



GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

July 11, 2022

Project No. 104-21020

Mr. Duane Meszaros, Director of Development
Russell Square Consulting
41428 Mackenzie Court
Murrieta, CA 92562

RE: Groundwater Quarterly Monitoring – Monitoring Well MW-6 Second Quarter Summary Letter
Lots 25 & 26 of the JSP Silverdale Site
NW Brian Lane
Silverdale, Washington

Dear Mr. Meszaros:

This report summarizes the two quarters of groundwater monitoring activities conducted to date for monitoring well MW-6 at the referenced site in Silverdale, Washington (see Figure 1, Vicinity Map). Data collected from these samples confirms whether contaminants of potential concern (COPC) originating from alleged solid waste disposal or other potential sources of contamination migrated from soil to groundwater at the location of the former house and drum on the subject site (Figure 2, Site Map). This work is being conducted in response to a request for further groundwater characterization outlined in a letter sent from the Department of Ecology (Ecology) to Mr. Duane Meszaros on February 24, 2022, and to determine if any remedial action is required to meet substantive requirements of the Model Toxics Control Act (MTCA), Chapter 70A.305 RCW. Monitoring results for the first quarter, collected on April 8, 2022, were summarized in a quarterly monitoring report, dated April 29, 2022. The work was conducted in general accordance with Proposal No. E21042WAP, dated June 23, 2021, which was approved by Mr. Blaise Hilton on July 22, 2021.

Groundwater Sampling Activities

For second quarter monitoring, a groundwater sample were collected from the well on July 5, 2022, and submitted for chemical analysis. Sampling was conducted according to the Sampling and Analysis Plan, dated June 10, 2021. The water sampling log is attached in Appendix A. Prior to sampling, the static water level was measured in the well. A groundwater sample was collected using low-flow sampling methods with a peristaltic pump and dispensed into laboratory-supplied glass sample bottles with disposable, single-use tubing. Each sample bottle was labeled with the project name, number, and the sequential sample number. Following labeling, the sample was placed in an ice chest with synthetic ice and maintained at a temperature of approximately 4° Celsius.

The sample was transported to Friedman & Bruya Environmental Chemist Laboratories in Seattle, Washington, for analysis. As per direction of Ecology PM Jing Song, the groundwater sample from monitoring well MW-6 was analyzed for Total Petroleum Hydrocarbons in the Diesel-extended range by Method NWTPH-Dx; Total Petroleum Hydrocarbons in the Gas-extended range by method NWTPH-Gx, additional associated volatile organic compounds (VOCs) by Method BTEX 8021B, Polycyclic Aromatic Hydrocarbons (PAHs) by Method 8270; Polychlorinated Biphenyls (PCBs) by Method 8082; and total metals (lead and arsenic) by Method 6020.

Groundwater Monitoring Results

The laboratory analytical results for the groundwater samples from the past two quarters are listed in each of the tables. The laboratory reports are provided in Appendix B. No BTEX VOCs, Total Petroleum Hydrocarbons, PAHs, PCBs, or metals (As and Pb) were detected in the two MW-6 groundwater samples.

Table 1. Summary of Groundwater Total Petroleum Hydrocarbons in the Gasoline Range and BTEX Results

JSP Silverdale Lots 25 and 26

Well No.	Sample No.	Date Sampled	NWTPH-Gx and BTEX 8021B				
			Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	Gasoline (µg/l)
MW-6	2022-GW-407	4/8/22	<1	<1	<1	<3	<100
MW-6	2022-GW-501	7/5/22	<1	<1	<1	<3	<100
MTCA Method A Cleanup Levels			5	1,000	700	1,000	800/1,000

Notes:

Concentrations listed in micrograms per liter (µg/l), or parts per billion (ppb).

MTCA = the Model Toxics Control Act regulation and the regulations promulgated thereunder (Washington Administrative Code, Chapter 173-340).

Table 2. Summary of Groundwater Total Petroleum Hydrocarbon in the Diesel Extended Range Results

JSP Silverdale Lots 25 and 26

Well No.	Sample No.	Date Sampled	NWTPH-Dx	
			Diesel (µg/l)	Lube Oil (µg/l)
MW-6	2022-GW-407	4/8/22	<50	<250
MW-6	2022-GW-501	7/5/22	<50	<250
MTCA Method A Cleanup Levels			500	500

Notes:

Concentrations listed in micrograms per liter (µg/l), or parts per billion (ppb).

x = the sample chromatographic pattern does not resemble the fuel standard used for quantitation

MTCA = the Model Toxics Control Act regulation and the regulations promulgated thereunder (Washington Administrative Code, Chapter 173-340).

NA = Not Analyzed

Table 3. Summary of Groundwater PAH, PCB, Lead, and Arsenic Results
JSP Silverdale Lots 25 and 26

Well No.	Sample No.	Date Sampled	PAHs (µg/l)	PCBs (µg/l)	Lead (µg/l)	Arsenic (µg/l)
MW-6	2022-GW-407	4/8/22	ND	<0.1	<1	<1
MW-6	2202-GW-501	7/5/22	ND	<0.1	<1	<1
MTCA Method A Cleanup Levels			0.1	0.1	15	5

Notes:

Concentrations listed in micrograms per liter (µg/l), or parts per billion (ppb).

MTCA = the Model Toxics Control Act regulation and the regulations promulgated thereunder (Washington Administrative Code, Chapter 173-340).

ND = Not Detected

Limitations

The findings of this report were based upon the results of field and laboratory investigations, coupled with the interpretation of surface and subsurface conditions associated with our water samples. Therefore, the data are accurate only to the degree implied by review of the data obtained and by professional interpretation.

A laboratory certified by the State of Washington, Department of Ecology, did the analytical testing. The results of the chemical testing are accurate only to the degree of care of ensuring the testing accuracy and the representative nature of the water samples obtained.

The findings presented herewith are based on professional interpretation using state of the art methods and equipment and a degree of conservatism deemed proper as of this report date. It is not warranted that such data cannot be superseded by future geotechnical, environmental, or technical developments.

We appreciate the opportunity to be of service. If you have any questions, or if we can be of further assistance, please do not hesitate to contact our office.

Respectfully Submitted,
Krazan & Associates, Inc.



Shawn E. Williams, L.G.
Regional Environmental Manager



7/11/22

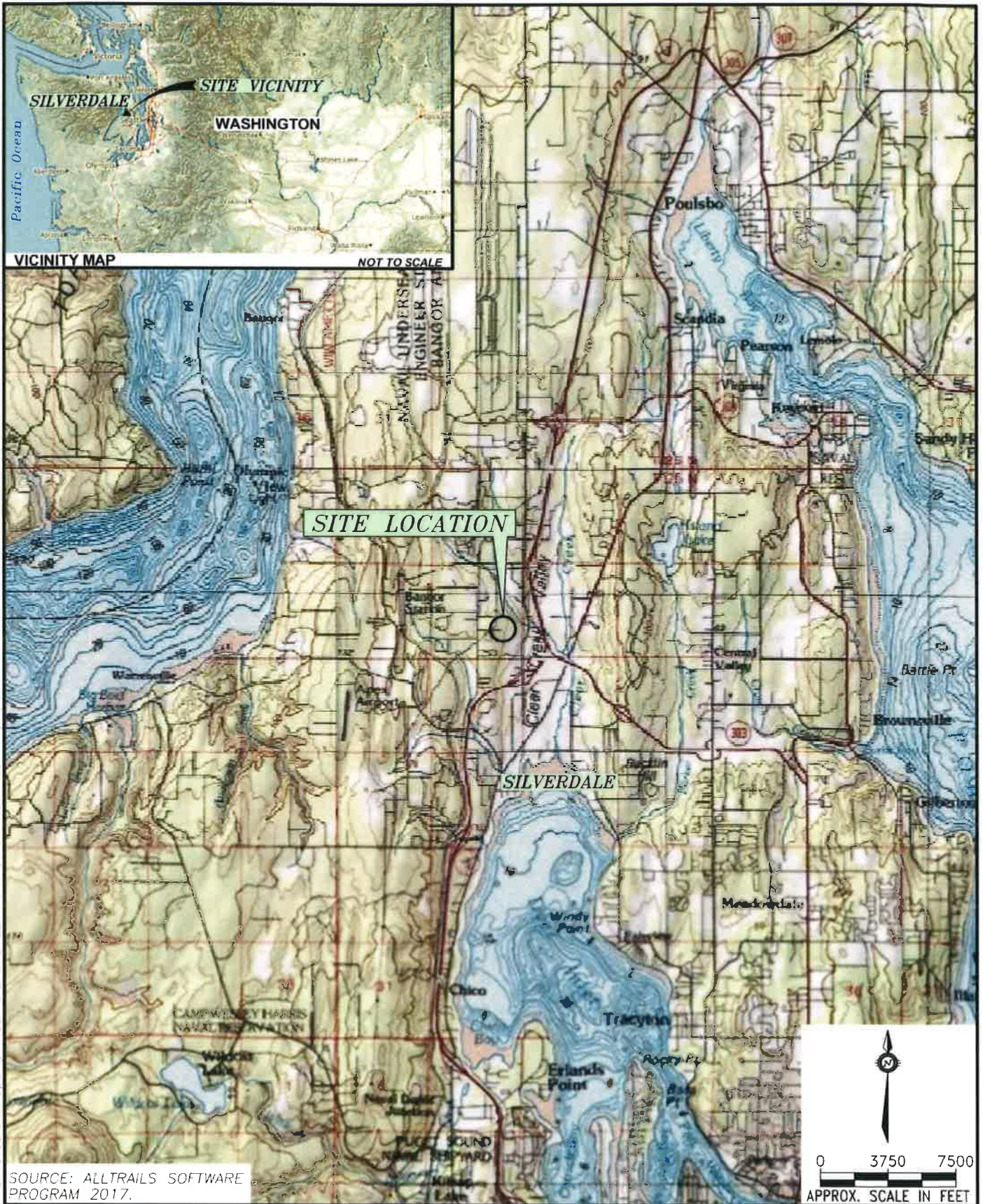
Attachments:

Figure 1. Vicinity Map

Figure 2. Site Map

Appendix A. MW-6 Groundwater Sampling Log

Appendix B. Certified Analytical Results, Chain of Custody Records



21 Dwg 21 ESC 21 Silverdale Property File: SILVERDALE_FIG_1.DWG PLOTTED: 10/1/21

SOURCE: ALLTRAILS SOFTWARE PROGRAM 2017.

DATE: OCTOBER 2021
 REV.: -
 CHKD: K.L.W
 DRAWN: C.E.H.
 PROJ. No.: XXX



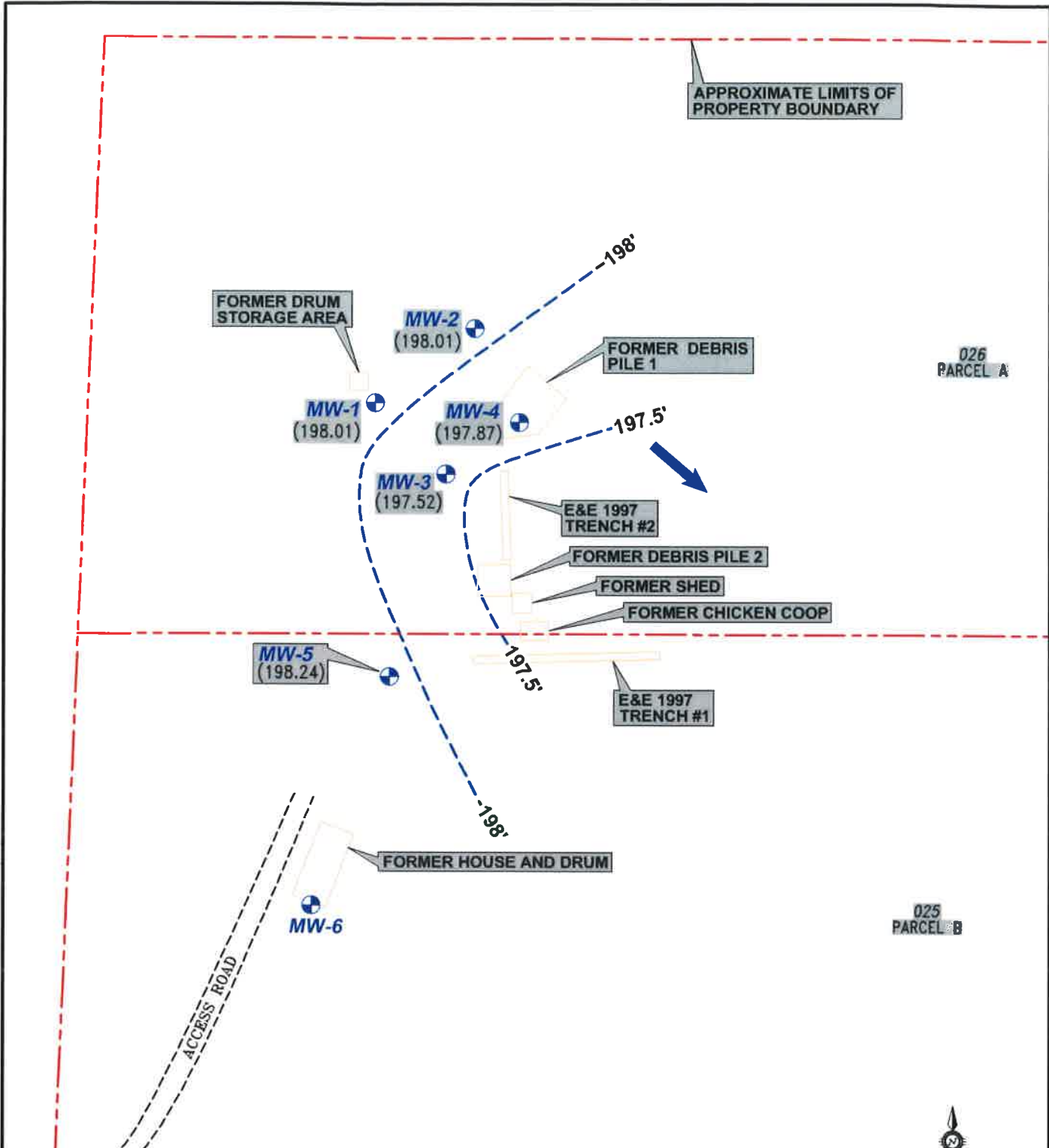
SITE LOCATION MAP

JSP SILVERDALE LOTS 24 AND 25
 Silverdale, Washington

FIGURE

1

22_Drws\22_ESC\22_Silverdale_FIG_6.DWG PLOTTED: 5/3/22



LEGEND	
MW-1	MONITORING WELL LOCATION
(198.01)	GROUNDWATER ELEVATION 1/21/22 (FEET)
-198'	GROUNDWATER CONTOUR (FEET)
	INFERRED DIRECTION OF GROUNDWATER FLOW



DATE: MAY 2022
REV.: -
CHKD: K.L.W.
DRAWN: C.E.H.
PROJ. No.: 104-21020



SITE PLAN

JSP SILVERDALE LOTS 25 AND 26
Silverdale, Washington

FIGURE

2

Appendix A

WATER SAMPLING LOG

Project Name: Lots 25 + 26 Project No.: 104-21020
 Site Name: _____ Sample Location: MW-6
 Inspector(s): Andrew Glenn Date/Time: 7-5-22
 Company: Krazan
 Weather/Temperature: Sunny 67°F

Well Data

Diameter of Well Casing (inches): 2 inches
 Depth to Water Below Top of Casing (feet): 22.49
 Total Depth of Well Below Top of Casing (feet): -
 Product Thickness (feet): - Sampling/Purge Method: peristaltic pumps
Calculate if well parameters do not stabilize per the work plan:
 Length of Water Column in Well (feet): -
 Liters per Foot: - Liters in Well: -
 3 Times Casing Volume (liters): - Liters Purged from Well: -

Water Sample Data

Sample ID: 2022-GW-501 Time Sample Collected: 12:45
 Remarks (Color/Odor): clear Sheen on purge water? -
 Stabilized? yes 3 Casing Volumes Removed? -

Purge Vol. (liters)	Time (min)	pH (pH units)	Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (C)	Salinity (%)	Redox (mv)
Criteria for three consecutive readings		±0.1 SU	±3%	±10% or <10 NTU	±10%	±10%	±10%	±10 mV
		5.29		24.9	-	24.4		

Notes: PID 0.0 ppm

Well Casing Volumes

Liters/Foot ½" = 0.04 1-1/4" = 0.24 2" = 0.62 3" = 1.39 4" = 2.47
 1-1/2" = 0.35 2-1/2" = 0.97 3-1/2" = 1.89 6" = 5.56



WATER SAMPLING LOG

Project Name: Lots 25 and 26 Project No: 104-21020
Site Name: - Sample Location: MW-4
Inspector(s): C. Bartlett Date/Time: 11:50
Company: Krazan
Weather/Temperature: Sunny 52°

Well Data

Diameter of Well Casing (inches): 2-inches
Depth to Water Below Top of Casing (feet): 19.90
Total Depth of Well Below Top of Casing (feet): -
Product Thickness (feet): - Sampling/Purge Method: peristaltic pump
Calculate if well parameters do not stabilize per the work plan:
Length of Water Column in Well (feet): -
Liters per Foot: - Liters in Well: -
3 Times Casing Volume (liters): - Liters Purged from Well: -

Water Sample Data

Sample ID: 2022-GW-407 Time Sample Collected: 12:05
Remarks (Color/Odor): Clear Sheen on purge water? -
Stabilized? Yes 3 Casing Volumes Removed? -

Table with 9 columns: Purge Vol. (liters), Time (min), pH (pH units), Cond. (mS/cm), Turbidity (NTU), DO (mg/L), Temp (C), Salinity (D), Redox (mV). Row 1: 11:55, 7.2, 115.2, 25.6, 9.2.

Notes: 0.0 ppm

Well Casing Volumes

Liters/Foot 1/2" = 0.04 1-1/4" = 0.24 2" = 0.62 3" = 1.39 4" = 2.47
1-1/2" = 0.35 2-1/2" = 0.97 3-1/2" = 1.89 6" = 5.56

Appendix B

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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fbi@isomedia.com
www.friedmanandbruya.com

July 8, 2022

Shawn Williams, Project Manager
Krazan & Associates (Poulsbo)
1230 Finn Hill Rd NW, Suite A
Poulsbo, WA 98370

Dear Mr Williams:

Included are the results from the testing of material submitted on July 5, 2022 from the Lots 25 & 26, F&BI 207054 project. There are 15 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
KZP0708R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 5, 2022 by Friedman & Bruya, Inc. from the Krazan & Associates (Poulsbo) Lots 25 & 26, F&BI 207054 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID
207054 -01

Krazan & Associates (Poulsbo)
2022-GW-501

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/08/22
Date Received: 07/05/22
Project: Lots 25 & 26, F&BI 207054
Date Extracted: 07/06/22
Date Analyzed: 07/06/22

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR BENZENE, TOLUENE, ETHYLBENZENE,
XYLENES AND TPH AS GASOLINE
USING METHODS 8021B AND NWTPH-G_x**
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
2022-GW-501 207054-01	<1	<1	<1	<3	<100	106
Method Blank 02-1548 MB	<1	<1	<1	<3	<100	71

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/08/22
Date Received: 07/05/22
Project: Lots 25 & 26, F&BI 207054
Date Extracted: 07/06/22
Date Analyzed: 07/06/22

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

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C ₁₀ -C ₂₅)	<u>Motor Oil Range</u> (C ₂₅ -C ₃₆)	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 41-152)
2022-GW-501 207054-01	<50	<250	105
Method Blank 02-1590 MB	<50	<250	111

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	2022-GW-501	Client:	Krazan & Associates (Poulsbo)
Date Received:	07/05/22	Project:	Lots 25 & 26, F&BI 207054
Date Extracted:	07/07/22	Lab ID:	207054-01
Date Analyzed:	07/07/22	Data File:	207054-01.051
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	WE

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Lead	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Krazan & Associates (Poulsbo)
Date Received:	NA	Project:	Lots 25 & 26, F&BI 207054
Date Extracted:	07/07/22	Lab ID:	I2-461 mb
Date Analyzed:	07/07/22	Data File:	I2-461 mb.045
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	WE

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Lead	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	2022-GW-501	Client:	Krazan & Associates (Poulsbo)
Date Received:	07/05/22	Project:	Lots 25 & 26, F&BI 207054
Date Extracted:	07/06/22	Lab ID:	207054-01 1/2
Date Analyzed:	07/07/22	Data File:	070711.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	jcm

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	21	10	60
Phenol-d6	23	10	49
Nitrobenzene-d5	97	15	144
2-Fluorobiphenyl	91	25	128
2,4,6-Tribromophenol	33	10	142
Terphenyl-d14	110	41	138

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.4
2-Methylnaphthalene	<0.4
1-Methylnaphthalene	<0.4
Acenaphthylene	<0.04
Acenaphthene	<0.04
Fluorene	<0.04
Phenanthrene	<0.04
Anthracene	<0.04
Fluoranthene	<0.04
Pyrene	<0.04
Benz(a)anthracene	<0.04
Chrysene	<0.04
Benzo(a)pyrene	<0.04
Benzo(b)fluoranthene	<0.04
Benzo(k)fluoranthene	<0.04
Indeno(1,2,3-cd)pyrene	<0.04
Dibenz(a,h)anthracene	<0.04
Benzo(g,h,i)perylene	<0.08

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID: Method Blank	Client: Krazan & Associates (Poulsbo)
Date Received: Not Applicable	Project: Lots 25 & 26, F&BI 207054
Date Extracted: 07/06/22	Lab ID: 02-1589 mb
Date Analyzed: 07/07/22	Data File: 070710.D
Matrix: Water	Instrument: GCMS9
Units: ug/L (ppb)	Operator: jcm

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	28	10	60
Phenol-d6	15	10	49
Nitrobenzene-d5	98	15	144
2-Fluorobiphenyl	98	25	128
2,4,6-Tribromophenol	88	10	142
Terphenyl-d14	105	41	138

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
2-Methylnaphthalene	<0.2
1-Methylnaphthalene	<0.2
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.02
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.02
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.04

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	2022-GW-501	Client:	Krazan & Associates (Poulsbo)
Date Received:	07/05/22	Project:	Lots 25 & 26, F&BI 207054
Date Extracted:	07/06/22	Lab ID:	207054-01
Date Analyzed:	07/07/22	Data File:	070706.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower	Upper
TCMX	42	Limit:	Limit:
		24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Krazan & Associates (Poulsbo)
Date Received:	Not Applicable	Project:	Lots 25 & 26, F&BI 207054
Date Extracted:	07/06/22	Lab ID:	02-1591 mb
Date Analyzed:	07/07/22	Data File:	070704.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower	Upper
TCMX	44	Limit:	Limit:
		24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.1
Aroclor 1232	<0.1
Aroclor 1016	<0.1
Aroclor 1242	<0.1
Aroclor 1248	<0.1
Aroclor 1254	<0.1
Aroclor 1260	<0.1
Aroclor 1262	<0.1
Aroclor 1268	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/08/22
 Date Received: 07/05/22
 Project: Lots 25 & 26, F&BI 207054

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

Laboratory Code: 206556-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	9.4	8.9	6
Ethylbenzene	ug/L (ppb)	9.2	8.9	3
Xylenes	ug/L (ppb)	50	48	4
Gasoline	ug/L (ppb)	530	540	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	89	65-118
Toluene	ug/L (ppb)	50	89	72-122
Ethylbenzene	ug/L (ppb)	50	91	73-126
Xylenes	ug/L (ppb)	150	89	74-118
Gasoline	ug/L (ppb)	1,000	86	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/08/22

Date Received: 07/05/22

Project: Lots 25 & 26, F&BI 207054

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	92	104	63-142	12

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/08/22

Date Received: 07/05/22

Project: Lots 25 & 26, F&BI 207054

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES
FOR TOTAL METALS USING EPA METHOD 6020B**

Laboratory Code: 207034-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	1.94	94	94	75-125	0
Lead	ug/L (ppb)	10	1.79	93	93	75-125	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	92	80-120
Lead	ug/L (ppb)	10	100	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/08/22

Date Received: 07/05/22

Project: Lots 25 & 26, F&BI 207054

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	5	79	81	60-97	2
2-Methylnaphthalene	ug/L (ppb)	5	85	84	63-103	1
1-Methylnaphthalene	ug/L (ppb)	5	85	83	64-101	2
Acenaphthylene	ug/L (ppb)	5	93	91	70-130	2
Acenaphthene	ug/L (ppb)	5	90	88	66-130	2
Fluorene	ug/L (ppb)	5	94	91	70-130	3
Phenanthrene	ug/L (ppb)	5	93	89	70-130	4
Anthracene	ug/L (ppb)	5	97	92	70-130	5
Fluoranthene	ug/L (ppb)	5	100	96	70-130	4
Pyrene	ug/L (ppb)	5	94	94	70-130	0
Benz(a)anthracene	ug/L (ppb)	5	97	97	70-130	0
Chrysene	ug/L (ppb)	5	92	92	70-130	0
Benzo(a)pyrene	ug/L (ppb)	5	95	93	70-130	2
Benzo(b)fluoranthene	ug/L (ppb)	5	94	93	62-130	1
Benzo(k)fluoranthene	ug/L (ppb)	5	95	92	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	89	91	70-130	2
Dibenz(a,h)anthracene	ug/L (ppb)	5	90	91	70-130	1
Benzo(g,h,i)perylene	ug/L (ppb)	5	86	87	67-124	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 07/08/22

Date Received: 07/05/22

Project: Lots 25 & 26, F&BI 207054

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES FOR
POLYCHLORINATED BIPHENYLS AS
AROCLOR 1016/1260 BY EPA METHOD 8082A**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	67	68	25-111	1
Aroclor 1260	ug/L (ppb)	0.25	75	77	23-123	3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Data Qualifiers & Definitions

- a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c - The presence of the analyte may be due to carryover from previous sample injections.
- cf - The sample was centrifuged prior to analysis.
- d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv - Insufficient sample volume was available to achieve normal reporting limits.
- f - The sample was laboratory filtered prior to analysis.
- fb - The analyte was detected in the method blank.
- fc - The analyte is a common laboratory and field contaminant.
- hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs - Headspace was present in the container used for analysis.
- ht - The analysis was performed outside the method or client-specified holding time requirement.
- ip - Recovery fell outside of control limits due to sample matrix effects.
- j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc - The presence of the analyte is likely due to laboratory contamination.
- L - The reported concentration was generated from a library search.
- nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo - The value reported fell outside the control limits established for this analyte.
- x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

Libby Environmental, Inc. **FBI** **Chain of Custody Record** www.LibbyEnvironmental.com
 3922 South Bay Road NE PII: 960-952-2110 (206) 285-8282 07/06/22 AZI / UW / EOY
 Olympia, WA 98506 Fax: 360-352-4154 207054 Date: 7.5.22 Page: _____
 Client: **KRAZAN & ASSOCIATES** 207054 Project Manager: **SHAWN WILLIAMS**
 Address: 1230 Fawn Hill Rd NW, Suite A State: WA Zip: 98370 Location: **SILVERDALE BRIAN LANE NW City, State: SILVERDALE, WA**
 City: **PAULSBORO** Phone: (360) 548-2126 Fax: Collector: **ANDREW GLENN** Date of Collection: **7.5.22**
 Client Project # **104-21020** Email: **SHAWN.WILLIAMS@KRAZAN.COM**

Sample Number	Depth	Time	Sample Type	# OF TALS Container Type	Field Notes										Lab ID		
					VOC 8260	PCE & Daughter Prod	NWTPH-GX	BTEX (8260) / (8021)	NWTPH-HCID	PGB 8082	MTCA 5 Metals	RCRA 8 Metals	c PAH 8270	PAH 8270		Semi Vol 8270	LEAD / ARSENIC
1	2022-GW-501	12:45	GUMBER	7		X	X	X	X	X	X	X	X	X	X	RUSH	01A-G
2																	
3																	
4																	
5																	
6																	
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8																	
9																	
10																	
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16																	
17																	
Relinquished by:	Date / Time		Received by:	Date / Time		Date / Time		Date / Time		Date / Time		Date / Time		Date / Time		Date / Time	
<i>Andrew Glenn</i>	7.5.22/15:00		<i>M. Williams</i>	07/06/22 11:10													
Relinquished by:	Date / Time		Received by:	Date / Time		Date / Time		Date / Time		Date / Time		Date / Time		Date / Time		Date / Time	
Relinquished by:	Date / Time		Received by:	Date / Time		Date / Time		Date / Time		Date / Time		Date / Time		Date / Time		Date / Time	

TAT: 24HR 48HR 5-DAY
 Remarks: Samples received at Lab
 Distribution: White - Lab, Yellow - Originator
 LEGAL ACTION CLAUSE: In the event of default of payment and/or failure to pay, Client agrees to pay the costs of collection including court costs and reasonable attorney fees to be determined by a court of law.