



TRANSMITTAL

Project No.: 110101

July 17, 2018

Attn: Mr. Mark Wolf
U-Save Oil Company
P.O. Box 1858
Anacortes, WA 98221

Re: U-Save Oil - Mt. Vernon (VCP # NW2637)
May 2018 Groundwater Sampling

We are sending the following via:

- | | | |
|---|--|--|
| ☐ Regular Mail | ☒ E-Mail | ☐ Hand Deliver |
| ☐ Overnight Delivery | ☐ Courier | ☐ Client Pickup |

Qty	Description
1	Table 1—Groundwater Sampling Analytical Results
1	Figure 1—Site Plan
1	Laboratory Report

Remarks: Enclosed are the results from the May 2018 groundwater monitoring activities. The May 2018 groundwater monitoring was the second of three planned rounds of groundwater monitoring. A summary report will be prepared following the third monitoring event, planned for October 2019.

cc: Grant Yang, Washington State
Department of Ecology

Sent by: Amy Tice, LG
Project Geologist
atice@aspectconsulting.com

V:\110101 U-Save Oil - Mt. Vernon\Deliverables\20180717_GW Sampling Data Transmittal\Transmittal - June 2018.docx

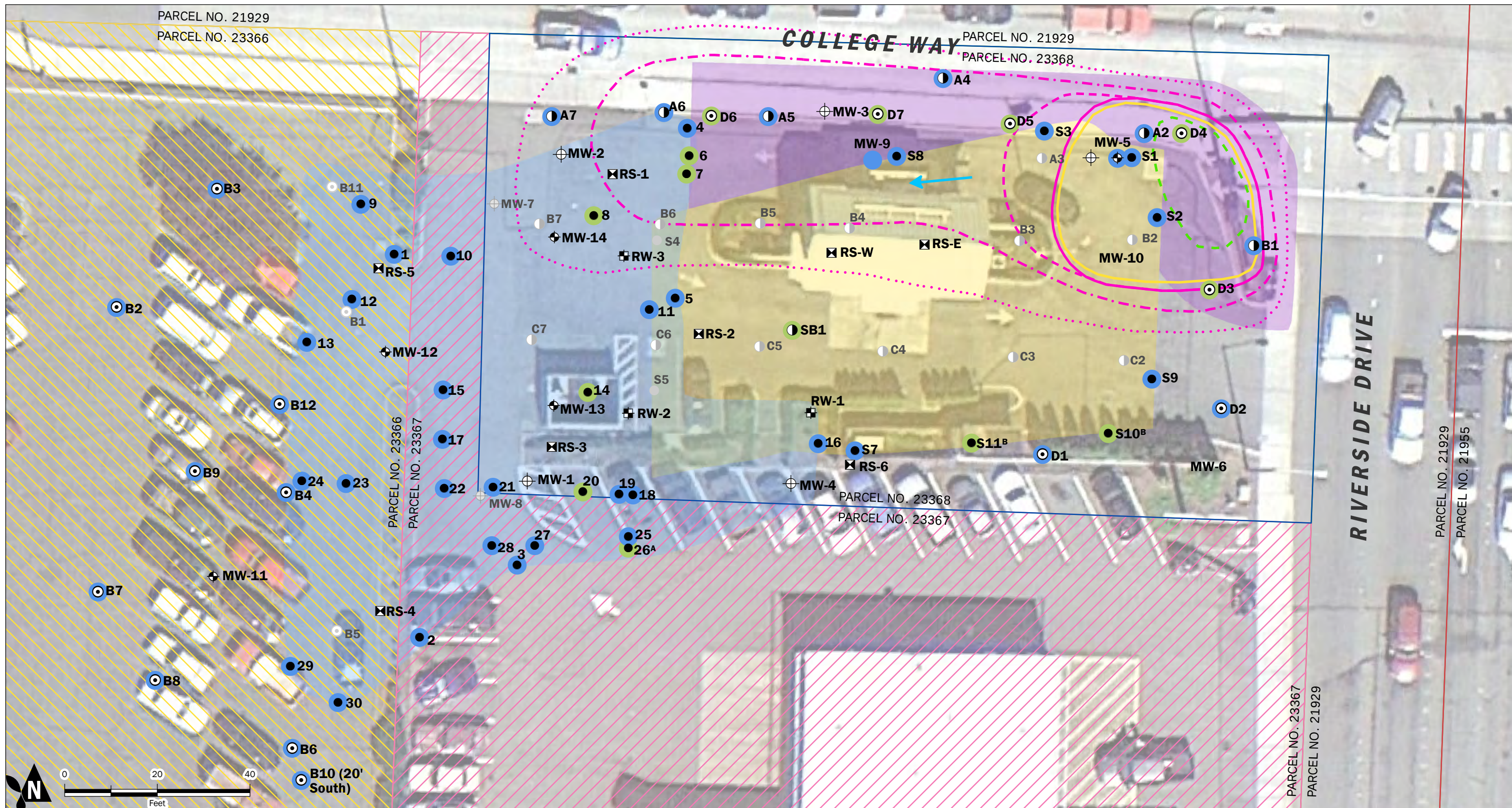
Table 1 - Groundwater Sampling Analytical Results

Project No. 110101, U-Save Oil Company - Mount Vernon Site
Mount Vernon, Washington

Sample ID	Sample Date	BTEX (8021B)/Gasoline (NWTPH-Gx)					VOCs (8260C)			NWTPH-Dx
		Benzene	Toluene	Ethylbenzene	Xylenes	Gasoline	MTBE	Naphthalene	n-Hexane	Diesel
		µg/L					µg/L			µg/L
MW-6	9/23/2005	<1	<1	<1	<3	<100	na	na	na	94
MW-6	5/21/2010	<1	<1	<1	<3	<100	na	na	na	na
MW-6	7/19/2011	<1	<1	<1	<3	180	na	na	na	81 x
MW-9	4/27/2001	69	72	532	2,500	16,000	na	na	na	6,400
MW-10	1/14/2004	12	13	62	300	2,500	na	na	na	1,800
MW-10	6/17/2004	8	3	28	180	1,800	na	na	na	na
MW-10	6/29/2004	10	8	80	350	3,700	na	na	na	na
MW-10	10/5/2004	11	15	61	290	3,700	na	na	na	na
MW-10	12/29/2004	13	2	16	100	1,800	na	na	na	na
MW-10	03/16/2005	16	18	150	380	3,000	na	na	na	na
MW-10	6/21/2005	20	18	220	510	3,600	na	na	na	na
MW-10	9/23/2005	16	10	170	370	3,100	na	na	na	2,100
MW-10	1/8/2007	29	42	200	630	9,400	na	na	na	na
MW-10	5/21/2010	<1	<1	10	20	1,500	na	na	na	na
MW-10	7/19/2011	3	9	4	8	1,300	na	na	na	500 x
MW-10	4/30/2013	1.9	3.5	2	6.5	830	na	na	na	200 x
MW-10	3/16/2015	0.86	<1	<1	<3	430	<1	<1	<1	210 x
MW-10	6/10/2015	<0.35	<1	<1	<3	220	<1	<1	<1	300 x
MW-10	9/14/2015	<0.35	<1	<1	<3	620	<1	<1	<1	420 x
MW-10	12/30/2015	0.59	<1	<1	<3	610	<1	<1	<1	220 x
MW-10	2/23/2016	1	<1	<1	<3	350	<1	<1	<1	170 x
MW-10	7/19/2016	<0.35	<1	<1	<3	310	<1	<1	<1	300 x
MW-10	10/21/2016	<0.35	<1	<1	<3	980	<1	<1	<1	450 x
MW-10	5/9/2018	<0.35	<1	<1	<3	360	<1	<1	<1	94 x
MW-11	10/2/2003	28	4	5	56	550	na	na	na	360
MW-11	11/25/2003	1	<1	<1	<3	<50	na	na	na	<250
MW-11	1/14/2004	3	<1	<1	<3	<50	na	na	na	<250
MW-11	6/17/2004	5	6	74	98	2000	na	na	na	na
MW-11	6/29/2004	9	8	80	120	3200	na	na	na	na
MW-11	10/5/2004	12	5	10	19	2100	na	na	na	na
MW-11	12/29/2004	<1	<1	<1	<3	100	na	na	na	na
MW-11	3/16/2005	1	<1	<1	<3	<50	na	na	na	na
MW-11	6/21/2005	<1	<1	<1	<3	<100	na	na	na	na
MW-11	9/23/2005	2	<1	<1	<3	<100	na	na	na	110
MW-11	12/16/2005	2	2	2	3	210	na	na	na	na
MW-11	5/21/2010	<1	<1	<1	<3	<100	na	na	na	na
MW-11	7/19/2011	<1	<1	<1	<3	<100	na	na	na	74 x
MW-12	10/2/2003	49	>1	>1	16	430	na	na	na	1,100
MW-12	11/25/2003	55	9	59	150	1,600	na	na	na	1,200
MW-12	1/14/2004	45	9	24	71	1,300	na	na	na	740
MW-12	6/17/2004	12	>1	>1	<3	290	na	na	na	na
MW-12	6/29/2004	18	>1	2	4	410	na	na	na	na
MW-12	10/5/2004	8	>1	>1	<3	300	na	na	na	na
MW-12	12/29/2004	27	1	>1	<3	340	na	na	na	na
MW-12	3/16/2005	<1	<1	<1	<3	56	na	na	na	na
MW-12	6/21/2005	1	<1	<1	<3	<100	na	na	na	na
MW-12	9/23/2005	<1	<1	<1	<3	<100	na	na	na	160
MW-12	12/16/2005	3	<1	<1	<3	<100	na	na	na	na
MW-12	5/21/2010	<1	1	<1	<3	100	na	na	na	na
MW-12	7/19/2011	2	1	1	<3	180	na	na	na	230 x
MW-13	12/29/2004	<1	<1	<1	<3	<50	na	na	na	na
MW-13	3/16/2005	<1	<1	<1	<3	<50	na	na	na	na
MW-13	6/21/2005	<1	1	<1	<3	<100	na	na	na	na
MW-13	9/23/2005	<1	1	<1	<3	<100	na	na	na	140
MW-13	5/21/2010	<1	1	<1	<3	<100	na	na	na	na
MW-13	7/19/2011	<1	1	<1	<3	<100	na	na	na	100 x
MW-14	12/29/2004	63	1	<1	<3	380	na	na	na	na
MW-14	3/16/2005	88	2	2	10	570	na	na	na	na
MW-14	6/21/2005	64	4	<1	8	390	na	na	na	na
MW-14	9/23/2005	61	9	130	170	2,100	na	na	na	960
MW-14	1/8/2007	42	1	<1	6	420	na	na	na	na
MW-14	5/21/2010	3	<1	<1	<3	190	na	na	na	na
MW-14	7/19/2011	<1	<1	<1	<3	<100	na	na	na	120 x
MW-14	3/16/2015	<0.35	<1	<1	<3	<100	<1	<1	<1	70 x
MW-14	6/10/2015	<0.35	<1	<1	<3	160	<1	<1	<1	170 x
MW-14	9/14/2015	16	1.7	5.4	4.6	1,300	<1	6.6	4.1	940 x
MW-14	12/30/2015	<0.35	<1	<1	<3	<100	<1	<1	<1	59 x
MW-14	2/23/2016	<0.35	<1	<1	<3	<100	<1	<1	<1	59 x
MW-14	7/19/2016	<0.35	<1	<1	<3	<100	<1	<1	<1	57 x
MW-14	10/21/2016	1.4	<1	<1	<3	180	<1	<1	<1	64 x
MW-14	5/9/2018	<0.35	<1	<1	<3	<100	<1	<1	<1	100 x
Cleanup Levels ^a		5	1,000	700	1,000	800 ^b	20	160	480 ^c	500

Notes:

- Shaded values exceed cleanup levels.
- a) Washington Administrative Code Chapter 173-340, State of Washington Model
Toxics Control Act Cleanup Regulation Method A cleanup levels for groundwater.
- b) 800 µg/L if benzene is present in groundwater.
- c) Method B Formula value used; no Method A value available.
- x) The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
- µg/L - micrograms per liter.
- < - analyte not detected at or greater than the listed concentration.



Exploration Type ○ Push Probe ⊕ Monitoring Well ● Soil Boring ● Soil Sample ⊕ Removed Monitoring Well ⊕ Removed Test Pit	⊕ Groundwater Recovery Sump ● Blue highlight indicates soil sample below cleanup levels for all hydrocarbon compounds ● Green highlight indicates soil sample at or above cleanup levels for one or more hydrocarbon compounds ➡ Inferred groundwater flow direction □ Parcel No. 21929	□ Parcel No. 21955 □ Parcel No. 23366 □ Parcel No. 23367 □ Parcel No. 23368 □ Phase I Soil Excavation □ Phase II Soil Excavation	Inferred Extent of Residual Groundwater Plume in: □ 2018 □ 2016 □ 2013 □ 2011 □ 2010 □ 2007 □ Inferred Extent of Petroleum-Impacted Soil	^A Soil sample from 2003 contained 0.04 mg/kg Benzene (less than half the cleanup level). The sample was taken over 10 years ago, and at the time contained no detectable gasoline (less than 1 mg/kg). ^B Soil samples from 1997 that contained no detectable hydrocarbon compounds, but the benzene detection limit (0.05 mg/kg) was higher than the current benzene cleanup standards (0.03 mg/kg).	Site Plan U-Save Oil Company Mount Vernon, Washington
Aspect CONSULTING	PROJECT NO. 110101	JUL-2018	BY: JRB / EAC	REV BY: TDR	FIGURE NO. 1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

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Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

May 17, 2018

Chip Goodhue, Project Manager
Aspect Consulting, LLC
350 Madison Ave. N.
Bainbridge Island, WA 98110-1810

Dear Mr Goodhue:

Included are the results from the testing of material submitted on May 10, 2018 from the U-Save oil 110101, F&BI 805188 project. There are 10 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. 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 have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures

c: data@aspectconsulting.com, Amy Tice
ASP0517R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on May 10, 2018 by Friedman & Bruya, Inc. from the Aspect Consulting, LLC U-Save oil 110101, F&BI 805188 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Aspect Consulting, LLC</u>
805188 -01	MW-10-050918
805188 -02	MW-14-050918

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/17/18

Date Received: 05/10/18

Project: U-Save oil 110101, F&BI 805188

Date Extracted: 05/14/18

Date Analyzed: 05/14/18

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
USING METHOD NWTPH-Gx**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate (% Recovery) (Limit 51-134)
MW-10-050918 805188-01	360	91
MW-14-050918 805188-02	<100	86
Method Blank 08-1007 MB	<100	93

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/17/18

Date Received: 05/10/18

Project: U-Save oil 110101, F&BI 805188

Date Extracted: 05/11/18

Date Analyzed: 05/11/18

**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>	<u>Diesel Range</u>	<u>Motor Oil Range</u>	<u>Surrogate</u>
Laboratory ID	(C ₁₀ -C ₂₅)	(C ₂₅ -C ₃₆)	(% Recovery)
			(Limit 47-140)
MW-10-050918	94 x	<250	52
805188-01			
MW-14-050918	100 x	<250	112
805188-02			
Method Blank	<50	<250	103
08-1041 MB			

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-10-050918	Client:	Aspect Consulting, LLC
Date Received:	05/10/18	Project:	U-Save oil 110101, F&BI 805188
Date Extracted:	05/10/18	Lab ID:	805188-01
Date Analyzed:	05/10/18	Data File:	051017.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	105	60	133

Compounds:	Concentration ug/L (ppb)
Hexane	<1
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	<0.35
Toluene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	MW-14-050918	Client:	Aspect Consulting, LLC
Date Received:	05/10/18	Project:	U-Save oil 110101, F&BI 805188
Date Extracted:	05/10/18	Lab ID:	805188-02
Date Analyzed:	05/10/18	Data File:	051023.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	100	63	127
4-Bromofluorobenzene	104	60	133

Compounds:	Concentration ug/L (ppb)
Hexane	<1
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	<0.35
Toluene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Aspect Consulting, LLC
Date Received:	Not Applicable	Project:	U-Save oil 110101, F&BI 805188
Date Extracted:	05/10/18	Lab ID:	08-0996 mb
Date Analyzed:	05/10/18	Data File:	051010.D
Matrix:	Water	Instrument:	GCMS4
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	57	121
Toluene-d8	97	63	127
4-Bromofluorobenzene	98	60	133

Compounds:	Concentration ug/L (ppb)
Hexane	<1
Methyl t-butyl ether (MTBE)	<1
1,2-Dichloroethane (EDC)	<1
Benzene	<0.35
Toluene	<1
1,2-Dibromoethane (EDB)	<1
Ethylbenzene	<1
m,p-Xylene	<2
o-Xylene	<1
Naphthalene	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/17/18

Date Received: 05/10/18

Project: U-Save oil 110101, F&BI 805188

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER
SAMPLES FOR TPH AS GASOLINE
USING METHOD NWTPH-Gx**

Laboratory Code: 805200-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	86	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/17/18

Date Received: 05/10/18

Project: U-Save oil 110101, F&BI 805188

**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	88	92	61-133	4

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 05/17/18

Date Received: 05/10/18

Project: U-Save oil 110101, F&BI 805188

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260C

Laboratory Code: 805134-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery	Acceptance
				MS	Criteria
Hexane	ug/L (ppb)	50	<1	90	52-150
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	87	74-127
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	87	69-133
Benzene	ug/L (ppb)	50	<0.35	90	76-125
Toluene	ug/L (ppb)	50	<1	92	76-122
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	97	69-134
Ethylbenzene	ug/L (ppb)	50	<1	96	69-135
m,p-Xylene	ug/L (ppb)	100	<2	95	69-135
o-Xylene	ug/L (ppb)	50	<1	97	60-140
Naphthalene	ug/L (ppb)	50	<1	95	44-164

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery	Percent Recovery	Acceptance	RPD
			LCS	LCSD	Criteria	(Limit 20)
Hexane	ug/L (ppb)	50	93	91	57-137	2
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	94	92	64-147	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	93	91	73-132	2
Benzene	ug/L (ppb)	50	93	92	69-134	1
Toluene	ug/L (ppb)	50	96	94	72-122	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	101	100	82-125	1
Ethylbenzene	ug/L (ppb)	50	101	99	77-124	2
m,p-Xylene	ug/L (ppb)	100	100	98	83-125	2
o-Xylene	ug/L (ppb)	50	102	100	81-121	2
Naphthalene	ug/L (ppb)	50	101	100	64-133	1

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 compound 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. Compounds in the sample matrix interfered with the quantitation of the analyte.
- 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.

SAMPLE CHAIN OF CUSTODY

ME: 05-10-18

VMI/CO3

Report To Chip Goodhue + Amy Tice

Company Aspect Consulting

Address Staffle

City, State, ZIP

Office: 206-780-7774
 Email: info@aspectconsulting.com
 Phone: 206-780-7774
 Email: info@aspectconsulting.com

Please hold

INVOICE TO

SAMPLE DISPOSAL

☒ Standard Turnaround
☐ RUSH _____

☒ Dispose after 30 days
☐ Archive Samples
☐ Other _____

ANALYSES REQUESTED

[illegible]

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

SIGNATURE		PRINT NAME		COMPANY		DATE		TIME	
Relinquished by:		Na Hyung Choi		Aspect		5/19/18	17:15		
Received by:		Elizabeth Webb		Aspect		5/10/18	9:35		
Relinquished by:		Elizabeth Webb		Aspect		5/10/18	12:00		
Received by:		Elizabeth Webb		Aspect		5/10/18	12:00		