T E C H N I C A L M E M O R A N D U M

TO: Joseph Kasperski – Washington State Department of Ecology

FROM: Gabriela Ferreira, R.G., Project Geologist
Chris Poulsen, P.E., Principal Engineer

DATE: February 8, 2021

RE: **CLEANUP STATUS UPDATE**
U-HAUL CENTER OF HAZEL DELL
8250 NORTHEAST HIGHWAY 99
VANCOUVER, WASHINGTON
FARALLON PN: 1419-006

Farallon Consulting, L.L.C. (Farallon) has prepared this Technical Memorandum on behalf of 8250 Hwy 99, LLC to summarize the cleanup actions conducted at the U-Haul Center of Hazel Dell at 8250 Northeast Highway 99 in Vancouver, Washington (herein referred to as the Property) (Figure 1). The "Site," as defined under Washington State Model Toxics Control Act Cleanup Regulation (MTCA), is the area where petroleum hydrocarbons have come to be located at concentrations exceeding regulatory cleanup levels. The Site is fully contained within the boundaries of the Property as shown on Figure 2.

BACKGROUND

Constituents of potential concern (COPCs) for the Site consist of total petroleum hydrocarbons as diesel-range organics (DRO), as oil-range organics (ORO), and as gasoline-range organics (GRO); and benzene. The source of the petroleum hydrocarbons was assumed to be a former fuel dispenser that was part of a former underground storage tank system that operated on the Property. Property history and former investigations are summarized in the *Remedial Investigation and Focused Feasibility Study, U-Haul Moving & Storge of Hazel Dell, 8250 Northeast Highway 99, Vancouver, Washington* dated October 24, 2017, prepared by Farallon (2017 RI/FFS).

According to the 2017 RI/FFS, COPCs were not detected at concentrations exceeding MTCA Method A cleanup levels in soil samples collected during a 2017 subsurface investigation conducted by Farallon. GRO and DRO were detected at concentrations exceeding MTCA Method A cleanup levels in groundwater samples collected proximate to the former fueling island from monitoring well 263-1A and its replacement, monitoring well 263-1B, in 2017 and 2018.

A Washington State Department of Ecology (Ecology) letter regarding Response to Letter Dated September 9, 2018, Site Name: U Haul Center of Hazel Dell, Site Address: 8250 Hwy 99 Vancouver, Clark County, WA 98665-8817 dated May 23, 2019 from Nicholas M. Acklam of Ecology to Larry Hine of Amerco Real Estate Company indicated that contaminated soil may be present in the vicinity of soil sample 263-1-6, collected in 1999. Specifically, GRO was detected at a concentration of 1,010 milligrams per kilogram (mg/kg) and benzene was detected at a concentration of 0.131 mg/kg in a soil sample (263-1-6) collected during installation of monitoring well 263-1 at a depth of 6 feet below ground surface (bgs). A replacement well was installed in 2017, immediately adjacent to the original well from which soil sample 263-1-6 was collected. GRO and benzene were not detected at concentrations exceeding laboratory reporting limits in a soil sample collected from replacement well 263-1A at a depth of 7.5 feet bgs. Additionally, GRO and benzene were not detected at concentrations exceeding laboratory reporting limits in any soil samples collected from the Property during the 2017 subsurface investigation. Groundwater elevation data are presented in Table 1. The soil results are presented on Figure 3 and in Tables 2 through 6. Historical groundwater results are presented in Tables 7 and 8.

Based on these findings, no constituents of concern (COCs) are identified for soil. For groundwater, the COPCs, consisting of DRO, ORO, GRO, and benzene, are maintained as COCs as a conservative measure. In the 2017 RI/FFS, Farallon selected in-situ groundwater treatment by chemical oxidation as the most-practicable alternative for treatment and mitigation of residual COCs.

CLEANUP ACTION

The cleanup action at the Site consisted of in-situ remediation of groundwater using chemical oxidant and bioremediation stimulant conducted in 2018 and 2019. Prior to initiating remedial

injections, eight monitoring wells at the Site were decommissioned to prevent surfacing of chemical oxidant and bioremediation stimulant. The eight monitoring wells were decommissioned on December 14, 2017 by overdrilling the boreholes to the original total depth and backfilling with hydrated bentonite to a depth of 2 feet bgs. The top 2 feet were completed with concrete.

On January 10 and 11, 2018, a total of 240 gallons of oxidant and 20 gallons of flush water were injected into the subsurface at the Site. The oxidant was injected into four separate temporary injection boreholes at depths between 6 and 12 feet bgs in 2-foot intervals. During injection, approximately 1 gallon of oxidant surfaced due to a previously unknown monitoring well that had been paved over. The monitoring well was decommissioned on August 14, 2019. Following remedial injection, groundwater samples were collected from monitoring wells at the Site. Groundwater samples were collected using low-flow sampling protocols in accordance with the 2017 RI/FFS. Results are presented in Table 7.

Following receipt of analytical data from the 2018 groundwater monitoring events, a second injection of chemical oxidant was planned. On August 27, 2019, approximately 690 gallons of oxidant were injected into four separate temporary injection boreholes at depths between 6 and 12 feet bgs in 2-foot intervals. No oxidant surfaced during the injection.

CONFIRMATIONAL GROUNDWATER MONITORING

Four quarters of groundwater monitoring were conducted following completion of the remedial injections. Groundwater samples were collected from monitoring wells 263-4, 263-5, and 263-6 in October 2019, and January, April, and July 2020. Groundwater samples were collected using industry-standard low-flow sampling protocols. Results are presented in Table 7 and shown on Figures 4 and 5. All detected concentrations of COPCs for the Site are less than MTCA Method A Cleanup Levels.

VAPOR INTRUSION ASSESSMENT

A vapor intrusion assessment was conducted in accordance with *Implementation Memorandum No. 14, Updated Process for Initially Assessing the Potential for Petroleum Vapor Intrusion* revised January 2018, prepared by Ecology. Concentrations of total petroleum hydrocarbons were

less than the recommended screening levels for a vertical separation distance of 6 feet between contamination and the building foundation. Furthermore, the completed cleanup action treated contaminated groundwater and eliminated the potential for vapor intrusion into the building structure.

CONCLUSION

The results of the confirmational groundwater monitoring indicate that all concentrations of COPCs for the Site are less than MTCA Method A Cleanup Levels. Based on the soil and groundwater conditions at the Site, Farallon requests a No Further Action determination for the Site.

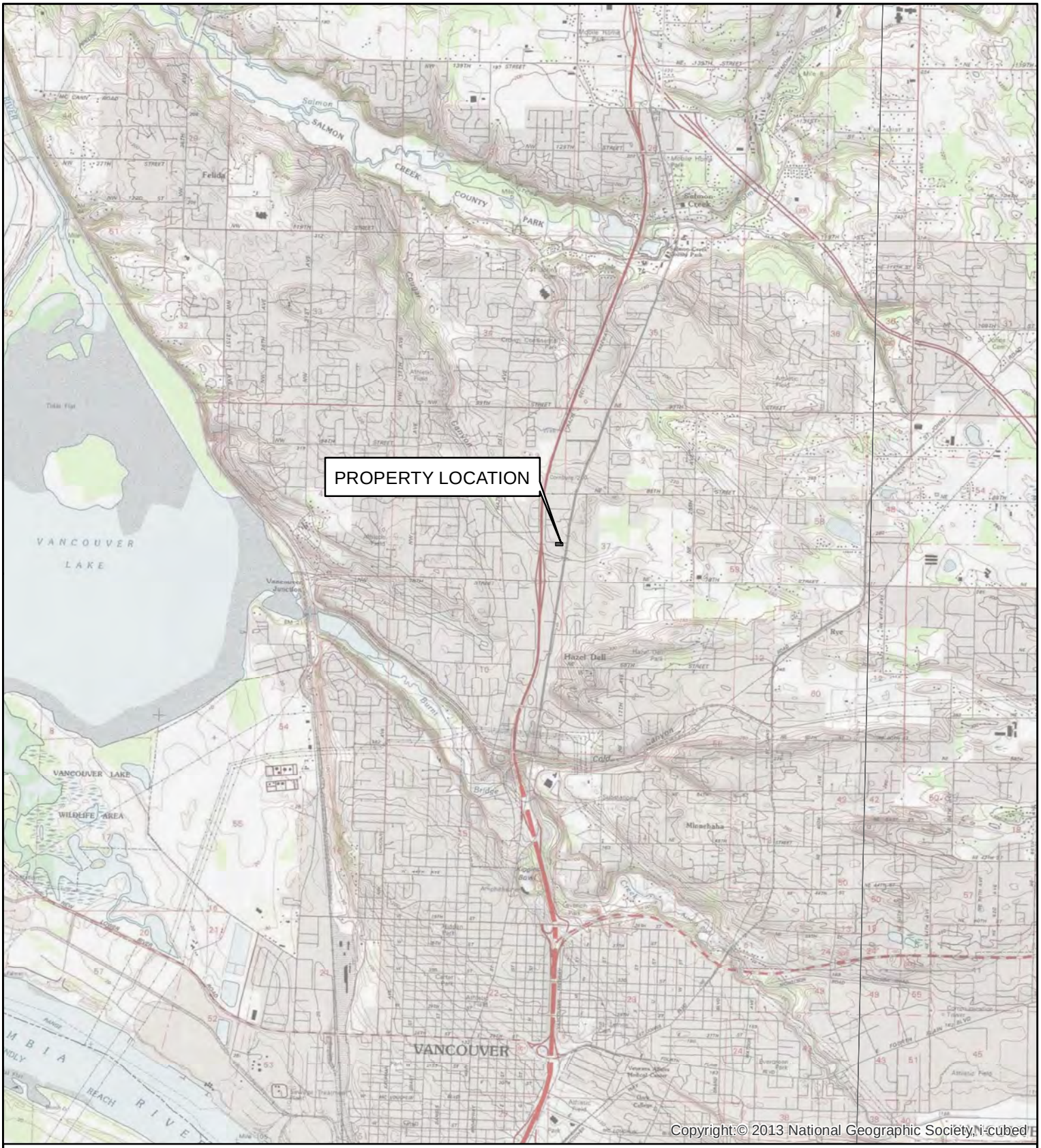
Attachments: Figure 1, *Property Vicinity Map*
Figure 2, *Site Plan*
Figure 3, *Soil Analytical Results for Petroleum Hydrocarbons*
Figure 4, *Groundwater Analytical Results for Petroleum Hydrocarbons*
Figure 5, *Groundwater Elevation Contour Map for July 15, 2020*
Table 1, *Summary of Groundwater Elevation Data*
Table 2, *Summary of Soil Analytical Results for TPH and BTEX*
Table 3, *Summary of Soil Analytical Results for Halogenated VOCs*
Table 4, *Summary of Soil Analytical Results for PAHs*
Table 5, *Summary of Soil Analytical Results for PCBs*
Table 6, *Summary of Soil Analytical Results for Metals*
Table 7, *Summary of Groundwater Analytical Results for TPH, BTEX, EDB, and Lead*
Table 8, *Summary of Groundwater Analytical Results for PAHs*

GF:mbg

FIGURES

CLEANUP STATUS UPDATE
U-HAUL CENTER OF HAZEL DELL
8250 NORTHEAST HIGHWAY 99
VANCOUVER, WASHINGTON

Farallon PN: 1419-006



REFERENCE: 7.5 MINUTE USGS QUADRANGLE VANCOUVER, WASHINGTON, DATED 2011

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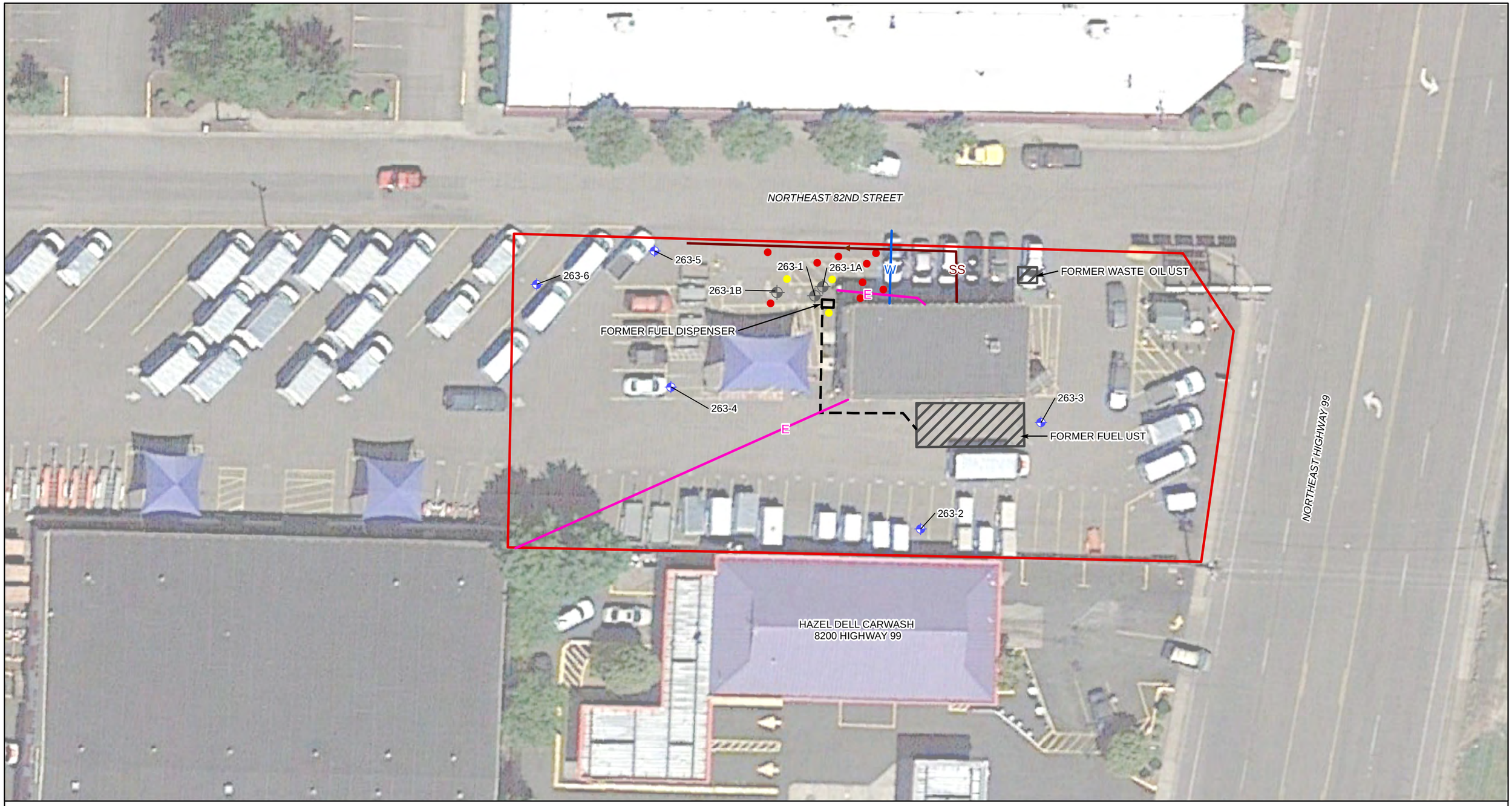
FIGURE 1

PROPERTY VICINITY MAP
U-HAUL CENTER OF HAZEL DELL
8250 NORTHEAST HIGHWAY 99
VANCOUVER, WASHINGTON

FARALLON PN: 1419-006

Drawn By: jjones | Checked By: | Date: 9/23/2020 | Disc Reference:

Document Path: Q:\Projects\1419_VerisLawGroup\mapfiles\1419006_FIGURE 1_SITE VICINITY MAP.mxd



LEGEND

- 2018 INJECTION BORHOLE
- 2019 INJECTION BORHOLE
- DECOMMISSIONED WELL
- MONITORING WELL
- FORMER PRODUCT LINE
- E ELECTRICAL LINE
- SS SANITARY SEWER LINE
- W WATER LINE
- APPROXIMATE PROPERTY BOUNDARY
- FORMER UST LOCATION
- FORMER FUEL DISPENSER

UST = UNDERGROUND STORAGE TANK

DRAFT

0 30
SCALE IN FEET

N

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

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FIGURE 2

SITE PLAN
U-HAUL CENTER OF HAZEL DELL
8250 NORTHEAST HIGHWAY 99
VANCOUVER, WASHINGTON

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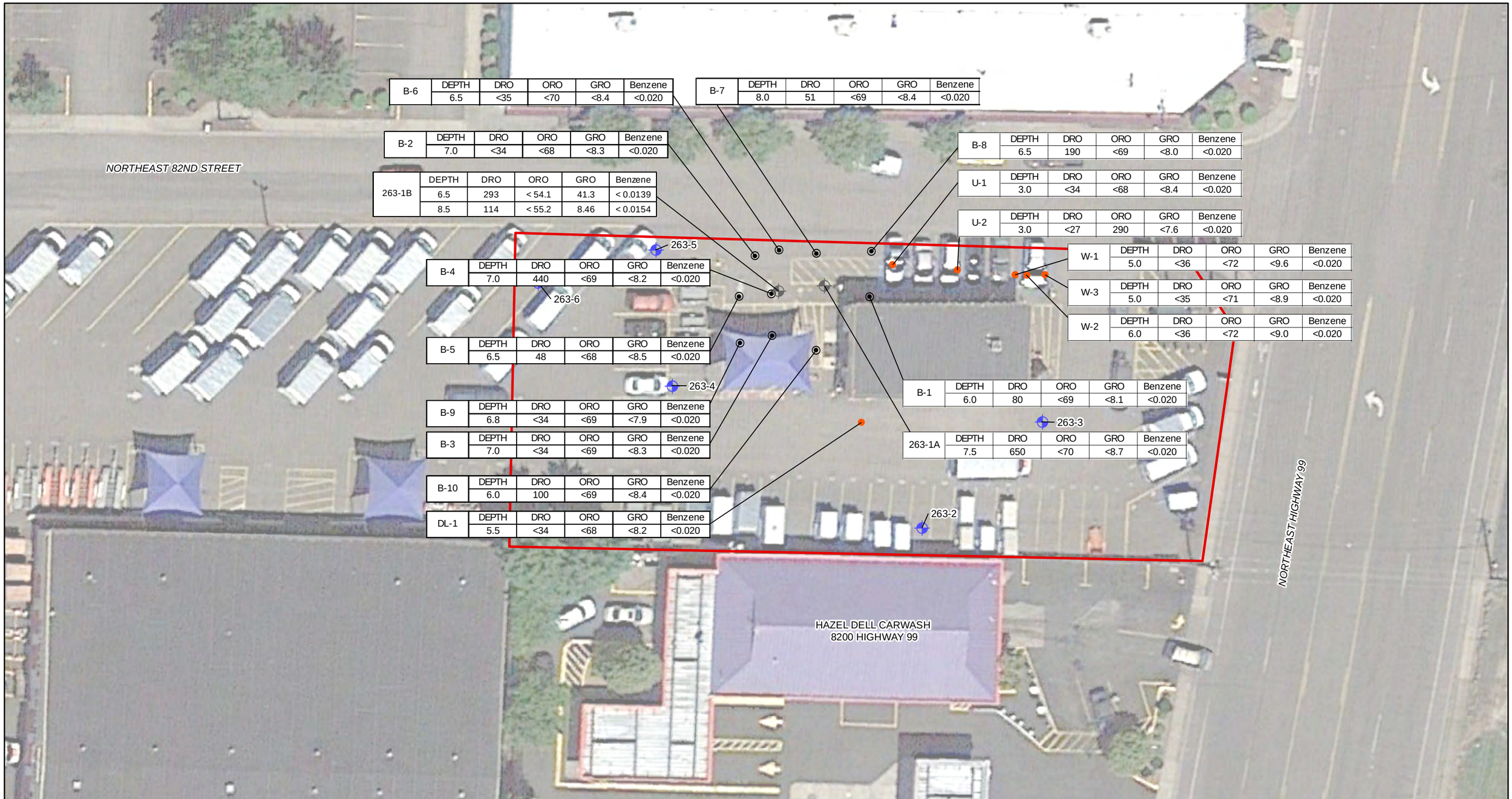

B-6	DEPTH	DRO	ORO	GRO	Benzene
	6.5	<35	<70	<8.4	<0.020

B-7	DEPTH	DRO	ORO	GRO	Benzene
	8.0	51	<69	<8.4	<0.020

B-2	DEPTH	DRO	ORO	GRO	Benzene
	7.0	<34	<68	<8.3	<0.020

263-1B	DEPTH	DRO	ORO	GRO	Benzene
	6.5	293	< 54.1	41.3	< 0.0139
	8.5	114	< 55.2	8.46	< 0.0154

B-8	DEPTH	DRO	ORO	GRO	Benzene
	6.5	190	<69	<8.0	<0.020

U-1	DEPTH	DRO	ORO	GRO	Benzene
	3.0	<34	<68	<8.4	<0.020

U-2	DEPTH	DRO	ORO	GRO	Benzene
	3.0	<27	290	<7.6	<0.020

W-1	DEPTH	DRO	ORO	GRO	Benzene
	5.0	<36	<72	<9.6	<0.020

W-3	DEPTH	DRO	ORO	GRO	Benzene
	5.0	<35	<71	<8.9	<0.020

W-2	DEPTH	DRO	ORO	GRO	Benzene
	6.0	<36	<72	<9.0	<0.020

B-4	DEPTH	DRO	ORO	GRO	Benzene
	7.0	440	<69	<8.2	<0.020

B-5	DEPTH	DRO	ORO	GRO	Benzene
	6.5	48	<68	<8.5	<0.020

B-9	DEPTH	DRO	ORO	GRO	Benzene
	6.8	<34	<69	<7.9	<0.020

B-3	DEPTH	DRO	ORO	GRO	Benzene
	7.0	<34	<69	<8.3	<0.020

B-10	DEPTH	DRO	ORO	GRO	Benzene
	6.0	100	<69	<8.4	<0.020

DL-1	DEPTH	DRO	ORO	GRO	Benzene
	5.5	<34	<68	<8.2	<0.020

B-1	DEPTH	DRO	ORO	GRO	Benzene
	6.0	80	<69	<8.1	<0.020

263-1A	DEPTH	DRO	ORO	GRO	Benzene
	7.5	650	<70	<8.7	<0.020

LEGEND

- BORING
- DECOMMISSIONED WELL
- MONITORING WELL
- SOIL GRAB SAMPLE
- APPROXIMATE PROPERTY BOUNDARY

MTCA METHOD A SOIL CLEANUP LEVELS	DRO	ORO	GRO	Benzene
	2,000	**2,000**	**100**	**0.03**

NOTES:
SAMPLE DEPTH INDICATED IN FEET BELOW GROUND SURFACE
ANALYTICAL UNITS ARE IN MILLIGRAMS PER KILOGRAM

< = ANALYTE NOT DETECTED AT OR EXCEEDING THE LABORATORY REPORTING LIMIT
DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
ORO = TPH AS OIL-RANGE ORGANICS
GRO = TPH AS GASOLINE-RANGE ORGANICS
MTCA = WASHINGTON STATE MODEL TOXICS CONTROL ACT CLEANUP REGULATION

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SCALE IN FEET

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ALL LOCATIONS ARE APPROXIMATE.
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FIGURE 3

SOIL ANALYTICAL RESULTS FOR
PETROLEUM HYDROCARBONS
U-HAUL CENTER OF HAZEL DELL
8250 NORTHEAST HIGHWAY 99
VANCOUVER, WASHINGTON

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WELL	DATE	DRO	ORO	GRO	BENZENE
263-5	7/15/2020	<211	<421	<100	<0.200

WELL	DATE	DRO	ORO	GRO	BENZENE
263-6	7/15/2020	<208	<417	<100	<0.200

WELL	DATE	DRO	ORO	GRO	BENZENE
263-4	7/15/2020	285	<408	<100	<0.200

WELL	DATE	DRO	ORO	GRO	Benzene
263-3	2/10/2017	<260	<410	<100	<1.0

WELL	DATE	DRO	ORO	GRO	Benzene
263-2	2/10/2017	<260	<420	<100	<1.0

LEGEND

- MONITORING WELL
- DECOMMISSIONED WELL
- APPROXIMATE PROPERTY BOUNDARY

MTCA METHOD A GROUNDWATER CLEANUP LEVELS	DRO	ORO	GRO	Benzene
	500	**500**	**1,000**	**5**

NOTES:
ANALYTICAL UNITS ARE IN MICROGRAMS PER LITER
BOLD DENOTES CONCENTRATION EXCEEDS THE WASHINGTON STATE MODEL TOXICS CONTROL ACT (MTCA) CLEANUP REGULATION METHOD A GROUNDWATER CLEANUP LEVEL

< = ANALYTE NOT DETECTED AT OR EXCEEDING THE LABORATORY REPORTING LIMIT
DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
ORO = TPH AS OIL-RANGE ORGANICS
GRO = TPH AS GASOLINE-RANGE ORGANICS

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FIGURE 4

GROUNDWATER ANALYTICAL RESULTS
FOR PETROLEUM HYDROCARBONS
U-HAUL CENTER OF HAZEL DELL
8250 NORTHEAST HIGHWAY 99
VANCOUVER, WASHINGTON

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LEGEND

- MONITORING WELL
- PROPERTY BOUNDARY
- (204.31) GROUNDWATER ELEVATION ON JULY 15, 2020
- 204.25 – APPROXIMATE GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION

MONITORING WELL LOCATIONS AND ELEVATIONS SURVEYED BY MINISTER-GLAESER SURVEYING INC. ON FEBRUARY 10, 2017

VERTICAL ELEVATION DATUM: NAVD 1988

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0 30
SCALE IN FEET

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FIGURE 5

GROUNDWATER ELEVATION CONTOUR MAP
FOR JULY 15, 2020
U-HAUL CENTER OF HAZEL DELL
8250 NORTHEAST HIGHWAY 99
VANCOUVER, WASHINGTON

FARALLON PN: 1419-006

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TABLES

CLEANUP STATUS UPDATE
U-HAUL CENTER OF HAZEL DELL
8250 NORTHEAST HIGHWAY 99
VANCOUVER, WASHINGTON

Farallon PN: 1419-006

Table 1
Summary of Groundwater Elevation Data
U-Haul Center of Hazel Dell
Vancouver, Washington
Farallon PN: 1419-006

Well Identification	Well Screen Interval (feet)[1]	Top of Casing Elevation (feet NAVD88)[2]	Date Measured	Total Well Depth (feet)[3]	Depth to Groundwater (feet)[3]	Water Level Elevation (feet NAVD88)[2]
263-1A	5.0-15.0	212.59	2/10/2017	15.16	2.45	210.14
263-1	4.5-19.5	212.68	6/12/2007	—	6.26	206.42
			3/29/2006	—	4.13	208.55
			1/18/2006	—	2.82	209.86
			12/14/2005	—	6.48	206.20
			11/29/2005	—	6.05	206.63
			9/12/2005	—	8.95	203.73
			10/12/2004	—	8.27	204.41
			5/30/2002	—	5.08	207.60
			2/18/2002	—	4.08	208.60
			11/20/2001	—	5.89	206.79
			8/14/2001	—	8.41	204.27
			5/24/2001	—	6.35	206.33
			9/26/2000	—	8.56	204.12
			6/29/2000	—	6.45	206.23
			12/15/1999	—	4.30	208.38
263-2	4.5-19.5	213.07	2/10/2017	19.61	2.61	210.46
			6/12/2007	—	6.72	206.35
			3/29/2006	—	4.67	208.40
			1/18/2006	—	2.48	210.59
			11/29/2005	—	6.33	206.74
			10/12/2004	—	8.60	204.47
			5/30/2002	—	5.52	207.55
			2/18/2002	—	4.44	208.63
			11/20/2001	—	6.22	206.85
			8/14/2001	—	8.89	204.18
			5/24/2001	—	6.82	206.25
			9/26/2000	—	9.10	203.97
			6/29/2000	—	6.86	206.21
			12/15/1999	—	4.32	208.75

Table 1
Summary of Groundwater Elevation Data
U-Haul Center of Hazel Dell
Vancouver, Washington
Farallon PN: 1419-006

Well Identification	Well Screen Interval (feet)[1]	Top of Casing Elevation (feet NAVD88)[2]	Date Measured	Total Well Depth (feet)[3]	Depth to Groundwater (feet)[3]	Water Level Elevation (feet NAVD88)[2]
263-3	5.0-20.0	213.39	2/10/2017	20.09	2.81	210.58
			6/12/2007	—	6.43	206.96
			3/29/2006	—	4.46	208.93
			1/18/2006	—	2.54	210.85
			11/29/2005	—	6.28	207.11
			10/12/2004	—	8.44	204.95
			5/30/2002	—	5.28	208.11
			2/18/2002	—	4.25	209.14
			11/20/2001	—	6.55	206.84
			8/14/2001	—	8.65	204.74
			5/24/2001	—	6.60	206.79
			9/26/2000	—	8.86	204.53
			6/29/2000	—	6.61	206.78
			12/15/1999	—	4.63	208.76
263-4	4.5-19.5	211.82	2/10/2017	19.19	2.42	209.40
			6/12/2007	—	5.96	205.86
			3/29/2006	—	4.04	207.78
			1/18/2006	—	2.60	209.22
			12/14/2005	—	6.24	205.58
			10/12/2004	—	7.82	204.00
			5/30/2002	—	4.79	207.03
			2/18/2002	—	3.90	207.92
			11/20/2001	—	6.10	205.72
			8/14/2001	—	7.79	204.03
			5/24/2001	—	5.98	205.84
			9/26/2000	—	8.12	203.70
			6/29/2000	—	6.12	205.70
			12/15/1999	—	4.03	207.79

Table 1
Summary of Groundwater Elevation Data
U-Haul Center of Hazel Dell
Vancouver, Washington
Farallon PN: 1419-006

Well Identification	Well Screen Interval (feet)[1]	Top of Casing Elevation (feet NAVD88)[2]	Date Measured	Total Well Depth (feet)[3]	Depth to Groundwater (feet)[3]	Water Level Elevation (feet NAVD88)[2]
263-5	4.0-19.0	212.53	2/10/2017	19.70	2.92	209.61
			6/12/2007	—	6.47	206.06
			3/29/2006	—	4.38	208.15
			1/18/2006	—	3.16	209.37
			12/14/2005	—	6.82	205.71
			11/29/2005	—	6.19	206.34
			10/12/2004	—	8.42	204.11
			5/30/2002	—	5.29	207.24
			2/18/2002	—	4.28	208.25
			11/20/2001	—	6.14	206.39
			8/14/2001	—	8.57	203.96
			5/24/2001	—	6.34	206.19
263-6	4.0-19.0	212.08	2/10/2017	19.31	3.02	209.06
			6/12/2007	—	6.37	205.71
			3/29/2006	—	4.55	207.53
			1/18/2006	—	3.15	208.93
			12/14/2005	—	6.64	205.44
			11/29/2005	—	6.03	206.05
			10/12/2004	—	8.21	203.87
			5/30/2002	—	5.16	206.92
			2/18/2002	—	4.25	207.83
			11/20/2001	—	4.19	207.89
			8/14/2001	—	8.46	203.62
			5/24/2001	—	6.28	205.80

NOTES:

— denotes not measured

NAVD88 = North American Vertical Datum of 1988

[1]In feet below ground surface.

[2]In feet above mean sea level.

[3]In feet below top of well casing.

Table 2
Summary of Soil Analytical Results for TPH and BTEX
U-Haul Center of Hazel Dell
Vancouver, Washington
Farallon PN: 1419-006

Sample Location	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)						
				DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
Samples Near Former Dispenser										
B-1	B-1-6.0	6.0	2/9/2017	80	< 69	< 8.1	< 0.020	< 0.081	< 0.081	< 0.162
B-2	B-2-7.0	7.0	2/9/2017	< 34	< 68	< 8.3	< 0.020	< 0.083	< 0.083	0.14
B-3	B-3-7.0	7.0	2/9/2017	< 34	< 69	< 8.3	< 0.020	< 0.083	< 0.083	< 0.166
B-4	B-4-7.0	7.0	2/9/2017	440	< 69	< 8.2	< 0.020	< 0.082	< 0.082	< 0.164
B-5	B-5-6.5	6.5	2/9/2017	48	< 68	< 8.5	< 0.020	< 0.085	< 0.085	< 0.170
B-6	B-6-6.5	6.5	2/9/2017	< 35	< 70	< 8.4	< 0.020	< 0.084	< 0.084	< 0.168
B-7	B-7-8.0	8.0	2/9/2017	51	< 69	< 8.4	< 0.020	< 0.084	< 0.084	< 0.168
B-8	B-8-6.5	6.5	2/9/2017	190	< 69	< 8.0	< 0.020	< 0.080	< 0.080	< 0.160
B-9	B-9-6.8	6.8	2/9/2017	< 34	< 69	< 7.9	< 0.020	< 0.079	< 0.079	0.12
B-10	B-10-6.0	6.0	2/9/2017	100	< 69	< 8.4	< 0.020	< 0.084	< 0.084	< 0.168
Well 263-1A	263-1A-7.5	7.5	2/9/2017	650	< 70	< 8.7	< 0.020	< 0.087	< 0.087	< 0.174
263-1B	263-1B-6-6.5	6.0-6.5	3/20/2018	293	< 54.1	41.3	< 0.0139	< 0.0697	< 0.0348	< 0.105
	263-1B-8-8.5	8.0-8.5	3/20/2018	114	< 55.2	8.46	< 0.0154	< 0.0772	< 0.0386	< 0.116
Samples at Former Waste Oil UST										
W-1	W-1-020917	5.0	2/9/2017	< 36	< 72	< 9.6	< 0.020	< 0.096	< 0.096	< 0.192
W-2	W-2-020917	6.0	2/9/2017	< 36	< 72	< 9.0	< 0.020	< 0.090	< 0.090	< 0.180
W-3	W-3-020917	5.0	2/9/2017	< 35	< 71	< 8.9	< 0.020	< 0.089	< 0.089	< 0.178
Sample from Dispenser Product Line										
DL-1	DL-1-5.5	5.5	2/9/2017	< 34	< 68	< 8.2	< 0.020	< 0.082	< 0.082	< 0.164
Samples from Utility Line Trench										
U-1	U-1-020917	3.0	2/9/2017	< 34	< 68	< 8.4	< 0.020	< 0.084	< 0.084	< 0.168
U-2	U-2-020917	3.0	2/9/2017	< 27	290	< 7.6	< 0.020	< 0.076	< 0.076	< 0.152
MTCA Method A Cleanup Levels for Soil[5]				**2,000**	**2,000**	**30/100[6]**	**0.03**	**7**	**6**	**9**

NOTES:

< denotes analyte not detected at or exceeding the laboratory reporting limit listed.
[1]Depth in feet below ground surface.
[2]Analyzed by Northwest Method NWTPH-Dx.
[3]Analyzed by Northwest Method NWTPH-Gx.
[4]Analyzed by U.S. Environmental Protection Agency Method 8021B or 8260C.
[5]Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.
[6]Cleanup level is 30 milligrams per kilogram if benzene is detected, and 100 milligrams per kilogram if benzene is not detected.

BTEX = benzene, toluene, ethylbenzene and xylenes
DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
GRO = TPH as gasoline-range organics
ORO = TPH as oil-range organics
UST = underground storage tank

Table 3
Summary of Soil Analytical Results for Halogenated VOCs
U-Haul Center of Hazel Dell
Vancouver, Washington
Farallon PN: 1419-006

Sample Location	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]				
				PCE	TCE	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
Samples at Former Waste Oil UST								
W-1	W-1-020917	5.0	2/9/2017	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014
W-2	W-2-020917	6.0	2/9/2017	< 0.0013	< 0.0013	< 0.0013	< 0.0013	< 0.0013
W-3	W-3-020917	5.0	2/9/2017	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014
MTCA Cleanup Levels for Soil[3]				**0.05**	**0.03**	**160[4]**	**1,600[4]**	**0.67[4]**
MTCA Method B Cleanup Levels for Soil Protective of Groundwater Vadose at 25 Degrees Celsius[5]				**0.053**	**0.0264**	**0.0800**	**0.543**	**0.00183**
MTCA Method B Cleanup Levels for Soil Protective of Groundwater Vadose at 13 Degrees Celsius[5]				**0.0499**	**0.0252**	**0.0781**	**0.518**	**0.00167**
MTCA Method B Cleanup Levels for Soil Protective of Groundwater Saturated[5]				**0.00276**	**0.00152**	**0.00515**	**0.0325**	**0.0000885**

NOTES:

< denotes analyte not detected at or exceeding the reporting limit listed.

[1]Depth in feet below ground surface.

[2]Analyzed by U.S. Environmental Protection Agency Method 8260C.

[3]Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013, unless otherwise noted.

[4]Washington State Cleanup Levels and Risk Calculations (CLARC) under MTCA Standard Method B Formula Values for Soil (Unrestricted Land Use) - Direct Contact (Ingestion Only) and Leaching Pathway, https://fortress.wa.gov/ecy/clarc/Reporting/ChemicalQuery.aspx

[5]Washington State CLARC under MTCA Standard Method B Formula Values for Soil from CLARC Master spreadsheet updated September 2015, https://fortress.wa.gov/ecy/clarc/CLARCDataTables.aspx

PCE = tetrachloroethene

TCE = trichloroethene

UST = underground storage tank

VOCs = volatile organic compounds

Table 4
Summary of Soil Analytical Results for PAHs
U-Haul Center of Hazel Dell
Vancouver, Washington
Farallon PN: 1419-006

Sample Location	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]											
				Naphthalenes				Carcinogenic PAHs							
				Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Total Naphthalenes[3]	Benzo(a)pyrene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(j,k)Fluoranthene	Chrysene	Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Total cPAHs TEC[4,5]
Samples at Former Waste Oil UST															
W-1	W-1-020917	5.0	2/9/2017	< 0.0096	< 0.0096	< 0.0096	< 0.0288	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	0.0072
W-2	W-2-020917	6.0	2/9/2017	< 0.0096	< 0.0096	< 0.0096	< 0.0288	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	0.0072
W-3	W-3-020917	5.0	2/9/2017	< 0.0094	< 0.0094	< 0.0094	< 0.0282	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	0.0071
MTCA Method A Cleanup Level for Soil [6]							**5**								**0.1**

NOTES:

< denotes analyte not detected at or exceeding the reporting limit listed.

[1]Depth in feet below ground surface.

[2]Analyzed by U.S. Environmental Protection Agency Method 8270D/SIM.

[3]Sum of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene.

[4]Total cPAHs derived using the total toxicity equivalency method in Section 708(8) of Chapter 173-340 of the Washington Administrative Code.

[5]For concentrations reported at less than the laboratory reporting limit, half the reporting limit was used to calculate the TEC.

[6]Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013, unless otherwise noted.

cPAHs = carcinogenic polycyclic aromatic hydrocarbons

PAHs = polycyclic aromatic hydrocarbons

TEC = toxic equivalent concentration

UST = underground storage tank

Table 5
Summary of Soil Analytical Results for PCBs
U-Haul Center of Hazel Dell
Vancouver, Washington
Farallon PN: 1419-006

Sample Location	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]							
				Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
Samples at Former Waste Oil UST											
W-1	W-1-020917	5.0	2/9/2017	< 0.072	< 0.072	< 0.072	< 0.072	< 0.072	< 0.072	< 0.072	< 0.504
W-2	W-2-020917	6.0	2/9/2017	< 0.072	< 0.072	< 0.072	< 0.072	< 0.072	< 0.072	< 0.072	< 0.504
W-3	W-3-020917	5.0	2/9/2017	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.497
MTCA Method A Cleanup Level for Soil[3]											**1.0**

NOTES:

< denotes analyte not detected at or exceeding the reporting limit listed.

PCBs = polychlorinated biphenyls

UST = underground storage tank

[1]Depth in feet below ground surface.

[2]Analyzed by U.S. Environmental Protection Agency Method 8082A.

[3]Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.

Table 6
Summary of Soil Analytical Results for Metals
U-Haul Center of Hazel Dell
Vancouver, Washington
Farallon PN: 1419-006

Sample Location	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]				
				Arsenic	Cadmium	Chromium	Lead	Mercury
Sample Near Former Dispenser								
Well 263-1A	263-1A-7.5	7.5	2/9/2017	—	—	—	12	—
Samples at Former Waste Oil UST								
W-1	W-1-020917	5.0	2/9/2017	< 14	< 0.72	21	11	< 0.36
W-2	W-2-020917	6.0	2/9/2017	< 14	< 0.72	19	9.9	< 0.36
W-3	W-3-020917	5.0	2/9/2017	< 14	< 0.71	20	10	< 0.35
MTCA Cleanup Levels for Soil[3]				**20**	**2**	**2,000**	**250**	**2**

NOTES:

< denotes analyte not detected at or exceeding the laboratory reporting limit listed.

— denotes sample not analyzed.

UST = underground storage tank

[1]Depth in feet below ground surface.

[2]Analyzed by U.S. Environmental Protection Agency Methods 6010C/7471B.

[3]Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Soil Cleanup Levels for Unrestricted Land Uses, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013.

Table 7
Summary of Groundwater Analytical Results for TPH, BTEX, EDB, and Lead
U-Haul Center of Hazel Dell
Vancouver, Washington
Farallon PN: 1419-006

Sample Location	Sample Date	Sample Identification	Analytical Results (micrograms per liter)									
			DRO[1]	ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]	EDB[4]	Total Lead[5]	Dissolved Lead[5]
263-1A	2/10/2017	263-1A-021017	**1,400**	470	370	< 1.0	< 1.0	7.2	< 2.0	< 0.0096	< 1.0	< 1.0
263-1B	3/22/2018	263-1B-032218	**1,250**	< 374	**1,570**	< 0.200	< 1.00	6.15	< 1.50	—	—	—
263-2	2/10/2017	263-2-021017	< 260	< 420	< 100	< 1.0	< 1.0	< 1.0	< 2.0	—	—	—
	3/22/2018	263-2-032218	< 187	< 374	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
263-3	2/10/2017	263-3-021017	< 260	< 410	< 100	< 1.0	< 1.0	< 1.0	< 2.0	—	—	—
	3/22/2018	263-3-032218	< 187	< 374	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
263-4	2/10/2017	263-4-021017	420	< 460	< 100	< 1.0	< 1.0	< 1.0	< 2.0	—	—	—
	3/22/2018	263-4-032218	219	< 377	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
	10/8/2019	263-4	237	< 392	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
	1/14/2020	263-4-011420	< 208	< 417	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
	4/15/2020	MW-263-4-041520	368	< 455	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
	7/15/2020	MW-263-4-071520	285	< 408	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
263-5	2/10/2017	263-5-021017	< 280	< 440	< 100	< 1.0	< 1.0	< 1.0	< 2.0	—	—	—
	3/22/2018	263-5-032218	< 187	< 374	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
	10/8/2019	263-5	< 196	< 392	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
	1/14/2020	263-5-011420	< 211	< 421	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
	4/15/2020	MW-263-5-041520	< 227	< 455	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
	7/15/2020	MW-263-5-071520	< 211	< 421	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
263-6	2/10/2017	263-6-021017	< 260	< 420	< 100	< 1.0	< 1.0	< 1.0	< 2.0	—	—	—
	3/22/2018	263-6-032218	< 189	< 377	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
	10/8/2019	263-6	< 196	< 392	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
	1/14/2020	263-6-011420	< 206	< 412	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
	4/15/2020	MW-263-6-041520	< 220	< 440	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
	7/15/2020	MW-263-6-071520	< 208	< 417	< 100	< 0.200	< 1.00	< 0.500	< 1.50	—	—	—
MTCA Method A Cleanup Level for Groundwater[6]			**500**	**500**	**800/1,000[7]**	**5**	**1,000**	**700**	**1,000**	**0.01**	**15**	**15**

NOTES:

Results in **bold** denote concentrations exceeding applicable cleanup levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

— denotes sample not analyzed.

[1]Analyzed by Northwest Method NWTPH-Dx.

[2]Analyzed by Northwest Method NWTPH-Gx.

[3]Analyzed by U.S. Environmental Protection Agency (EPA) Method 8021B or 8260C.

[4]Analyzed by EPA Method 8011.

[5]Analyzed by EPA Method 200.8.

[6]Washington State Model Toxics Control Act Cleanup Regulation (MTCA) Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as amended 2013.

[7]Cleanup level is 800 micrograms per liter if benzene is detected, and 1,000 micrograms per liter if benzene is not detected.

BTEX = benzene, toluene, ethylbenzene, and xylenes

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics

EDB = 1,2-dibromoethane

GRO = TPH as gasoline-range organics

ORO = TPH as oil-range organics

Table 8
Summary of Groundwater Analytical Results for PAHs
U-Haul Center of Hazel Dell
Vancouver, Washington
Farallon PN: 1419-006

			Analytical Results (micrograms per liter)[1]											
			Naphthalenes				Carcinogenic PAHs							
Sample Location	**Sample Date**	**Sample Identification**	**Naphthalene**	**1-Methylnaphthalene**	**2-Methylnaphthalene**	**Total Naphthalenes[2]**	**Benzo(a)pyrene**	**Benzo(a)anthracene**	**Benzo(b)fluoranthene**	**Benzo(j,k)Fluoranthene**	**Chrysene**	**Dibenzo(a,h)Anthracene**	**Indeno(1,2,3-cd)Pyrene**	**Total cPAHs TEC[3,4]**
263-1A	2/10/2017	263-1A-021017	0.88	4.3	4.3	9.48	< 0.0096	0.011	< 0.0096	< 0.0096	< 0.0096	0.011	< 0.0096	0.008
MTCA Method A Cleanup Level for Groundwater[5]						**160**								**0.1**

NOTES:

< denotes analyte not detected at or exceeding the reporting limit listed.

[1]Analyzed by U.S. Environmental Protection Agency Method 8270D/SIM.

[2]Sum of naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene.

[3]Total cPAHs derived using the total toxicity equivalency method in Section 708(8) of Chapter 173-340 of the Washington Administrative Code.

[4]For concentrations reported at less than the laboratory reporting limit, half the reporting limit was used to calculate the TEC.

[5]Washington State Model Toxics Control Act Cleanup Regulation Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as revised 2013, unless otherwise noted.

cPAHs = carcinogenic polycyclic aromatic hydrocarbons

PAHs = polycyclic aromatic hydrocarbons

TEC = toxic equivalent concentration