)	No		1 2 3 4
1.5 Were samples received between 0-6 degrees Celsius?	Yes	(No)	Temperature: 7	
1.6 Have shipping bills (if any) been attached to the back of this form?	(Yes)	~~N/A~~		
1.7 How were the samples delivered? KL 11-15-18	Client	~~Courier~~	UPS/FedEx	OSE Pickup Other

2.0 Chain of Custody Verification

2.1 Was a Chain of Custody submitted with the samples?	(Yes)	No		1 2 3 4
2.2 Was the COC legible and written in permanent ink?	(Yes)	No		1 2 3 4
2.3 Have samples been relinquished and accepted by each custodian?	(Yes)	No		1 2 3 4
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	(Yes)	No		1 2 3 4
2.5 Were all of the samples listed on the COC submitted?	(Yes)	No		1 2 3 4
2.6 Were any of the samples submitted omitted from the COC?	Yes	(No)		1 2 3 4

3.0 Sample Verification

3.1 Were any sample containers broken or compromised?	(Yes)	~~No~~		1 2 3 4
3.2 Were any sample labels missing or illegible?	Yes	(No)		1 2 3 4
3.3 Have the correct containers been used for each analysis requested?	(Yes)	No		1 2 3 4
3.4 Have the samples been correctly preserved?	(Yes)	No	N/A	1 2 3 4
3.5 Are volatiles samples free from headspace and bubbles greater than 6mm?	(Yes)	No	N/A	1 2 3 4
3.6 Is there sufficient sample submitted to perform requested analyses?	(Yes)	No		1 2 3 4
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	(No)		1 2 3 4
3.8 Was method 5035A used?	Yes	No	(N/A)	1 2 3 4
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#		(N/A)	1 2 3 4

Explain any discrepancies:

1.1 Taped
3.1 #3 1 vial broken

1 - Discuss issue in Case Narrative

2 - Process Sample As-is

3 - Client contacted to discuss problem

4 - Sample cannot be analyzed or client does not wish to proceed

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

December 17, 2018

Andrew Kaparos
Maul Foster & Alongi, Inc.
Bay Vista Tower
2815 2nd Avenue, Suite 540
Seattle, WA 98121

Re: Analytical Data for Project 0747.01.02
Laboratory Reference No. 1812-085

Dear Andrew:

Enclosed are the analytical results and associated quality control data for samples submitted on December 8, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: December 17, 2018
Samples Submitted: December 8, 2018
Laboratory Reference: 1812-085
Project: 0747.01.02

Case Narrative

Samples were collected on December 7, 2018 and received by the laboratory on December 8, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: December 17, 2018
Samples Submitted: December 8, 2018
Laboratory Reference: 1812-085
Project: 0747.01.02

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW03-GW-120718**					
Laboratory ID:	12-085-01					
Benzene	**ND**	1.0	EPA 8021B	12-12-18	12-12-18	
Toluene	**ND**	1.0	EPA 8021B	12-12-18	12-12-18	
Ethyl Benzene	**ND**	1.0	EPA 8021B	12-12-18	12-12-18	
m,p-Xylene	**ND**	1.0	EPA 8021B	12-12-18	12-12-18	
o-Xylene	**ND**	1.0	EPA 8021B	12-12-18	12-12-18	
Gasoline	**ND**	100	NWTPH-Gx	12-12-18	12-12-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*86*	*66-117*				
Client ID:	**MWDUP-GW-120718**					
Laboratory ID:	12-085-02					
Benzene	**ND**	1.0	EPA 8021B	12-12-18	12-12-18	
Toluene	**ND**	1.0	EPA 8021B	12-12-18	12-12-18	
Ethyl Benzene	**ND**	1.0	EPA 8021B	12-12-18	12-12-18	
m,p-Xylene	**ND**	1.0	EPA 8021B	12-12-18	12-12-18	
o-Xylene	**ND**	1.0	EPA 8021B	12-12-18	12-12-18	
Gasoline	**ND**	100	NWTPH-Gx	12-12-18	12-12-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*86*	*66-117*				

Date of Report: December 17, 2018
Samples Submitted: December 8, 2018
Laboratory Reference: 1812-085
Project: 0747.01.02

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1212W1					
Benzene	**ND**	1.0	EPA 8021B	12-12-18	12-12-18	
Toluene	**ND**	1.0	EPA 8021B	12-12-18	12-12-18	
Ethyl Benzene	**ND**	1.0	EPA 8021B	12-12-18	12-12-18	
m,p-Xylene	**ND**	1.0	EPA 8021B	12-12-18	12-12-18	
o-Xylene	**ND**	1.0	EPA 8021B	12-12-18	12-12-18	
Gasoline	**ND**	100	NWTPH-Gx	12-12-18	12-12-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*84*	*66-117*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	12-074-07										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*85*	*85*	*66-117*			
MATRIX SPIKES											
Laboratory ID:	12-074-07										
	MS	MSD	MS	MSD		MS	MSD				
Benzene	**47.0**	**49.7**	50.0	50.0	ND	**94**	**99**	82-122	6	11	
Toluene	**47.8**	**50.6**	50.0	50.0	ND	**96**	**101**	83-123	6	12	
Ethyl Benzene	**48.5**	**51.4**	50.0	50.0	ND	**97**	**103**	83-123	6	12	
m,p-Xylene	**48.0**	**51.0**	50.0	50.0	ND	**96**	**102**	83-123	6	12	
o-Xylene	**48.2**	**51.0**	50.0	50.0	ND	**96**	**102**	83-123	6	11	
Surrogate:											
Fluorobenzene						*81*	*85*	*66-117*			

Date of Report: December 17, 2018
Samples Submitted: December 8, 2018
Laboratory Reference: 1812-085
Project: 0747.01.02

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
SPIKE BLANKS QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS								
Laboratory ID:	SB1212W1							
	SB	SB		SB				
Benzene	**46.7**	50.0		**93**	82-122	NA	NA	
Toluene	**48.1**	50.0		**96**	83-123	NA	NA	
Ethyl Benzene	**48.7**	50.0		**97**	83-123	NA	NA	
m,p-Xylene	**46.9**	50.0		**94**	83-123	NA	NA	
o-Xylene	**46.8**	50.0		**94**	83-123	NA	NA	
Surrogate:								
Fluorobenzene				*91*	*66-117*			

Date of Report: December 17, 2018
Samples Submitted: December 8, 2018
Laboratory Reference: 1812-085
Project: 0747.01.02

GASOLINE RANGE ORGANICS
NWTPH-Gx
CONTINUING CALIBRATION SUMMARY

Lab ID	True Value (ppm)	Calc. Value	Percent Difference	Control Limits
CCVH1212G-1	2.50	2.35	6	+/- 20%
CCVH1212G-2	2.50	2.25	10	+/- 20%

Date of Report: December 17, 2018
Samples Submitted: December 8, 2018
Laboratory Reference: 1812-085
Project: 0747.01.02

BTEX
EPA 8021B
CONTINUING CALIBRATION SUMMARY

Analyte	Lab ID	True Value (ppb)	Calc. Value	Percent Difference	Control Limits
Benzene	CCVH1212B-1	50.0	46.4	7	+/- 15%
Toluene	CCVH1212B-1	50.0	48.8	2	+/- 15%
Ethyl Benzene	CCVH1212B-1	50.0	48.5	3	+/- 15%
m,p-Xylene	CCVH1212B-1	50.0	46.9	6	+/- 15%
o-Xylene	CCVH1212B-1	50.0	46.7	7	+/- 15%
Benzene	CCVH1212B-2	50.0	46.9	6	+/- 15%
Toluene	CCVH1212B-2	50.0	48.3	3	+/- 15%
Ethyl Benzene	CCVH1212B-2	50.0	48.7	3	+/- 15%
m,p-Xylene	CCVH1212B-2	50.0	46.9	6	+/- 15%
o-Xylene	CCVH1212B-2	50.0	46.8	6	+/- 15%
Benzene	CCVD1212B-2	50.0	45.2	10	+/- 15%
Toluene	CCVD1212B-2	50.0	46.2	8	+/- 15%
Ethyl Benzene	CCVD1212B-2	50.0	47.3	5	+/- 15%
m,p-Xylene	CCVD1212B-2	50.0	46.8	6	+/- 15%
o-Xylene	CCVD1212B-2	50.0	47.0	6	+/- 15%
Benzene	CCVD1212B-3	50.0	49.1	2	+/- 15%
Toluene	CCVD1212B-3	50.0	49.8	0	+/- 15%
Ethyl Benzene	CCVD1212B-3	50.0	50.8	-2	+/- 15%
m,p-Xylene	CCVD1212B-3	50.0	50.0	0	+/- 15%
o-Xylene	CCVD1212B-3	50.0	50.3	-1	+/- 15%

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: Maul Foster Alongi
Project Number: 0747.01.02
Project Name: N Cascade Ford
Project Manager: A. Kaparos
Sampled by: A. Bixby

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Days
- ☐ 3 Days
- ☒ Standard (7 Days)
- ☐ _____ (other)

Laboratory Number: 12-085

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	~~NWTPH-Gx~~	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
1	MW03-GW-120718	12/7/18	1335	W	4		X	X																		
2	MWDUP-GW-120718	12/7/18	1335	W	4		X	X																		

	Signature	Company	Date	Time
Relinquished		MFA	12/7/18	3:30PM
Received		Office Fed Ex	12/8/18	9:15
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☒ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☒

Sample/Cooler Receipt and Acceptance Checklist

Client: MFA

Client Project Name/Number: 0747.01.02

OnSite Project Number: 12-085

Initiated by: BG/MW

Date Initiated: 12/8 & 10/18

1.0 Cooler Verification

1.1 Were there custody seals on the outside of the cooler?	Yes	No	N/A	1 2 3 4
1.2 Were the custody seals intact?	Yes	No	N/A	1 2 3 4
1.3 Were the custody seals signed and dated by last custodian?	Yes	No	N/A	1 2 3 4
1.4 Were the samples delivered on ice or blue ice?	Yes	No		1 2 3 4
1.5 Were samples received between 0-6 degrees Celsius?	Yes	No	Temperature: 4°C	
1.6 Have shipping bills (if any) been attached to the back of this form?	Yes	N/A		
1.7 How were the samples delivered?	Client	Courier	UPS/FedEx	OSE Pickup Other

2.0 Chain of Custody Verification

2.1 Was a Chain of Custody submitted with the samples?	Yes	No		1 2 3 4
2.2 Was the COC legible and written in permanent ink?	Yes	No		1 2 3 4
2.3 Have samples been relinquished and accepted by each custodian?	Yes	No		1 2 3 4
2.4 Did the sample labels (ID, date, time, preservative) agree with COC?	Yes	No		1 2 3 4
2.5 Were all of the samples listed on the COC submitted?	Yes	No		1 2 3 4
2.6 Were any of the samples submitted omitted from the COC?	Yes	No		1 2 3 4

3.0 Sample Verification

3.1 Were any sample containers broken or compromised?	Yes	No		1 2 3 4
3.2 Were any sample labels missing or illegible?	Yes	No		1 2 3 4
3.3 Have the correct containers been used for each analysis requested?	Yes	No		1 2 3 4
3.4 Have the samples been correctly preserved?	Yes	No	N/A	1 2 3 4
3.5 Are volatiles samples free from headspace and bubbles greater than 6mm?	Yes	No	N/A	1 2 3 4
3.6 Is there sufficient sample submitted to perform requested analyses?	Yes	No		1 2 3 4
3.7 Have any holding times already expired or will expire in 24 hours?	Yes	No		1 2 3 4
3.8 Was method 5035A used?	Yes	No	N/A	1 2 3 4
3.9 If 5035A was used, which sampling option was used (#1, 2, or 3).	#		N/A	1 2 3 4

Explain any discrepancies:

1 - Discuss issue in Case Narrative

2 - Process Sample As-is

3 - Client contacted to discuss problem

4 - Sample cannot be analyzed or client does not wish to proceed

ATTACHMENT D

DATA VALIDATION MEMORANDUM

DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. 0747.01.02 | APRIL 11, 2019 | 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 in Sedro-Woolley, Washington. The samples were collected on October 17 and December 7, 2018.

OnSite Environmental, Inc. (OEI) performed the analyses. OEI report numbers 1810-236 and 1812-085 were reviewed. The analyses performed and samples analyzed are listed below.

Analysis	Reference
BTEX Compounds	USEPA 8021B
Diesel- and Lube-Oil-Range Organics	NWTPH-Dx
Gasoline-Range Organics	NWTPH-Gx

BTEX = benzene, toluene, ethylbenzene, and xylenes.
NWTPH = Northwest Total Petroleum Hydrocarbons.
USEPA = U.S. Environmental Protection Agency.

Samples Analyzed		
Report 1810-236		**Report 1812-085**
MW01-GW-101718	MW07-GW-101718	MW03-GW-120718
MW02R-GW-101718	MW08-GW-101718	MWDUP-GW-120718
MW04-GW-101718	MWDUP-GW-101718	-
MW06-GW-101718	Trip Blanks	-

DATA QUALIFICATIONS

Analytical results were evaluated according to applicable sections of USEPA procedures (USEPA, 2017) and appropriate laboratory and method-specific guidelines (OEI, 2017; USEPA, 1986).

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

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

According to report 1810-236, OEI noted on the cooler receipt form that the samples were received at the laboratory at 7 degrees Celsius (°C), which is above the recommended storage temperature range of 0 to 6 °C. The temperature exceedance was minor; thus, no results were qualified.

The samples were preserved appropriately and stored appropriately at the laboratory.

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 blanks were non-detect.

Trip Blanks

According to report 1810-236, one trip blank sample was submitted for NWTPH-Gx analysis . The trip blank sample was non-detect.

Equipment Rinsate Blanks

Equipment rinsate 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. All MS/MSD samples were extracted and analyzed at the required frequency. All MS/MSD results were within acceptance limits for percent recovery and relative percent difference (RPD).

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 method reporting limit (MRL) were not evaluated for precision. All laboratory duplicate RPDs were within acceptance limits.

LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS

A laboratory control sample/laboratory control sample duplicate (LCS/LCSD) is spiked with target analytes to provide information on laboratory precision and accuracy. No LCS was analyzed for NWTPH-Gx. The reviewer confirmed with OEI that an LCS is not required by the method. NWTPH-Gx batch accuracy could not be evaluated. All samples were non-detect, and no qualification was performed by the reviewer. LCSD samples were not analyzed for NWTPH-Dx. NWTPH-Dx batch precision was evaluated with laboratory duplicate sample results. All remaining LCS results were within acceptance limits for percent recovery.

FIELD DUPLICATE RESULTS

Field duplicate samples measure both field and laboratory precision. As stated in reports 1810-236 and 1812-085, field duplicates were submitted for analysis (MW08-GW-101718/MWDUP-GW-101718 and MW03-GW-120718/MWDUP-GW-120718, respectively). 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.

CONTINUING CALIBRATION VERIFICATION RESULTS

Continuing calibration verification (CCV) results are used to demonstrate instrument precision and accuracy through the end of the sample batch. All CCVs were within acceptance limits for percent recovery.

REPORTING LIMITS

OEI used routine reporting limits for non-detect results, except for samples requiring dilutions because of high analyte concentrations and/or matrix interferences. In report 1810-236, the reviewer confirmed that NWTPH-Gx analysis for samples MW01-GW-101718 and MWDUP-GW-101718 was performed using 1:5 sample dilutions because of the presence of hydrocarbons in the diesel- and lube-oil ranges.

DATA PACKAGE

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

REFERENCES

OEI. 2017. Quality assurance manual. Rev. 9.5. OnSite Environmental, Inc., Redmond, Oregon. June 2.

USEPA. 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), and VI phase II (2018).

USEPA. 2017. USEPA 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.