



- Legend**
- Spill Origin
 - Other Soil Sample Location
 - Spill Path
 - Spill Area

DISCLAIMER : This Geographic Information System (GIS) and its components are designed as a source of reference for answering inquiries, for planning and for modeling. GIS is not intended, nor does it replace legal description information in the chain of title and other information contained in official government records such as the County Clerk and Records office or the courts. In addition, the representations of locations in this GIS cannot be substituted for actual legal surveys.

Project Number: 018-065	Union Pacific 10-21 Spill Response Chevron USA, Inc Rio Blanco County, Colorado SESW S21 T2N R102W		330 Grand Ave. Suite C Grand Junction, CO 81501 P: 970.549.1015	Figure
Drawn By: TPD				1
Revision Date: 11/14/2016				

F:\Projects\013-3287\Chevron - Rangely Environmental\2016\Spills\GIS\Spill Response Maps.mxd

Table 1
UP 10-21 Spill
Soil Data Summary

SAMPLE SUMMARY	
Location Description	Chevron UP 10-21 Spill
Sample Type	Soil

LABORATORY DATA SUMMARY									
Sample ID	UP 10-21-SS1	UP1021-SS1	UP1021-SS1	UP 10-21-SS2	UP1021-SS2	UP 10-21-BG1	UP1021-BG2	COGCC TABLE 910-1 CONCENTRATION LEVELS	UNITS
Depth	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"		
Sample Date	11/2/2016	7/13/2018	3/25/2021	11/2/2016	7/13/2018	11/2/2016	7/13/2008		
Analytical Parameters									
TPH									
TPH Gasoline Range Organics	<3.1	NT	NT	<2.9	NT	<3.8	NT	500	mg/kg
TPH Diesel Range Organics	45	NT	NT	21	NT	<6.2	NT		
BTEX									
Benzene	<0.037	NT	NT	<0.035	NT	<0.046	NT	0.17	mg/kg
Toluene	<0.037	NT	NT	<0.035	NT	<0.046	NT	85	mg/kg
Ethylbenzene	<0.037	NT	NT	<0.035	NT	<0.046	NT	100	mg/kg
Total Xylene	<0.11	NT	NT	<0.10	NT	<0.14	NT	175	mg/kg
Metals									
Arsenic	20	NT	6.0	9.9	NT	7.8	7.7	0.39	mg/kg
Barium	250	NT	NT	190	NT	170	NT	15,000	mg/kg
Cadmium	0.77	NT	NT	0.47	NT	<0.51	NT	70	mg/kg
Chromium	12	NT	NT	12	NT	13	NT	NA	mg/kg
Copper	20	NT	NT	18	NT	17	NT	3,100	mg/kg
Lead	25	NT	NT	22	NT	17	NT	400	mg/kg
Mercury	0.022	NT	NT	0.021	NT	0.033	NT	23	mg/kg
Nickel	29	NT	NT	22	NT	23	NT	1,600	mg/kg
Selenium	1.4	NT	NT	1.6	NT	1.0	NT	390	mg/kg
Silver	<0.40	NT	NT	<0.37	NT	<0.51	NT	390	mg/kg
Zinc	110	NT	NT	94	NT	84	NT	23,000	mg/kg
SAR Metals Analysis									
Calcium	180	250	NT	180	380	460	NT	NA	mg/L
Magnesium	28	43	NT	39	66	37	NT	NA	mg/L
Sodium	990	46	NT	990	390	170	NT	NA	mg/L
Sodium Adsorption Ratio	18	0.7	NT	17	4.9	2.1	NT	<12	ratio
Polynuclear Aromatic Hydrocarbons									
Acenaphthene	<0.0072	NT	NT	<0.0070	NT	<0.0082	NT	1,000	mg/kg
Anthracene	<0.0072	NT	NT	<0.0070	NT	<0.0082	NT	1,000	mg/kg
Benzo(a)anthracene	<0.0072	NT	NT	<0.0070	NT	<0.0082	NT	0.22	mg/kg
Benzo(a)pyrene	<0.0072	NT	NT	<0.0070	NT	<0.0082	NT	0.022	mg/kg
Benzo(b)fluoranthene	<0.0072	NT	NT	<0.0070	NT	<0.0082	NT	0.22	mg/kg
Benzo(k)fluoranthene	<0.0072	NT	NT	<0.0070	NT	<0.0082	NT	2.2	mg/kg
Chrysene	<0.0072	NT	NT	<0.0070	NT	<0.0082	NT	22	mg/kg
Dibenzo(a,h)anthracene	<0.0072	NT	NT	<0.0070	NT	<0.0082	NT	0.022	mg/kg
Fluoranthene	<0.0072	NT	NT	<0.0070	NT	<0.0082	NT	1,000	mg/kg
Fluorene	<0.0072	NT	NT	<0.0070	NT	<0.0082	NT	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	<0.0072	NT	NT	<0.0070	NT	<0.0082	NT	0.22	mg/kg
Napthalene	<0.0072	NT	NT	<0.0070	NT	<0.0082	NT	23	mg/kg
Pyrene	<0.0072	NT	NT	<0.0070	NT	<0.0082	NT	1,000	mg/kg
General Chemistry									
Chromium, Hexavalent	<1.0	NT	NT	<1.0	NT	<1.2	NT	23	mg/kg
Chromium, Trivalent	12	NT	NT	12	NT	13	NT	120,000	mg/kg
Specific Conductivity	16	1.7	NT	11	NT	6.1	NT	<4 or 2 x the background	mmhos/cm
pH	7.9	NT	NT	8.0	NT	7.8	NT	6-9	su

mg/kg - milligrams per kilogram
mg/L - milligrams per liter
J - indicates an estimated value
mmhos/cm - millimhos per centimeter
mv - millivolts
su - standard units
NA - not applicable
NT - parameter was not tested

Over COGCC Table 910-1 concentration levels but under BACKGROUND level.
Over COGCC Table 910-1 concentration levels and not within BACKGROUND level.
Over COGCC Table 910-1 concentration levels



17-Nov-2016

Tim Dobransky
Olsson Associates
760 Horizon Drive
Suite 102
Grand Junction, CO 81506

Re: **UP 10-21 Spill**

Work Order: **1611387**

Dear Tim,

ALS Environmental received 3 samples on 04-Nov-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 25.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton".

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager



Certificate No: MN 998501

Report of Laboratory Analysis

ADDRESS 3352 128th Ave Holland, Michigan 49424 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Olsson Associates
Project: UP 10-21 Spill
Work Order: 1611387

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1611387-01	UP 10-21-SS1	Soil		11/2/2016 13:20	11/4/2016 09:30	<input type="checkbox"/>
1611387-02	UP 10-21-SS2	Soil		11/2/2016 13:40	11/4/2016 09:30	<input type="checkbox"/>
1611387-03	UP 10-21-BG1	Soil		11/2/2016 13:50	11/4/2016 09:30	<input type="checkbox"/>

Client: Olsson Associates
Project: UP 10-21 Spill
WorkOrder: 1611387

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	
s.u.	Standard Units

ALS Group, USA

Date: 17-Nov-16

Client: Olsson Associates

Project: UP 10-21 Spill

Work Order: 1611387

Sample ID: UP 10-21-SS1

Lab ID: 1611387-01

Collection Date: 11/2/2016 01:20 PM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	45		SW8015M		Prep: SW3546 / 11/11/16	Analyst: IT
<i>Surr: 4-Terphenyl-d14</i>	53.5		5.4	mg/Kg-dry	1	11/11/2016 08:06 PM
			39-133	%REC	1	11/11/2016 08:06 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015D		Prep: SW5035 / 11/9/16	Analyst: IT
<i>Surr: Toluene-d8</i>	103		3.1	mg/Kg-dry	1	11/9/2016 02:06 PM
			50-150	%REC	1	11/9/2016 02:06 PM
MERCURY BY CVAA						
Mercury	0.022		SW7471B		Prep: SW7471 / 11/15/16	Analyst: LR
			0.016	mg/Kg-dry	1	11/15/2016 04:21 PM
METALS ANALYSIS BY ICP						
Arsenic	20		SW846 6010C		Prep: SW3050B / 11/10/16	Analyst: RH
Barium	250		0.40	mg/Kg-dry	1	11/12/2016 12:05 PM
Cadmium	0.77		0.40	mg/Kg-dry	1	11/12/2016 12:05 PM
Chromium	12		0.40	mg/Kg-dry	1	11/12/2016 12:05 PM
Copper	20		0.40	mg/Kg-dry	1	11/12/2016 12:05 PM
Lead	25		0.40	mg/Kg-dry	1	11/12/2016 12:05 PM
Nickel	29		0.40	mg/Kg-dry	1	11/12/2016 12:05 PM
Selenium	1.4		0.80	mg/Kg-dry	1	11/14/2016 04:37 PM
Silver	ND		0.40	mg/Kg-dry	1	11/12/2016 12:05 PM
Zinc	110		0.80	mg/Kg-dry	1	11/12/2016 12:05 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 11/9/16	Analyst: RH
Calcium	180		5.0	mg/L	10	11/10/2016 12:31 AM
Magnesium	28		2.0	mg/L	10	11/10/2016 12:31 AM
Sodium	990		2.0	mg/L	10	11/10/2016 12:31 AM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 11/9/16	Analyst: RH
Sodium Adsorption Ratio	18		0.010	none	1	11/9/2016
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3546 / 11/11/16	Analyst: RS
Acenaphthene	ND		0.0072	mg/Kg-dry	1	11/12/2016 12:24 AM
Anthracene	ND		0.0072	mg/Kg-dry	1	11/12/2016 12:24 AM
Benzo(a)anthracene	ND		0.0072	mg/Kg-dry	1	11/12/2016 12:24 AM
Benzo(a)pyrene	ND		0.0072	mg/Kg-dry	1	11/12/2016 12:24 AM
Benzo(b)fluoranthene	ND		0.0072	mg/Kg-dry	1	11/12/2016 12:24 AM
Benzo(k)fluoranthene	ND		0.0072	mg/Kg-dry	1	11/12/2016 12:24 AM
Chrysene	ND		0.0072	mg/Kg-dry	1	11/12/2016 12:24 AM
Dibenzo(a,h)anthracene	ND		0.0072	mg/Kg-dry	1	11/12/2016 12:24 AM
Fluoranthene	ND		0.0072	mg/Kg-dry	1	11/12/2016 12:24 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 17-Nov-16

Client: Olsson Associates
Project: UP 10-21 Spill
Sample ID: UP 10-21-SS1
Collection Date: 11/2/2016 01:20 PM

Work Order: 1611387
Lab ID: 1611387-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0072	mg/Kg-dry	1	11/12/2016 12:24 AM
Indeno(1,2,3-cd)pyrene	ND		0.0072	mg/Kg-dry	1	11/12/2016 12:24 AM
Naphthalene	ND		0.0072	mg/Kg-dry	1	11/12/2016 12:24 AM
Pyrene	ND		0.0072	mg/Kg-dry	1	11/12/2016 12:24 AM
Surr: 2-Fluorobiphenyl	80.3		12-100	%REC	1	11/12/2016 12:24 AM
Surr: 4-Terphenyl-d14	101		25-137	%REC	1	11/12/2016 12:24 AM
Surr: Nitrobenzene-d5	59.9		37-107	%REC	1	11/12/2016 12:24 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 11/9/16		Analyst: LSY
Benzene	ND		0.037	mg/Kg-dry	1	11/11/2016 09:25 AM
Ethylbenzene	ND		0.037	mg/Kg-dry	1	11/11/2016 09:25 AM
m,p-Xylene	ND		0.073	mg/Kg-dry	1	11/11/2016 09:25 AM
o-Xylene	ND		0.037	mg/Kg-dry	1	11/11/2016 09:25 AM
Toluene	ND		0.037	mg/Kg-dry	1	11/11/2016 09:25 AM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	11/11/2016 09:25 AM
Surr: 1,2-Dichloroethane-d4	93.8		70-130	%REC	1	11/11/2016 09:25 AM
Surr: 4-Bromofluorobenzene	99.8		70-130	%REC	1	11/11/2016 09:25 AM
Surr: Dibromofluoromethane	89.0		70-130	%REC	1	11/11/2016 09:25 AM
Surr: Toluene-d8	97.9		70-130	%REC	1	11/11/2016 09:25 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 11/9/16		Analyst: JB
Electrical Conductivity @ Saturation	16		0.25	mmhos/cm @2	50	11/9/2016 04:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JB
Chromium, Trivalent	12		0.56	mg/Kg-dry	1	11/14/2016 03:10 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 11/7/16		Analyst: BWW
Chromium, Hexavalent	ND		1.0	mg/Kg-dry	1	11/9/2016 09:00 AM
MOISTURE			SW3550C			Analyst: EDL
Moisture	10		0.050	% of sample	1	11/9/2016 06:42 AM
PH			SW9045D	Prep: EXTRACT / 11/7/16		Analyst: RZM
pH	7.9			s.u.	1	11/8/2016 09:40 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 17-Nov-16

Client: Olsson Associates

Project: UP 10-21 Spill

Sample ID: UP 10-21-SS2

Collection Date: 11/2/2016 01:40 PM

Work Order: 1611387

Lab ID: 1611387-02

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3546 / 11/11/16	Analyst: IT
DRO (C10-C28)	21		5.3	mg/Kg-dry	1	11/11/2016 08:35 PM
Surr: 4-Terphenyl-d14	57.5		39-133	%REC	1	11/11/2016 08:35 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 11/9/16	Analyst: IT
GRO (C6-C10)	ND		2.9	mg/Kg-dry	1	11/9/2016 02:31 PM
Surr: Toluene-d8	101		50-150	%REC	1	11/9/2016 02:31 PM
MERCURY BY CVAA						
			SW7471B		Prep: SW7471 / 11/15/16	Analyst: LR
Mercury	0.021		0.015	mg/Kg-dry	1	11/15/2016 04:32 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B / 11/10/16	Analyst: RH
Arsenic	9.9		0.37	mg/Kg-dry	1	11/12/2016 12:11 PM
Barium	190		0.37	mg/Kg-dry	1	11/12/2016 12:11 PM
Cadmium	0.47		0.37	mg/Kg-dry	1	11/12/2016 12:11 PM
Chromium	12		0.37	mg/Kg-dry	1	11/12/2016 12:11 PM
Copper	18		0.37	mg/Kg-dry	1	11/12/2016 12:11 PM
Lead	22		0.37	mg/Kg-dry	1	11/12/2016 12:11 PM
Nickel	22		0.37	mg/Kg-dry	1	11/12/2016 12:11 PM
Selenium	1.6		0.74	mg/Kg-dry	1	11/12/2016 12:11 PM
Silver	ND		0.37	mg/Kg-dry	1	11/12/2016 12:11 PM
Zinc	94		0.74	mg/Kg-dry	1	11/12/2016 12:11 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 11/9/16	Analyst: RH
Calcium	180		5.0	mg/L	10	11/10/2016 12:36 AM
Magnesium	39		2.0	mg/L	10	11/10/2016 12:36 AM
Sodium	990		2.0	mg/L	10	11/10/2016 12:36 AM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 11/9/16	Analyst: RH
Sodium Adsorption Ratio	17		0.010	none	1	11/9/2016
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3546 / 11/11/16	Analyst: RS
Acenaphthene	ND		0.0070	mg/Kg-dry	1	11/12/2016 12:44 AM
Anthracene	ND		0.0070	mg/Kg-dry	1	11/12/2016 12:44 AM
Benzo(a)anthracene	ND		0.0070	mg/Kg-dry	1	11/12/2016 12:44 AM
Benzo(a)pyrene	ND		0.0070	mg/Kg-dry	1	11/12/2016 12:44 AM
Benzo(b)fluoranthene	ND		0.0070	mg/Kg-dry	1	11/12/2016 12:44 AM
Benzo(k)fluoranthene	ND		0.0070	mg/Kg-dry	1	11/12/2016 12:44 AM
Chrysene	ND		0.0070	mg/Kg-dry	1	11/12/2016 12:44 AM
Dibenzo(a,h)anthracene	ND		0.0070	mg/Kg-dry	1	11/12/2016 12:44 AM
Fluoranthene	ND		0.0070	mg/Kg-dry	1	11/12/2016 12:44 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 17-Nov-16

Client: Olsson Associates

Project: UP 10-21 Spill

Sample ID: UP 10-21-SS2

Collection Date: 11/2/2016 01:40 PM

Work Order: 1611387

Lab ID: 1611387-02

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0070	mg/Kg-dry	1	11/12/2016 12:44 AM
Indeno(1,2,3-cd)pyrene	ND		0.0070	mg/Kg-dry	1	11/12/2016 12:44 AM
Naphthalene	ND		0.0070	mg/Kg-dry	1	11/12/2016 12:44 AM
Pyrene	ND		0.0070	mg/Kg-dry	1	11/12/2016 12:44 AM
Surr: 2-Fluorobiphenyl	75.2		12-100	%REC	1	11/12/2016 12:44 AM
Surr: 4-Terphenyl-d14	97.6		25-137	%REC	1	11/12/2016 12:44 AM
Surr: Nitrobenzene-d5	56.1		37-107	%REC	1	11/12/2016 12:44 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 11/9/16		Analyst: LSY
Benzene	ND		0.035	mg/Kg-dry	1	11/11/2016 09:50 AM
Ethylbenzene	ND		0.035	mg/Kg-dry	1	11/11/2016 09:50 AM
m,p-Xylene	ND		0.069	mg/Kg-dry	1	11/11/2016 09:50 AM
o-Xylene	ND		0.035	mg/Kg-dry	1	11/11/2016 09:50 AM
Toluene	ND		0.035	mg/Kg-dry	1	11/11/2016 09:50 AM
Xylenes, Total	ND		0.10	mg/Kg-dry	1	11/11/2016 09:50 AM
Surr: 1,2-Dichloroethane-d4	110		70-130	%REC	1	11/11/2016 09:50 AM
Surr: 4-Bromofluorobenzene	97.3		70-130	%REC	1	11/11/2016 09:50 AM
Surr: Dibromofluoromethane	88.6		70-130	%REC	1	11/11/2016 09:50 AM
Surr: Toluene-d8	99.0		70-130	%REC	1	11/11/2016 09:50 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 11/9/16		Analyst: JB
Electrical Conductivity @ Saturation	11		0.25	mmhos/cm @2	50	11/9/2016 04:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JB
Chromium, Trivalent	12		0.54	mg/Kg-dry	1	11/14/2016 03:10 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 11/7/16		Analyst: BWW
Chromium, Hexavalent	ND		1.0	mg/Kg-dry	1	11/9/2016 09:00 AM
MOISTURE			SW3550C			Analyst: EDL
Moisture	7.0		0.050	% of sample	1	11/9/2016 06:42 AM
PH			SW9045D	Prep: EXTRACT / 11/7/16		Analyst: RZM
pH	8.0			s.u.	1	11/8/2016 09:40 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 17-Nov-16

Client: Olsson Associates

Project: UP 10-21 Spill

Work Order: 1611387

Sample ID: UP 10-21-BG1

Lab ID: 1611387-03

Collection Date: 11/2/2016 01:50 PM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3546 / 11/11/16	Analyst: IT
DRO (C10-C28)	ND		6.2	mg/Kg-dry	1	11/11/2016 09:05 PM
Surr: 4-Terphenyl-d14	59.5		39-133	%REC	1	11/11/2016 09:05 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 11/9/16	Analyst: IT
GRO (C6-C10)	ND		3.8	mg/Kg-dry	1	11/9/2016 02:56 PM
Surr: Toluene-d8	102		50-150	%REC	1	11/9/2016 02:56 PM
MERCURY BY CVAA						
			SW7471B		Prep: SW7471 / 11/15/16	Analyst: LR
Mercury	0.033		0.016	mg/Kg-dry	1	11/15/2016 04:34 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B / 11/10/16	Analyst: RH
Arsenic	7.8		0.51	mg/Kg-dry	1	11/12/2016 12:17 PM
Barium	170		0.51	mg/Kg-dry	1	11/12/2016 12:17 PM
Cadmium	ND		0.51	mg/Kg-dry	1	11/12/2016 12:17 PM
Chromium	13		0.51	mg/Kg-dry	1	11/12/2016 12:17 PM
Copper	17		0.51	mg/Kg-dry	1	11/12/2016 12:17 PM
Lead	17		0.51	mg/Kg-dry	1	11/12/2016 12:17 PM
Nickel	23		0.51	mg/Kg-dry	1	11/12/2016 12:17 PM
Selenium	ND		1.0	mg/Kg-dry	1	11/12/2016 12:17 PM
Silver	ND		0.51	mg/Kg-dry	1	11/12/2016 12:17 PM
Zinc	84		1.0	mg/Kg-dry	1	11/12/2016 12:17 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 11/9/16	Analyst: RH
Calcium	460		5.0	mg/L	10	11/10/2016 12:47 AM
Magnesium	37		2.0	mg/L	10	11/10/2016 12:47 AM
Sodium	170		2.0	mg/L	10	11/10/2016 12:47 AM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 11/9/16	Analyst: RH
Sodium Adsorption Ratio	2.1		0.010	none	1	11/9/2016
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3546 / 11/11/16	Analyst: RS
Acenaphthene	ND		0.0082	mg/Kg-dry	1	11/12/2016 01:03 AM
Anthracene	ND		0.0082	mg/Kg-dry	1	11/12/2016 01:03 AM
Benzo(a)anthracene	ND		0.0082	mg/Kg-dry	1	11/12/2016 01:03 AM
Benzo(a)pyrene	ND		0.0082	mg/Kg-dry	1	11/12/2016 01:03 AM
Benzo(b)fluoranthene	ND		0.0082	mg/Kg-dry	1	11/12/2016 01:03 AM
Benzo(k)fluoranthene	ND		0.0082	mg/Kg-dry	1	11/12/2016 01:03 AM
Chrysene	ND		0.0082	mg/Kg-dry	1	11/12/2016 01:03 AM
Dibenzo(a,h)anthracene	ND		0.0082	mg/Kg-dry	1	11/12/2016 01:03 AM
Fluoranthene	ND		0.0082	mg/Kg-dry	1	11/12/2016 01:03 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 17-Nov-16

Client: Olsson Associates

Project: UP 10-21 Spill

Sample ID: UP 10-21-BG1

Collection Date: 11/2/2016 01:50 PM

Work Order: 1611387

Lab ID: 1611387-03

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0082	mg/Kg-dry	1	11/12/2016 01:03 AM
Indeno(1,2,3-cd)pyrene	ND		0.0082	mg/Kg-dry	1	11/12/2016 01:03 AM
Naphthalene	ND		0.0082	mg/Kg-dry	1	11/12/2016 01:03 AM
Pyrene	ND		0.0082	mg/Kg-dry	1	11/12/2016 01:03 AM
Surr: 2-Fluorobiphenyl	78.8		12-100	%REC	1	11/12/2016 01:03 AM
Surr: 4-Terphenyl-d14	85.0		25-137	%REC	1	11/12/2016 01:03 AM
Surr: Nitrobenzene-d5	63.3		37-107	%REC	1	11/12/2016 01:03 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 11/9/16		Analyst: LSY
Benzene	ND		0.046	mg/Kg-dry	1	11/11/2016 10:14 AM
Ethylbenzene	ND		0.046	mg/Kg-dry	1	11/11/2016 10:14 AM
m,p-Xylene	ND		0.092	mg/Kg-dry	1	11/11/2016 10:14 AM
o-Xylene	ND		0.046	mg/Kg-dry	1	11/11/2016 10:14 AM
Toluene	ND		0.046	mg/Kg-dry	1	11/11/2016 10:14 AM
Xylenes, Total	ND		0.14	mg/Kg-dry	1	11/11/2016 10:14 AM
Surr: 1,2-Dichloroethane-d4	106		70-130	%REC	1	11/11/2016 10:14 AM
Surr: 4-Bromofluorobenzene	95.4		70-130	%REC	1	11/11/2016 10:14 AM
Surr: Dibromofluoromethane	87.5		70-130	%REC	1	11/11/2016 10:14 AM
Surr: Toluene-d8	100		70-130	%REC	1	11/11/2016 10:14 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 11/9/16		Analyst: JB
Electrical Conductivity @ Saturation	6.1		0.25	mmhos/cm @2	50	11/9/2016 04:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JB
Chromium, Trivalent	13		0.63	mg/Kg-dry	1	11/14/2016 03:10 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 11/7/16		Analyst: BWW
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	11/9/2016 09:00 AM
MOISTURE			SW3550C			Analyst: EDL
Moisture	21		0.050	% of sample	1	11/9/2016 06:42 AM
PH			SW9045D	Prep: EXTRACT / 11/7/16		Analyst: RZM
pH	7.8			s.u.	1	11/8/2016 09:40 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Olsson Associates
 Work Order: 1611387
 Project: UP 10-21 Spill

QC BATCH REPORT

Batch ID: **94410** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-94410-94410				Units: mg/Kg		Analysis Date: 11/11/2016 05:39 PM		
Client ID:		Run ID: GC8_161111B				SeqNo: 4150501		Prep Date: 11/11/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) ND 5.0
 Surr: 4-Terphenyl-d14 2.139 0 3.33 0 64.2 39-133 0

LCS		Sample ID: DLCSS1-94410-94410				Units: mg/Kg		Analysis Date: 11/11/2016 06:08 PM		
Client ID:		Run ID: GC8_161111B				SeqNo: 4150502		Prep Date: 11/11/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 253.5 5.0 333 0 76.1 61-109 0
 Surr: 4-Terphenyl-d14 1.88 0 3.33 0 56.5 39-133 0

MS		Sample ID: 1611542-09B MS				Units: mg/Kg		Analysis Date: 11/11/2016 06:38 PM		
Client ID:		Run ID: GC8_161111B				SeqNo: 4150503		Prep Date: 11/11/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 250.2 4.8 318.7 17.34 73.1 48-110 0
 Surr: 4-Terphenyl-d14 1.841 0 3.187 0 57.8 39-133 0

MSD		Sample ID: 1611542-09B MSD				Units: mg/Kg		Analysis Date: 11/11/2016 07:07 PM		
Client ID:		Run ID: GC8_161111B				SeqNo: 4150504		Prep Date: 11/11/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 278.4 5.0 332.1 17.34 78.6 48-110 250.2 10.6 30
 Surr: 4-Terphenyl-d14 1.874 0 3.321 0 56.4 39-133 1.841 1.77 30

The following samples were analyzed in this batch: 1611387-01B 1611387-02B 1611387-03B

Client: Olsson Associates
 Work Order: 1611387
 Project: UP 10-21 Spill

QC BATCH REPORT

Batch ID: **94279** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-94279-94279				Units: µg/Kg-dry		Analysis Date: 11/9/2016 01:42 PM		
Client ID:		Run ID: GC9_161109A				SeqNo: 4145068		Prep Date: 11/9/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500	0	0	0		0			
Surr: Toluene-d8	4466	0	5000	0	89.3	50-150	0			

LCS		Sample ID: LCS-94279-94279				Units: µg/Kg-dry		Analysis Date: 11/9/2016 01:17 PM		
Client ID:		Run ID: GC9_161109A				SeqNo: 4145067		Prep Date: 11/9/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	441000	2,500	500000	0	88.2	70-130	0			
Surr: Toluene-d8	4994	0	5000	0	99.9	50-150	0			

MS		Sample ID: 1611387-01A MS				Units: µg/Kg-dry		Analysis Date: 11/9/2016 04:36 PM		
Client ID: UP 10-21-SS1		Run ID: GC9_161109A				SeqNo: 4145075		Prep Date: 11/9/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	672900	3,100	611100	0	110	70-130	0			
Surr: Toluene-d8	6622	0	6111	0	108	50-150	0			

MSD		Sample ID: 1611387-01A MSD				Units: µg/Kg-dry		Analysis Date: 11/9/2016 05:01 PM		
Client ID: UP 10-21-SS1		Run ID: GC9_161109A				SeqNo: 4145076		Prep Date: 11/9/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	692800	3,100	611100	0	113	70-130	672900	2.92	30	
Surr: Toluene-d8	6831	0	6111	0	112	50-150	6622	3.11	30	

The following samples were analyzed in this batch:

1611387-01A	1611387-02A	1611387-03A
-------------	-------------	-------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1611387
Project: UP 10-21 Spill

QC BATCH REPORT

Batch ID: **94573** Instrument ID **HG1** Method: **SW7471B**

MBLK		Sample ID: MBLK-94573-94573				Units: mg/Kg		Analysis Date: 11/15/2016 03:15 PM		
Client ID:		Run ID: HG1_161115A				SeqNo: 4154337		Prep Date: 11/15/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury ND 0.020

LCS		Sample ID: LCS-94573-94573				Units: mg/Kg		Analysis Date: 11/15/2016 03:18 PM		
Client ID:		Run ID: HG1_161115A				SeqNo: 4154338		Prep Date: 11/15/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1933 0.020 0.1665 0 116 80-120 0

MSD		Sample ID: 1611603-06BMSD				Units: mg/Kg		Analysis Date: 11/15/2016 03:28 PM		
Client ID:		Run ID: HG1_161115A				SeqNo: 4154439		Prep Date: 11/15/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1224 0.013 0.1087 0.004226 109 75-125 0

MSD		Sample ID: 1611603-06BMSD				Units: mg/Kg		Analysis Date: 11/15/2016 03:30 PM		
Client ID:		Run ID: HG1_161115A				SeqNo: 4154708		Prep Date: 11/15/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1224 0.013 0.1087 0.004226 109 75-125 0

The following samples were analyzed in this batch:

1611387-01B	1611387-02B	1611387-03B
-------------	-------------	-------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1611387
Project: UP 10-21 Spill

QC BATCH REPORT

Batch ID: **94292** Instrument ID **ICP2** Method: **SW846 6010C**

DUP		Sample ID: 1611387-02CDUP				Units: mg/L		Analysis Date: 11/10/2016 12:41 A		
Client ID: UP 10-21-SS2		Run ID: ICP2_161109A				SeqNo: 4144324		Prep Date: 11/9/2016		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	250.3	5.0	0	0	0	0-0	0			
Magnesium	53.03	2.0	0	0	0	0-0	0			
Sodium	1312	2.0	0	0	0	0-0	0			

The following samples were analyzed in this batch:

1611387-01C	1611387-02C	1611387-03C
-------------	-------------	-------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
 Work Order: 1611387
 Project: UP 10-21 Spill

QC BATCH REPORT

Batch ID: 94370

Instrument ID ICP2

Method: SW846 6010C

Sample ID: MBLK-94370-94370				Units: mg/Kg			Analysis Date: 11/12/2016 11:42 A			
Client ID:		Run ID: ICP2_161112A			SeqNo: 4149601		Prep Date: 11/10/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	0.02655	0.50								J
Chromium	ND	0.25								
Copper	ND	0.50								
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.50								
Silver	ND	0.25								
Zinc	0.09281	0.50								J

LCS				Sample ID: LCS-94370-94370				Units: mg/Kg			Analysis Date: 11/12/2016 11:48 A		
Client ID:			Run ID: ICP2_161112A				SeqNo: 4149602			Prep Date: 11/10/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Arsenic	5.282	0.25	5	0	106	80-120	0						
Barium	4.893	0.25	5	0	97.9	80-120	0						
Cadmium	5.198	0.50	5	0	104	80-120	0						
Chromium	5.178	0.25	5	0	104	80-120	0						
Copper	4.961	0.50	5	0	99.2	80-120	0						
Lead	5.149	0.25	5	0	103	80-120	0						
Nickel	5.084	0.25	5	0	102	80-120	0						
Selenium	4.961	0.50	5	0	99.2	80-120	0						
Silver	4.66	0.25	5	0	93.2	80-120	0						
Zinc	5.121	0.50	5	0	102	80-120	0						

MS				Sample ID: 1611649-09BMS			Units: mg/Kg		Analysis Date: 11/12/2016 02:30 PM		
Client ID:			Run ID: ICP2_161112A			SeqNo: 4149630		Prep Date: 11/10/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	11.83	0.36	7.123	4.281	106	75-125	0				
Barium	91.03	0.36	7.123	74.94	226	75-125	0			SO	
Cadmium	7.466	0.71	7.123	0.02343	104	75-125	0				
Chromium	18.59	0.36	7.123	11.09	105	75-125	0				
Copper	16.99	0.71	7.123	9.865	100	75-125	0				
Lead	13.54	0.36	7.123	6.012	106	75-125	0				
Nickel	22.24	0.36	7.123	13.63	121	75-125	0				
Selenium	6.351	0.71	7.123	-0.2548	92.7	75-125	0				
Silver	6.436	0.36	7.123	-0.1836	92.9	75-125	0				
Zinc	35.98	0.71	7.123	26.43	134	75-125	0			S	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1611387
Project: UP 10-21 Spill

QC BATCH REPORT

Batch ID: **94370**

Instrument ID **ICP2**

Method: **SW846 6010C**

MSD				Sample ID: 1611649-09BMSD			Units: mg/Kg		Analysis Date: 11/12/2016 02:35 PM		
Client ID:			Run ID: ICP2_161112A			SeqNo: 4149631		Prep Date: 11/10/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	12.35	0.35	7.092	4.281	114	75-125	11.83	4.28	20		
Barium	97.93	0.35	7.092	74.94	324	75-125	91.03	7.31	20	SO	
Cadmium	7.693	0.71	7.092	0.02343	108	75-125	7.466	2.99	20		
Chromium	19.02	0.35	7.092	11.09	112	75-125	18.59	2.29	20		
Copper	16.87	0.71	7.092	9.865	98.8	75-125	16.99	0.726	20		
Lead	15.66	0.35	7.092	6.012	136	75-125	13.54	14.5	20	S	
Nickel	23.17	0.35	7.092	13.63	135	75-125	22.24	4.1	20	S	
Selenium	6.452	0.71	7.092	-0.2548	94.6	75-125	6.351	1.58	20		
Silver	6.346	0.35	7.092	-0.1836	92.1	75-125	6.436	1.41	20		
Zinc	36.68	0.71	7.092	26.43	144	75-125	35.98	1.93	20	S	

The following samples were analyzed in this batch:

1611387-01B

1611387-02B

1611387-03B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
 Work Order: 1611387
 Project: UP 10-21 Spill

QC BATCH REPORT

Batch ID: 94409 Instrument ID SVMS5 Method: SW846 8270D

MBLK		Sample ID: SBLKS1-94409-94409				Units: µg/Kg		Analysis Date: 11/13/2016 12:45 PM		
Client ID:		Run ID: SVMS5_161113A				SeqNo: 4150862		Prep Date: 11/11/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
Surr: 2-Fluorobiphenyl	2733	0	3333	0	82	12-100	0			
Surr: 4-Terphenyl-d14	2845	0	3333	0	85.3	25-137	0			
Surr: Nitrobenzene-d5	2095	0	3333	0	62.9	37-107	0			

LCS		Sample ID: SLCSS1-94409-94409				Units: µg/Kg		Analysis Date: 11/13/2016 01:08 PM		
Client ID:		Run ID: SVMS5_161113A				SeqNo: 4150864		Prep Date: 11/11/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1027	6.7	1333	0	77.1	45-110	0			
Anthracene	1101	6.7	1333	0	82.6	55-105	0			
Benzo(a)anthracene	1148	6.7	1333	0	86.1	50-110	0			
Benzo(a)pyrene	1091	6.7	1333	0	81.8	50-110	0			
Benzo(b)fluoranthene	1045	6.7	1333	0	78.4	45-115	0			
Benzo(k)fluoranthene	1144	6.7	1333	0	85.8	45-115	0			
Chrysene	1127	6.7	1333	0	84.6	55-110	0			
Dibenzo(a,h)anthracene	1212	6.7	1333	0	90.9	40-125	0			
Fluoranthene	1052	6.7	1333	0	78.9	55-115	0			
Fluorene	1080	6.7	1333	0	81	50-110	0			
Indeno(1,2,3-cd)pyrene	1073	6.7	1333	0	80.5	40-120	0			
Naphthalene	845.3	6.7	1333	0	63.4	40-105	0			
Pyrene	1263	6.7	1333	0	94.7	45-125	0			
Surr: 2-Fluorobiphenyl	2799	0	3333	0	84	12-100	0			
Surr: 4-Terphenyl-d14	2879	0	3333	0	86.4	25-137	0			
Surr: Nitrobenzene-d5	2109	0	3333	0	63.3	37-107	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
 Work Order: 1611387
 Project: UP 10-21 Spill

QC BATCH REPORT

Batch ID: 94409 Instrument ID SVMS5 Method: SW846 8270D

MS				Sample ID: 1611393-04A MS				Units: µg/Kg		Analysis Date: 11/13/2016 02:05 PM	
Client ID:			Run ID: SVMS5_161113A			SeqNo: 4150867		Prep Date: 11/11/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	963.6	6.6	1320	0	73	45-110	0				
Anthracene	1026	6.6	1320	0	77.7	55-105	0				
Benzo(a)anthracene	1063	6.6	1320	0	80.6	50-110	0				
Benzo(a)pyrene	996.6	6.6	1320	0	75.5	50-110	0				
Benzo(b)fluoranthene	987.4	6.6	1320	0	74.8	45-115	0				
Benzo(k)fluoranthene	1056	6.6	1320	0	80	45-115	0				
Chrysene	1038	6.6	1320	0	78.6	55-110	0				
Dibenzo(a,h)anthracene	1105	6.6	1320	0	83.7	40-125	0				
Fluoranthene	1008	6.6	1320	0	76.4	55-115	0				
Fluorene	1029	6.6	1320	0	78	50-110	0				
Indeno(1,2,3-cd)pyrene	980.1	6.6	1320	0	74.3	40-120	0				
Naphthalene	844.2	6.6	1320	0	64	40-105	0				
Pyrene	1107	6.6	1320	0	83.9	45-125	0				
Surr: 2-Fluorobiphenyl	2650	0	3300	0	80.3	12-100	0				
Surr: 4-Terphenyl-d14	2597	0	3300	0	78.7	25-137	0				
Surr: Nitrobenzene-d5	2089	0	3300	0	63.3	37-107	0				

MSD				Sample ID: 1611393-04A MSD				Units: µg/Kg		Analysis Date: 11/13/2016 02:28 PM	
Client ID:			Run ID: SVMS5_161113A			SeqNo: 4150868		Prep Date: 11/11/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	953.1	6.7	1331	0	71.6	45-110	963.6	1.1	30		
Anthracene	1020	6.7	1331	0	76.6	55-105	1026	0.591	30		
Benzo(a)anthracene	1063	6.7	1331	0	79.9	50-110	1063	0.0377	30		
Benzo(a)pyrene	996.3	6.7	1331	0	74.9	50-110	996.6	0.0295	30		
Benzo(b)fluoranthene	975.7	6.7	1331	0	73.3	45-115	987.4	1.19	30		
Benzo(k)fluoranthene	1072	6.7	1331	0	80.5	45-115	1056	1.46	30		
Chrysene	1018	6.7	1331	0	76.5	55-110	1038	1.94	30		
Dibenzo(a,h)anthracene	1070	6.7	1331	0	80.4	40-125	1105	3.25	30		
Fluoranthene	977	6.7	1331	0	73.4	55-115	1008	3.11	30		
Fluorene	1045	6.7	1331	0	78.5	50-110	1029	1.54	30		
Indeno(1,2,3-cd)pyrene	959.1	6.7	1331	0	72.1	40-120	980.1	2.17	30		
Naphthalene	833.3	6.7	1331	0	62.6	40-105	844.2	1.3	30		
Pyrene	1274	6.7	1331	0	95.7	45-125	1107	14	30		
Surr: 2-Fluorobiphenyl	2557	0	3327	0	76.8	12-100	2650	3.57	40		
Surr: 4-Terphenyl-d14	2970	0	3327	0	89.2	25-137	2597	13.4	40		
Surr: Nitrobenzene-d5	2091	0	3327	0	62.8	37-107	2089	0.0739	40		

The following samples were analyzed in this batch:

1611387-01B 1611387-02B 1611387-03B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
 Work Order: 1611387
 Project: UP 10-21 Spill

QC BATCH REPORT

Batch ID: 94278 Instrument ID VMS5 Method: SW8260B

MBLK Sample ID: MBLK-94278-94278				Units: µg/Kg-dry			Analysis Date: 11/9/2016 02:14 PM			
Client ID:		Run ID: VMS5_161109A		SeqNo: 4144637		Prep Date: 11/9/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	1020	0	1000	0	102	70-130	0			
Surr: 4-Bromofluorobenzene	965	0	1000	0	96.5	70-130	0			
Surr: Dibromofluoromethane	983.5	0	1000	0	98.4	70-130	0			
Surr: Toluene-d8	973	0	1000	0	97.3	70-130	0			

LCS Sample ID: LCS-94278-94278				Units: µg/Kg-dry			Analysis Date: 11/9/2016 12:55 PM			
Client ID:		Run ID: VMS5_161109A		SeqNo: 4144636		Prep Date: 11/9/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1122	30	1000	0	112	75-125	0			
Ethylbenzene	1148	30	1000	0	115	75-125	0			
m,p-Xylene	2332	60	2000	0	117	80-125	0			
o-Xylene	1146	30	1000	0	115	75-125	0			
Toluene	1122	30	1000	0	112	70-125	0			
Xylenes, Total	3478	90	3000	0	116	75-125	0			
Surr: 1,2-Dichloroethane-d4	980.5	0	1000	0	98	70-130	0			
Surr: 4-Bromofluorobenzene	1019	0	1000	0	102	70-130	0			
Surr: Dibromofluoromethane	1004	0	1000	0	100	70-130	0			
Surr: Toluene-d8	992	0	1000	0	99.2	70-130	0			

MS Sample ID: 1611387-01A MS				Units: µg/Kg-dry			Analysis Date: 11/11/2016 10:39 A			
Client ID: UP 10-21-SS1		Run ID: VMS9_161110B		SeqNo: 4147574		Prep Date: 11/9/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1204	37	1222	0	98.5	75-125	0			
Ethylbenzene	1278	37	1222	0	105	75-125	0			
m,p-Xylene	2627	73	2444	0	107	80-125	0			
o-Xylene	1278	37	1222	0	105	75-125	0			
Toluene	1228	37	1222	0	100	70-125	0			
Xylenes, Total	3905	110	3667	0	106	75-125	0			
Surr: 1,2-Dichloroethane-d4	1186	0	1222	0	97	70-130	0			
Surr: 4-Bromofluorobenzene	1330	0	1222	0	109	70-130	0			
Surr: Dibromofluoromethane	1190	0	1222	0	97.4	70-130	0			
Surr: Toluene-d8	1197	0	1222	0	98	70-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
 Work Order: 1611387
 Project: UP 10-21 Spill

QC BATCH REPORT

Batch ID: **94278** Instrument ID **VMS5** Method: **SW8260B**

MSD				Sample ID: 1611387-01A MSD			Units: µg/Kg-dry		Analysis Date: 11/11/2016 11:04 A		
Client ID: UP 10-21-SS1			Run ID: VMS9_161110B			SeqNo: 4147575		Prep Date: 11/9/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1230	37	1222	0	101	75-125	1204	2.11	30		
Ethylbenzene	1276	37	1222	0	104	75-125	1278	0.144	30		
m,p-Xylene	2646	73	2444	0	108	80-125	2627	0.719	30		
o-Xylene	1302	37	1222	0	106	75-125	1278	1.8	30		
Toluene	1270	37	1222	0	104	70-125	1228	3.38	30		
Xylenes, Total	3947	110	3667	0	108	75-125	3905	1.07	30		
Surr: 1,2-Dichloroethane-d4	1134	0	1222	0	92.8	70-130	1186	4.43	30		
Surr: 4-Bromofluorobenzene	1283	0	1222	0	105	70-130	1330	3.65	30		
Surr: Dibromofluoromethane	1214	0	1222	0	99.3	70-130	1190	1.93	30		
Surr: Toluene-d8	1194	0	1222	0	97.7	70-130	1197	0.256	30		

The following samples were analyzed in this batch:

1611387-01A	1611387-02A	1611387-03A
-------------	-------------	-------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1611387
Project: UP 10-21 Spill

QC BATCH REPORT

Batch ID: **94179** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-94179-94179					Units: s.u.		Analysis Date: 11/8/2016 09:40 AM		
Client ID:		Run ID: WETCHEM_161108J				SeqNo: 4140785		Prep Date: 11/7/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH	3.95	0	4	0	98.8	90-110	0			
----	------	---	---	---	------	--------	---	--	--	--

DUP		Sample ID: 1611393-01B DUP					Units: s.u.		Analysis Date: 11/8/2016 09:40 AM		
Client ID:		Run ID: WETCHEM_161108J			SeqNo: 4140792		Prep Date: 11/7/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH	7.56	0	0	0	0	0-0	7.09	6.42	20	
----	------	---	---	---	---	-----	------	------	----	--

DUP				Sample ID: 1611395-01B DUP				Units: s.u.			Analysis Date: 11/8/2016 09:40 AM			
Client ID:				Run ID: WETCHEM_161108J				SeqNo: 4140797			Prep Date: 11/7/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

pH	8.19	0	0	0	0	0-0	8.35	1.93	20	
----	------	---	---	---	---	-----	------	------	----	--

The following samples were analyzed in this batch:

1611387-01B	1611387-02B	1611387-03B
-------------	-------------	-------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
 Work Order: 1611387
 Project: UP 10-21 Spill

QC BATCH REPORT

Batch ID: **94184** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-94184-94184				Units: mg/Kg		Analysis Date: 11/9/2016 09:00 AM		
Client ID:		Run ID: WETCHEM_161109H		SeqNo: 4142640		Prep Date: 11/7/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.96

LCS		Sample ID: LCS-94184-94184				Units: mg/Kg		Analysis Date: 11/9/2016 09:00 AM		
Client ID:		Run ID: WETCHEM_161109H		SeqNo: 4142641		Prep Date: 11/7/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.725 0.98 4.902 0 96.4 80-120 0

MS		Sample ID: 1611393-04A MS				Units: mg/Kg		Analysis Date: 11/9/2016 09:00 AM		
Client ID:		Run ID: WETCHEM_161109H		SeqNo: 4142652		Prep Date: 11/7/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.078 0.97 4.854 0.2157 79.6 75-125 0

MS		Sample ID: 1611393-04A MSI				Units: mg/Kg		Analysis Date: 11/9/2016 09:00 AM		
Client ID:		Run ID: WETCHEM_161109H		SeqNo: 4142654		Prep Date: 11/7/2016		DF: 100		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 3087 99 3393 0.2157 91 75-125 0

MSD		Sample ID: 1611393-04A MSD				Units: mg/Kg		Analysis Date: 11/9/2016 09:00 AM		
Client ID:		Run ID: WETCHEM_161109H		SeqNo: 4142653		Prep Date: 11/7/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 3.951 0.97 4.854 0.2157 77 75-125 4.078 3.14 20

The following samples were analyzed in this batch:

1611387-01B 1611387-02B 1611387-03B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1611387
Project: UP 10-21 Spill

QC BATCH REPORT

Batch ID: **94292** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP		Sample ID: 1611387-02C DUP				Units: mmhos/cm @25°		Analysis Date: 11/9/2016 04:00 PM		
Client ID: UP 10-21-SS2		Run ID: WETCHEM_1611090				SeqNo: 4143384		Prep Date: 11/9/2016		DF: 50
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	12.3	0.25	0	0	0		11.45	7.16	50	

The following samples were analyzed in this batch:

1611387-01C	1611387-02C	1611387-03C
-------------	-------------	-------------

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1611387
Project: UP 10-21 Spill

QC BATCH REPORT

Batch ID: **R200284** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R200284				Units: % of sample			Analysis Date: 11/9/2016 06:42 AM		
Client ID:		Run ID: MOIST_161109E				SeqNo: 4144783			Prep Date:		
									DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture ND 0.050

LCS		Sample ID: LCS-R200284				Units: % of sample			Analysis Date: 11/9/2016 06:42 AM		
Client ID:		Run ID: MOIST_161109E				SeqNo: 4144782			Prep Date:		
									DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP		Sample ID: 1611600-02B DUP				Units: % of sample			Analysis Date: 11/9/2016 06:42 AM		
Client ID:		Run ID: MOIST_161109E				SeqNo: 4144771			Prep Date:		
									DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 11.25 0.050 0 0 0 11.38 1.15 20

DUP		Sample ID: 1611600-04B DUP				Units: % of sample			Analysis Date: 11/9/2016 06:42 AM		
Client ID:		Run ID: MOIST_161109E				SeqNo: 4144775			Prep Date:		
									DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 10 0.050 0 0 0 10.14 1.39 20

The following samples were analyzed in this batch:

1611387-01B 1611387-02B 1611387-03B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Chain of Custody Form

Page 1 of 1

COC ID: 123456

☐ Cincinnati, OH
+1 513 733 5335

☐ Everett, WA
+1 425 356 2600

☐ Fort Collins, CO
+1 970 480 1511

☒ Holland, MI
+1 616 399 6070

☐ Houston, TX
+1 281 530 5856

☐ Middletown, PA
+1 717 944 5541

☐ Salt Lake City, UT
+1 801 266 7700

☐ Spring City, PA
+1 610 948 4903

☐ York, PA
+1 717 505 5280

Customer Information		Project Information		Parameter/Method Request for Analysis															
Purchase Order		Project Name	UP 10-21 Spill	A TPH (GRO & DRO)															
Work Order		Project Number	013.3287.300.300004	B BTEX															
Company Name	Olsson Associates	Bill To Company	Olsson Associates	C PAH (See Attached List) CO Table 910															
Sand Report To	Tim Dobransky	Invoice Attn	Tim Dobransky	D Electrical Conductivity															
Address	760 Horizon Drive, Ste. 102	Address	760 Horizon Drive, Ste. 102	E Sodium Adsorption Ratio															
City/State/Zip	Grand Junction, CO 81508	City/State/Zip	Grand Junction, CO 81508	F pH															
Phone	870.283.7800	Phone	870.283.7800	G Metals (See Attached List) CO Table 910															
Fax	870.283.7456	Fax	870.283.7456	H Arsenic Only															
e-Mail Address	tdobransky@olssonassoc.com	e-Mail Address		I															
				J															
No.	Sample Description	Date	Time	Matrix	Pres.	Notes	A	B	C	D	E	F	G	H	I	J	Hold		
1	UP10-21-SS1	11/02/16	1320	Soil	8	3	X	X	X	X	X	X	X						
2	UP10-21-SS2	11/02/16	1340	Soil	8	3	X	X	X	X	X	X	X						
3	UP10-21-BG1	11/02/16	1350	Soil	8	3	X	X	X	X	X	X	X						
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
Sampler(s): Please Print & Sign Jason McLarty		Shipment Method: FedEx		Required Turnaround Time: <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:											
Relinquished by:		Date: 11/3/16	Time:	Received by:		Notes: Chevron Pricing Applies - Per Bruce Schlatter													
Relinquished by:		Date: 11/3/16	Time: 1730	Received by (Laboratory):		QC Package: (Check Box Below)													
Logged by (Laboratory):		Date: 11/4/16	Time: 1705	Checked by (Laboratory):		Cooler Temp. 3.9°C	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Std QC + Raw Data <input type="checkbox"/> Level IV: SW846 CLP-Like												
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-8035																			

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

Copyright 2011 by ALS Group

Sample Receipt Checklist

Client Name: **OLSSON**

Date/Time Received: **04-Nov-16 09:30**

Work Order: **1611387**

Received by: **KRW**

Checklist completed by Keith Wurenga
eSignature

04-Nov-16
Date

Reviewed by: Chad Whelton
eSignature

06-Nov-16
Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.4/3.4 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>11/4/2016 5:14:55 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u>-</u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



31-Jul-2018

Tim Dobransky
Olsson Associates
760 Horizon Drive
Suite 102
Grand Junction, CO 81506

Re: **UP 10-21 Spill Resampling**

Work Order: **1807965**

Dear Tim,

ALS Environmental received 3 samples on 17-Jul-2018 09:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 11.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton".

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 998501

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Olsson Associates
Project: UP 10-21 Spill Resampling
Work Order: 1807965

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1807965-01	UP1021-SS1	Soil		7/13/2018 11:20	7/17/2018 09:00	<input type="checkbox"/>
1807965-02	UP1021-SS2	Soil		7/13/2018 11:25	7/17/2018 09:00	<input type="checkbox"/>
1807965-03	UP1021-BG2	Soil		7/13/2018 11:35	7/17/2018 09:00	<input type="checkbox"/>

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	

ALS Group, USA

Date: 31-Jul-18

Client: Olsson Associates
Project: UP 10-21 Spill Resampling
Sample ID: UP1021-SS1
Collection Date: 7/13/2018 11:20 AM

Work Order: 1807965
Lab ID: 1807965-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
SOLUBLE CATIONS FOR SAR			Method: SW6020A		Prep: USDA Method 20B / 7/24/18		Analyst: STP
Calcium	250		0.86	5.0	mg/L	10	7/25/2018 00:14
Magnesium	43		0.068	2.0	mg/L	10	7/25/2018 00:14
Sodium	46		0.34	2.0	mg/L	10	7/25/2018 00:14
SODIUM ADSORPTION RATIO			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 7/24/18		Analyst: STP
Sodium Adsorption Ratio	0.70		0.010	0.010	none	1	7/24/2018
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 7/24/18		Analyst: JB
Electrical Conductivity @ Saturation	1.7		0.014	0.12	mmhos/cm @25°	25	7/25/2018 11:45

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 31-Jul-18

Client: Olsson Associates
Project: UP 10-21 Spill Resampling
Sample ID: UP1021-SS2
Collection Date: 7/13/2018 11:25 AM

Work Order: 1807965
Lab ID: 1807965-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
SOLUBLE CATIONS FOR SAR			Method: SW6020A		Prep: USDA Method 20B / 7/24/18		Analyst: STP
Calcium	380		0.86	5.0	mg/L	10	7/25/2018 00:16
Magnesium	66		0.068	2.0	mg/L	10	7/25/2018 00:16
Sodium	390		0.34	2.0	mg/L	10	7/25/2018 00:16
<hr/>							
SODIUM ADSORPTION RATIO			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 7/24/18		Analyst: STP
Sodium Adsorption Ratio	4.9		0.010	0.010	none	1	7/24/2018

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 31-Jul-18

Client: Olsson Associates
Project: UP 10-21 Spill Resampling
Sample ID: UP1021-BG2
Collection Date: 7/13/2018 11:35 AM

Work Order: 1807965
Lab ID: 1807965-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS ANALYSIS BY ICP							
Arsenic	7.7		0.092	0.35	mg/Kg-dry	1	7/25/2018 05:45
MOISTURE							
Moisture	1.6		0.025	0.050	% of sample	1	7/26/2018 17:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Olsson Associates
Work Order: 1807965
Project: UP 10-21 Spill Resampling

QC BATCH REPORT

Batch ID: **121789** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK		Sample ID: MBLK-121789-121789				Units: mg/Kg		Analysis Date: 7/25/2018 02:34 AM		
Client ID:		Run ID: ICP2_180724A				SeqNo: 5165598		Prep Date: 7/24/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic U 0.25

LCS		Sample ID: LCS-121789-121789				Units: mg/Kg		Analysis Date: 7/25/2018 02:59 AM		
Client ID:		Run ID: ICP2_180724A				SeqNo: 5165602		Prep Date: 7/24/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 4.768 0.25 5 0 95.4 80-120 0

MS		Sample ID: 1807957-05BMS				Units: mg/Kg		Analysis Date: 7/25/2018 05:09 AM		
Client ID:		Run ID: ICP2_180724A				SeqNo: 5165623		Prep Date: 7/24/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 12.61 0.34 6.878 6.575 87.7 75-125 0

MSD		Sample ID: 1807957-05BMSD				Units: mg/Kg		Analysis Date: 7/25/2018 05:14 AM		
Client ID:		Run ID: ICP2_180724A				SeqNo: 5165624		Prep Date: 7/24/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 12.75 0.34 6.887 6.575 89.7 75-125 12.61 1.13 20

The following samples were analyzed in this batch:

1807965-03A

Client: Olsson Associates
 Work Order: 1807965
 Project: UP 10-21 Spill Resampling

QC BATCH REPORT

Batch ID: 121776 Instrument ID ICPMS3 Method: SW6020A

DUP				Sample ID: 1807963-01ADUP				Units: mg/L			Analysis Date: 7/25/2018 12:08 AM			
Client ID:				Run ID: ICPMS3_180724A				SeqNo: 5166251			Prep Date: 7/24/2018		DF: 10	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Calcium		1559	5.0	0	0	0	0-0	1709	9.19					
Magnesium		95.03	2.0	0	0	0	0-0	108.9	13.6					
Sodium		349.1	2.0	0	0	0	0-0	396.2	12.6					

The following samples were analyzed in this batch:

1807965-01A 1807965-02A

Batch ID: 121776 Instrument ID SAR Method: USDA H60 Metho

DUP				Sample ID: 1807963-01ADUP				Units: none			Analysis Date: 7/24/2018			
Client ID:				Run ID: SAR_180724A				SeqNo: 5172826			Prep Date: 7/24/2018		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Sodium Adsorption Ratio		2.321	0.010	0	0	0		2.511	7.85	50				

The following samples were analyzed in this batch:

1807965-01A 1807965-02A

Batch ID: 121776 Instrument ID WETCHEM Method: USDA H60 Metho

DUP				Sample ID: 1807963-01A DUP				Units: mmhos/cm @25°			Analysis Date: 7/25/2018 11:45 AM				
Client ID:				Run ID: WETCHEM_180725E				SeqNo: 5166644			Prep Date: 7/24/2018			DF: 25	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Electrical Conductivity @ Saturation		11.5	0.12	0	0	0		11.85	3	50					

The following samples were analyzed in this batch:

1807965-01A 1807965-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1807965
Project: UP 10-21 Spill Resampling

QC BATCH REPORT

Batch ID: **R241048** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R241048					Units: % of sample		Analysis Date: 7/26/2018 05:55 PM		
Client ID:			Run ID: MOIST_180726D			SeqNo: 5171716		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture U 0.050

LCS		Sample ID: LCS-R241048					Units: % of sample		Analysis Date: 7/26/2018 05:55 PM		
Client ID:			Run ID: MOIST_180726D			SeqNo: 5171715		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP		Sample ID: 18071379-01B DUP					Units: % of sample		Analysis Date: 7/26/2018 05:55 PM		
Client ID:			Run ID: MOIST_180726D			SeqNo: 5171696		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 6.74 0.050 0 0 0 0-0 7.05 4.5 10

DUP		Sample ID: 18071379-03B DUP					Units: % of sample		Analysis Date: 7/26/2018 05:55 PM		
Client ID:			Run ID: MOIST_180726D			SeqNo: 5171699		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 10.47 0.050 0 0 0 0-0 10.95 4.48 10

The following samples were analyzed in this batch:

1807965-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Chain of Custody Form

Page 1 of 1

COC ID: 123456

☐ Cincinnati, OH
+1 513 733 5336

☐ Everett, WA
+1 425 356 2600

☐ Fort Collins, CO
+1 970 490 1511

☒ Holland, MI
+1 616 399 6070

☐ Houston, TX
+1 281 530 5656

☐ Middletown, PA
+1 717 944 5541

☐ Salt Lake City, UT
+1 801 266 7700

☐ Spring City, PA
+1 610 948 4903

☐ York, PA
+1 717 505 5280

ALS Project Manager:

Work Order #:

1807965

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	UP 10-21 Spill Resampling	A TPH (GRO & DRO)											
Work Order		Project Number	013.3287.300.300004	B BTEX											
Company Name	Olsson Associates	Bill To Company	Olsson Associates	C PAH (See Attached List) CO Table 910											
Send Report To	Tim Dobransky	Invoice Attn.	Dana Mack	D Electrical Conductivity											
Address		Address	760 Horizon Drive, Ste. 102	E Sodium Adsorption Ratio											
				F pH											
City/State/Zip		City/State/Zip	Grand Junction, CO 81506	G Metals (See Attached List) CO Table 910											
Phone		Phone	970.263.7800	H Arsenic Only											
Fax		Fax	970.263.7456	I											
e-Mail Address	tdobransky@entradainc.com	e-Mail Address	dmack@olssonassociates.com	J											

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	UP1021-SS1	07/13/18	1120	Soil	8	1				X	X						
2	UP1021-SS2	07/13/18	1125	Soil	8	1					X						
3	UP1021-BG2	07/13/18	1135	Soil	8	1								X			
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	

Sampler(s): Please Print & Sign Tim Dobransky		Shipment Method: FedEx		Required Turnaround Time: <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour		Results Due Date:	
Relinquished by:		Date: 7/16/18	Time:	Received by:		Notes: Chevron Pricing Applies - Per Bruce Schlatter	
Relinquished by:		Date: 7-16-18	Time: 1520	Received by (Laboratory):		Cooler Temp. 4.2°C	
Logged by (Laboratory):		Date: 7/17/18	Time: 1620	Checked by (Laboratory):		QC Package: (Check Box Below)	
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035						<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Std QC + Raw Data <input type="checkbox"/> Level IV: SW846 CLP-Like Other: _____	

Sample Receipt Checklist

Client Name: **OLSSON**

Date/Time Received: **17-Jul-18 09:00**

Work Order: **1807965**

Received by: **KRW**

Checklist completed by Keith Wurenga
eSignature

17-Jul-18
Date

Reviewed by: Chad Whelton
eSignature

18-Jul-18
Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>4.2/4.2 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>7/17/2018 4:23:19 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u>-</u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



06-Apr-2021

Tim Dobransky
Entrada Consulting Group
240 Mesa Ave.
Grand Junction, CO 81501

Re: **UP 10-21 Spill Investigation**

Work Order: **21040132**

Dear Tim,

ALS Environmental received 1 sample on 01-Apr-2021 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 8.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton".

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Entrada Consulting Group
Project: UP 10-21 Spill Investigation
Work Order: 21040132

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
21040132-01	UP 10-21 - SS1	Soil		3/25/2021 14:35	4/1/2021 10:00	<input type="checkbox"/>

Client: Entrada Consulting Group
Project: UP 10-21 Spill Investigation
WorkOrder: 21040132

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group, USA

Date: 06-Apr-21

Client: Entrada Consulting Group
Project: UP 10-21 Spill Investigation
Sample ID: UP 10-21 - SS1
Collection Date: 3/25/2021 02:35 PM

Work Order: 21040132
Lab ID: 21040132-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
METALS ANALYSIS BY ICP			Method: SW6010D		Prep: SW3050B / 4/5/21		Analyst: DSC
Arsenic	6.0		0.11	0.43	mg/Kg-dry	1	4/6/2021 12:12
MOISTURE			Method: SW3550C				Analyst: KTP
Moisture	19		0.10	0.10	% of sample	1	4/2/2021 14:14

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Entrada Consulting Group
Work Order: 21040132
Project: UP 10-21 Spill Investigation

QC BATCH REPORT

Batch ID: **174548** Instrument ID **ICP2** Method: **SW6010D**

MBLK		Sample ID: MBLK-174548-174548				Units: mg/Kg		Analysis Date: 4/6/2021 12:02 PM		
Client ID:		Run ID: ICP2_210406A				SeqNo: 7279021		Prep Date: 4/5/2021		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic U 0.25

LCS		Sample ID: LCS-174548-174548				Units: mg/Kg		Analysis Date: 4/6/2021 12:07 PM		
Client ID:		Run ID: ICP2_210406A				SeqNo: 7279022		Prep Date: 4/5/2021		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 4.77 0.25 5 0 95.4 80-120 0

MS		Sample ID: 21040154-01AMS				Units: mg/Kg		Analysis Date: 4/6/2021 12:22 PM		
Client ID:		Run ID: ICP2_210406A				SeqNo: 7279025		Prep Date: 4/5/2021		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 6.293 0.31 6.266 0.4914 92.6 75-125 0

MSD		Sample ID: 21040154-01AMSD				Units: mg/Kg		Analysis Date: 4/6/2021 12:27 PM		
Client ID:		Run ID: ICP2_210406A				SeqNo: 7279026		Prep Date: 4/5/2021		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 6.536 0.33 6.502 0.4914 93 75-125 6.293 3.79 20

The following samples were analyzed in this batch:

21040132-01A

Client: Entrada Consulting Group
 Work Order: 21040132
 Project: UP 10-21 Spill Investigation

QC BATCH REPORT

Batch ID: **R313359** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R313359				Units: % of sample		Analysis Date: 4/2/2021 02:14 PM		
Client ID:		Run ID: MOIST_210402D				SeqNo: 7275909		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.10								

LCS		Sample ID: LCS-R313359				Units: % of sample		Analysis Date: 4/2/2021 02:14 PM		
Client ID:		Run ID: MOIST_210402D				SeqNo: 7275908		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.10	100	0	100	98-102	0			

DUP		Sample ID: 21032840-03B DUP				Units: % of sample		Analysis Date: 4/2/2021 02:14 PM		
Client ID:		Run ID: MOIST_210402D				SeqNo: 7275893		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	17.21	0.10	0	0	0	0-0	17.72	2.92	10	

DUP		Sample ID: 21040068-01A DUP				Units: % of sample		Analysis Date: 4/2/2021 02:14 PM		
Client ID:		Run ID: MOIST_210402D				SeqNo: 7275901		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	82.51	0.10	0	0	0	0-0	82.64	0.157	10	

The following samples were analyzed in this batch:

21040132-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Chain of Custody Form

Page 1 of 1

COC ID: 123456

- | | | |
|--|--|--|
| <input type="checkbox"/> Cincinnati, OH
+1 513 733 5336 | <input checked="" type="checkbox"/> Holland, MI
+1 616 399 6070 | <input type="checkbox"/> Salt Lake City, UT
+1 801 266 7700 |
| <input type="checkbox"/> Everett, WA
+1 425 356 2600 | <input type="checkbox"/> Houston, TX
+1 281 530 5656 | <input type="checkbox"/> Spring City, PA
+1 610 948 4903 |
| <input type="checkbox"/> Fort Collins, CO
+1 970 490 1511 | <input type="checkbox"/> Middletown, PA
+1 717 944 5541 | <input type="checkbox"/> York, PA
+1 717 505 5280 |

ALS Project Manager:		Work Order #: 21040132	
Customer Information		Project Information	
Purchase Order	Project Name: UP 10-21 Spill Investigation	Parameter/Method Request for Analysis	
Work Order	Project Number	A Arsenic	
Company Name: Entrada Consulting Group	Bill To Company: Entrada Consulting Group	B	
Send Report To: Tim Dobransky	Invoice Attn: Tim Dobransky	C	
Address: 330 Grand Ave. Unit C	Address: 330 Grand Ave. Unit C	D	
City/State/Zip: Grand Junction, CO 81501	City/State/Zip: Grand Junction, CO 81501	E	
Phone: 970.270.2986	Phone: 970.270.2986	F	
Fax	Fax	G	
e-Mail Address: tdobransky@entradainc.com	e-Mail Address: tdobransky@entradainc.com	H	
		I	
		J	
No.	Sample Description	Date	Time
1	UP 10-21 - SS1	03/25/21	1435
2			
3			
4			
5			
6			
7			
8			
9			
10			
Sampler(s): Please Print & Sign Jessica Dilka		Shipment Method: FedEx	Required Turnaround Time: <input type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input checked="" type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour
Relinquished by: [Signature]		Date: 3/29/21	Time: 1200
Relinquished by: [Signature]		Date: 3/29/21	Time: 1830
Logged by (Laboratory): Kew		Date: 4/2/21	Time: 0820
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C		Notes: Table 910 Water plus TPH Chevron Pricing Applies - Per Bruce Schlatter	
		Cooler Temp: 38°C	QC Package: (Check Box Below)
			<input checked="" type="checkbox"/> Level II: Standard QC
			<input type="checkbox"/> Level III: Std QC + Raw
			<input type="checkbox"/> Level IV: SW846 CLP-
			Other:

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

Copyright 2011 by ALS Group

Sample Receipt Checklist

Client Name: **ENTRADA**

Date/Time Received: **01-Apr-21 10:00**

Work Order: **21040132**

Received by: **KRW**

Checklist completed by **Keith Wierenga**

02-Apr-21

Reviewed by: **Chad Whelton**

02-Apr-21

eSignature

Date

eSignature

Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition? Yes ☒ No ☐ Not Present ☐

Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☒

Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒

Chain of custody present? Yes ☒ No ☐

Chain of custody signed when relinquished and received? Yes ☒ No ☐

Chain of custody agrees with sample labels? Yes ☒ No ☐

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

Container/Temp Blank temperature in compliance? Yes ☒ No ☐

Sample(s) received on ice? Yes ☒ No ☐

Temperature(s)/Thermometer(s): **3.8/4.8 C** **IR3**

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: **4/2/2021 8:20:15 AM**

Water - VOA vials have zero headspace? Yes ☐ No ☐ No VOA vials submitted ☒

Water - pH acceptable upon receipt? Yes ☐ No ☐ N/A ☒

pH adjusted? Yes ☐ No ☐ N/A ☒

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction: