

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



Legend

- Spill Origin
- Other Soil Sample Location
- ▨ 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 128X-31 Spill Response Chevron USA, Inc Rio Blanco County, Colorado SENE S31 T2N R102W		330 Grand Ave., Suite C Grand Junction, CO 81501 P: 970.549.1015	Figure
Drawn By: TPD				1
Revision Date: 11/16/2016				

Table 1
UP 128X31
Soil Data Summary

SAMPLE SUMMARY	
Location Description	Chevron UP 128X31
Sample Type	Soil

LABORATORY DATA SUMMARY							
Sample ID	UP 128X31-SS1	UP 128X31-SS1	UP 128X31-SS2	UP 128X31-SS2	UP 128X31-BG1	COGCC TABLE 910-1 CONCENTRATION LEVELS	UNITS
Depth	0-6"	0-6"	0-6"	0-6"	0-6"		
Sample Date	11/3/2016	8/19/2020	11/3/2016	4/1/2021	11/3/2016		
Analytical Parameters							
TPH							
TPH Gasoline Range Organics	<3.0	NT	<3.2	NT	NT	500	mg/kg
TPH Diesel Range Organics	110	NT	6.2	NT	NT		
BTEX							
Benzene	<0.037	NT	<0.038	NT	NT	0.17	mg/kg
Toluene	<0.037	NT	<0.038	NT	NT	85	mg/kg
Ethylbenzene	<0.037	NT	<0.038	NT	NT	100	mg/kg
Total Xylene	<0.11	NT	<0.11	NT	NT	175	mg/kg
Metals							
Arsenic	6.9	NT	7.6	NT	8.4	0.39	mg/kg
Barium	140	NT	160	NT	85	15,000	mg/kg
Cadmium	<0.40	NT	<0.47	NT	0.50	70	mg/kg
Chromium	12	NT	11	NT	12	NA	mg/kg
Copper	17	NT	14	NT	19	3,100	mg/kg
Lead	15	NT	13	NT	17	400	mg/kg
Mercury	0.038	NT	0.019	NT	0.045	23	mg/kg
Nickel	23	NT	22	NT	25	1,600	mg/kg
Selenium	0.87	NT	<0.93	NT	<0.84	390	mg/kg
Silver	<0.40	NT	<0.47	NT	<0.42	390	mg/kg
Zinc	98	NT	71	NT	110	23,000	mg/kg
SAR Metals Analysis							
Calcium	500	640	250	NT	320	NA	mg/L
Magnesium	280	5.6	47	NT	95	NA	mg/L
Sodium	3000	6.3	90	NT	220	NA	mg/L
Sodium Adsorption Ratio	27	0.068	1.4	NT	3.8	<12	ratio
Polynuclear Aromatic Hydrocarbons							
Acenaphthene	<0.0071	NT	<0.0076	NT	NT	1,000	mg/kg
Anthracene	<0.0071	NT	<0.0076	NT	NT	1,000	mg/kg
Benzo(a)anthracene	<0.0071	NT	<0.0076	NT	NT	0.22	mg/kg
Benzo(a)pyrene	<0.0071	NT	<0.0076	NT	NT	0.022	mg/kg
Benzo(b)fluoranthene	<0.0071	NT	<0.0076	NT	NT	0.22	mg/kg
Benzo(k)fluoranthene	<0.0071	NT	<0.0076	NT	NT	2.2	mg/kg
Chrysene	<0.0071	NT	<0.0076	NT	NT	22	mg/kg
Dibenzo(a,h)anthracene	<0.0071	NT	<0.0076	NT	NT	0.022	mg/kg
Fluoranthene	0.0099	NT	<0.0076	NT	NT	1,000	mg/kg
Fluorene	<0.0071	NT	<0.0076	NT	NT	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	<0.0071	NT	<0.0076	NT	NT	0.22	mg/kg
Napthalene	<0.0071	NT	<0.0076	NT	NT	23	mg/kg
Pyrene	<0.0071	NT	<0.0076	NT	NT	1,000	mg/kg
General Chemistry							
Chromium, Hexavalent	<1.1	NT	<1.1	NT	<1.0	23	mg/kg
Chromium, Trivalent	12	NT	11	NT	11	120,000	mg/kg
Specific Conductivity	22	3.8	6.8	0.46	1.3	<4 or 2 x the background	mmhos/cm
pH	7.9	NT	8.1	NT	8.9	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



18-Nov-2016

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

Re: **UP 128X-31 Spill**

Work Order: **1611421**

Dear Tim,

ALS Environmental received 3 samples on 05-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 26.

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

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RIGHT SOLUTIONS RIGHT PARTNER

Client: Olsson Associates
Project: UP 128X-31 Spill
Work Order: 1611421

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>
1611421-01	UP 128X-31-SS1	Soil		11/3/2016 14:00	11/5/2016 09:30	<input type="checkbox"/>
1611421-02	UP 128X-31-SS2	Soil		11/3/2016 14:10	11/5/2016 09:30	<input type="checkbox"/>
1611421-03	UP 128X-31-BG1	Soil		11/3/2016 14:20	11/5/2016 09:30	<input type="checkbox"/>

Client: Olsson Associates
Project: UP 128X-31 Spill
WorkOrder: 1611421

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: 18-Nov-16

Client: Olsson Associates
Project: UP 128X-31 Spill
Sample ID: UP 128X-31-SS1
Collection Date: 11/3/2016 02:00 PM

Work Order: 1611421
Lab ID: 1611421-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3546 / 11/16/16	Analyst: IT
DRO (C10-C28)	110		5.3	mg/Kg-dry	1	11/16/2016 10:53 PM
Surr: 4-Terphenyl-d14	46.3		39-133	%REC	1	11/16/2016 10:53 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 11/14/16	Analyst: IT
GRO (C6-C10)	ND		3.0	mg/Kg-dry	1	11/14/2016 07:06 PM
Surr: Toluene-d8	101		50-150	%REC	1	11/14/2016 07:06 PM
MERCURY BY CVAA						
			SW7471B		Prep: SW7471 / 11/16/16	Analyst: LR
Mercury	0.038		0.014	mg/Kg-dry	1	11/16/2016 11:43 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B / 11/14/16	Analyst: RH
Arsenic	6.9		0.40	mg/Kg-dry	1	11/15/2016 01:21 PM
Barium	140		0.40	mg/Kg-dry	1	11/15/2016 01:21 PM
Cadmium	ND		0.40	mg/Kg-dry	1	11/15/2016 01:21 PM
Chromium	12		0.40	mg/Kg-dry	1	11/15/2016 01:21 PM
Copper	17		0.40	mg/Kg-dry	1	11/15/2016 01:21 PM
Lead	15		0.40	mg/Kg-dry	1	11/15/2016 01:21 PM
Nickel	23		0.40	mg/Kg-dry	1	11/15/2016 01:21 PM
Selenium	0.87		0.80	mg/Kg-dry	1	11/15/2016 01:21 PM
Silver	ND		0.40	mg/Kg-dry	1	11/15/2016 01:21 PM
Zinc	98		0.80	mg/Kg-dry	1	11/15/2016 01:21 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 11/11/16	Analyst: RH
Calcium	500		5.0	mg/L	10	11/14/2016 11:09 PM
Magnesium	280		2.0	mg/L	10	11/14/2016 11:09 PM
Sodium	3,000		2.0	mg/L	10	11/14/2016 11:09 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 11/11/16	Analyst: RH
Exchangeable Sodium Percentage	28		0.010	none	1	11/14/2016
Sodium Adsorption Ratio	27		0.010	none	1	11/14/2016
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3546 / 11/16/16	Analyst: JF
Acenaphthene	ND		0.0071	mg/Kg-dry	1	11/17/2016 04:45 AM
Anthracene	ND		0.0071	mg/Kg-dry	1	11/17/2016 04:45 AM
Benzo(a)anthracene	ND		0.0071	mg/Kg-dry	1	11/17/2016 04:45 AM
Benzo(a)pyrene	ND		0.0071	mg/Kg-dry	1	11/17/2016 04:45 AM
Benzo(b)fluoranthene	ND		0.0071	mg/Kg-dry	1	11/17/2016 04:45 AM
Benzo(k)fluoranthene	ND		0.0071	mg/Kg-dry	1	11/17/2016 04:45 AM
Chrysene	ND		0.0071	mg/Kg-dry	1	11/17/2016 04:45 AM
Dibenzo(a,h)anthracene	ND		0.0071	mg/Kg-dry	1	11/17/2016 04:45 AM

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

ALS Group, USA

Date: 18-Nov-16

Client: Olsson Associates
Project: UP 128X-31 Spill
Sample ID: UP 128X-31-SS1
Collection Date: 11/3/2016 02:00 PM

Work Order: 1611421
Lab ID: 1611421-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	0.0099		0.0071	mg/Kg-dry	1	11/17/2016 04:45 AM
Fluorene	ND		0.0071	mg/Kg-dry	1	11/17/2016 04:45 AM
Indeno(1,2,3-cd)pyrene	ND		0.0071	mg/Kg-dry	1	11/17/2016 04:45 AM
Naphthalene	ND		0.0071	mg/Kg-dry	1	11/17/2016 04:45 AM
Pyrene	ND		0.0071	mg/Kg-dry	1	11/17/2016 04:45 AM
Surr: 2-Fluorobiphenyl	65.5		12-100	%REC	1	11/17/2016 04:45 AM
Surr: 4-Terphenyl-d14	72.0		25-137	%REC	1	11/17/2016 04:45 AM
Surr: Nitrobenzene-d5	50.8		37-107	%REC	1	11/17/2016 04:45 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 11/13/16		Analyst: AK
Benzene	ND		0.037	mg/Kg-dry	1	11/16/2016 09:48 AM
Ethylbenzene	ND		0.037	mg/Kg-dry	1	11/16/2016 09:48 AM
m,p-Xylene	ND		0.073	mg/Kg-dry	1	11/16/2016 09:48 AM
o-Xylene	ND		0.037	mg/Kg-dry	1	11/16/2016 09:48 AM
Toluene	ND		0.037	mg/Kg-dry	1	11/16/2016 09:48 AM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	11/16/2016 09:48 AM
Surr: 1,2-Dichloroethane-d4	85.6		70-130	%REC	1	11/16/2016 09:48 AM
Surr: 4-Bromofluorobenzene	98.0		70-130	%REC	1	11/16/2016 09:48 AM
Surr: Dibromofluoromethane	90.0		70-130	%REC	1	11/16/2016 09:48 AM
Surr: Toluene-d8	88.2		70-130	%REC	1	11/16/2016 09:48 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 11/11/16		Analyst: JB
Electrical Conductivity @ Saturation	22		0.25	mmhos/cm @2	50	11/17/2016 04:45 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JB
Chromium, Trivalent	12		0.55	mg/Kg-dry	1	11/16/2016 08:20 AM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 11/14/16		Analyst: MB
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	11/15/2016 05:00 PM
MOISTURE			SW3550C			Analyst: EDL
Moisture	9.8		0.050	% of sample	1	11/11/2016 05:14 PM
PH			SW9045D	Prep: EXTRACT / 11/9/16		Analyst: RZM
pH	7.9			s.u.	1	11/9/2016 03:00 PM

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

ALS Group, USA

Date: 18-Nov-16

Client: Olsson Associates
Project: UP 128X-31 Spill
Sample ID: UP 128X-31-SS2
Collection Date: 11/3/2016 02:10 PM

Work Order: 1611421
Lab ID: 1611421-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3546 / 11/16/16	Analyst: IT
DRO (C10-C28)	6.2		5.7	mg/Kg-dry	1	11/16/2016 11:22 PM
Surr: 4-Terphenyl-d14	58.2		39-133	%REC	1	11/16/2016 11:22 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 11/14/16	Analyst: IT
GRO (C6-C10)	ND		3.2	mg/Kg-dry	1	11/14/2016 07:31 PM
Surr: Toluene-d8	99.5		50-150	%REC	1	11/14/2016 07:31 PM
MERCURY BY CVAA						
			SW7471B		Prep: SW7471 / 11/16/16	Analyst: LR
Mercury	0.019		0.016	mg/Kg-dry	1	11/16/2016 11:53 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B / 11/14/16	Analyst: RH
Arsenic	7.6		0.47	mg/Kg-dry	1	11/15/2016 01:27 PM
Barium	160		0.47	mg/Kg-dry	1	11/15/2016 01:27 PM
Cadmium	ND		0.47	mg/Kg-dry	1	11/15/2016 01:27 PM
Chromium	11		0.47	mg/Kg-dry	1	11/15/2016 01:27 PM
Copper	14		0.47	mg/Kg-dry	1	11/15/2016 01:27 PM
Lead	13		0.47	mg/Kg-dry	1	11/15/2016 01:27 PM
Nickel	22		0.47	mg/Kg-dry	1	11/15/2016 01:27 PM
Selenium	ND		0.93	mg/Kg-dry	1	11/15/2016 01:27 PM
Silver	ND		0.47	mg/Kg-dry	1	11/15/2016 01:27 PM
Zinc	71		0.93	mg/Kg-dry	1	11/15/2016 01:27 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 11/11/16	Analyst: RH
Calcium	250		5.0	mg/L	10	11/14/2016 11:14 PM
Magnesium	47		2.0	mg/L	10	11/14/2016 11:14 PM
Sodium	90		2.0	mg/L	10	11/14/2016 11:14 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 11/11/16	Analyst: RH
Exchangeable Sodium Percentage	0.76		0.010	none	1	11/14/2016
Sodium Adsorption Ratio	1.4		0.010	none	1	11/14/2016
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3546 / 11/16/16	Analyst: JF
Acenaphthene	ND		0.0076	mg/Kg-dry	1	11/16/2016 10:14 PM
Anthracene	ND		0.0076	mg/Kg-dry	1	11/16/2016 10:14 PM
Benzo(a)anthracene	ND		0.0076	mg/Kg-dry	1	11/16/2016 10:14 PM
Benzo(a)pyrene	ND		0.0076	mg/Kg-dry	1	11/16/2016 10:14 PM
Benzo(b)fluoranthene	ND		0.0076	mg/Kg-dry	1	11/16/2016 10:14 PM
Benzo(k)fluoranthene	ND		0.0076	mg/Kg-dry	1	11/16/2016 10:14 PM
Chrysene	ND		0.0076	mg/Kg-dry	1	11/16/2016 10:14 PM
Dibenzo(a,h)anthracene	ND		0.0076	mg/Kg-dry	1	11/16/2016 10:14 PM

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

ALS Group, USA

Date: 18-Nov-16

Client: Olsson Associates
Project: UP 128X-31 Spill
Sample ID: UP 128X-31-SS2
Collection Date: 11/3/2016 02:10 PM

Work Order: 1611421
Lab ID: 1611421-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	ND		0.0076	mg/Kg-dry	1	11/16/2016 10:14 PM
Fluorene	ND		0.0076	mg/Kg-dry	1	11/16/2016 10:14 PM
Indeno(1,2,3-cd)pyrene	ND		0.0076	mg/Kg-dry	1	11/16/2016 10:14 PM
Naphthalene	ND		0.0076	mg/Kg-dry	1	11/16/2016 10:14 PM
Pyrene	ND		0.0076	mg/Kg-dry	1	11/16/2016 10:14 PM
Surr: 2-Fluorobiphenyl	72.4		12-100	%REC	1	11/16/2016 10:14 PM
Surr: 4-Terphenyl-d14	79.7		25-137	%REC	1	11/16/2016 10:14 PM
Surr: Nitrobenzene-d5	55.2		37-107	%REC	1	11/16/2016 10:14 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 11/13/16		Analyst: AK
Benzene	ND		0.038	mg/Kg-dry	1	11/16/2016 10:14 AM
Ethylbenzene	ND		0.038	mg/Kg-dry	1	11/16/2016 10:14 AM
m,p-Xylene	ND		0.076	mg/Kg-dry	1	11/16/2016 10:14 AM
o-Xylene	ND		0.038	mg/Kg-dry	1	11/16/2016 10:14 AM
Toluene	ND		0.038	mg/Kg-dry	1	11/16/2016 10:14 AM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	11/16/2016 10:14 AM
Surr: 1,2-Dichloroethane-d4	84.0		70-130	%REC	1	11/16/2016 10:14 AM
Surr: 4-Bromofluorobenzene	97.6		70-130	%REC	1	11/16/2016 10:14 AM
Surr: Dibromofluoromethane	90.4		70-130	%REC	1	11/16/2016 10:14 AM
Surr: Toluene-d8	90.0		70-130	%REC	1	11/16/2016 10:14 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 11/11/16		Analyst: JB
Electrical Conductivity @ Saturation	6.8		0.25	mmhos/cm @2	50	11/17/2016 04:45 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JB
Chromium, Trivalent	11		0.57	mg/Kg-dry	1	11/16/2016 08:20 AM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 11/14/16		Analyst: MB
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	11/15/2016 05:00 PM
MOISTURE			SW3550C			Analyst: EDL
Moisture	12		0.050	% of sample	1	11/11/2016 05:14 PM
PH			SW9045D	Prep: EXTRACT / 11/9/16		Analyst: RZM
pH	8.1			s.u.	1	11/9/2016 03:00 PM

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

ALS Group, USA

Date: 18-Nov-16

Client: Olsson Associates
Project: UP 128X-31 Spill
Sample ID: UP 128X-31-BG1
Collection Date: 11/3/2016 02:20 PM

Work Order: 1611421
Lab ID: 1611421-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA						
Mercury	0.045		SW7471B 0.015	mg/Kg-dry	Prep: SW7471 / 11/16/16 1	Analyst: LR 11/16/2016 11:56 PM
METALS ANALYSIS BY ICP						
Arsenic	8.4		SW846 6010C 0.42	mg/Kg-dry	Prep: SW3050B / 11/14/16 1	Analyst: RH 11/15/2016 01:32 PM
Barium	85		0.42	mg/Kg-dry	1	11/15/2016 01:32 PM
Cadmium	0.50		0.42	mg/Kg-dry	1	11/15/2016 01:32 PM
Chromium	12		0.42	mg/Kg-dry	1	11/15/2016 01:32 PM
Copper	19		0.42	mg/Kg-dry	1	11/15/2016 01:32 PM
Lead	17		0.42	mg/Kg-dry	1	11/15/2016 01:32 PM
Nickel	25		0.42	mg/Kg-dry	1	11/15/2016 01:32 PM
Selenium	ND		0.84	mg/Kg-dry	1	11/15/2016 04:14 PM
Silver	ND		0.42	mg/Kg-dry	1	11/15/2016 01:32 PM
Zinc	110		0.84	mg/Kg-dry	1	11/15/2016 01:32 PM
SOLUBLE CATIONS FOR SAR						
Calcium	320		SW846 6010C 5.0	mg/L	Prep: USDA Method 20B / 11/11/16 10	Analyst: RH 11/14/2016 11:20 PM
Magnesium	95		2.0	mg/L	10	11/14/2016 11:20 PM
Sodium	300		2.0	mg/L	10	11/14/2016 11:20 PM
SODIUM ADSORPTION RATIO						
Exchangeable Sodium Percentage	4.1		USDA H60 METHO 0.010	none	Prep: USDA Method 20B / 11/11/16 1	Analyst: RH 11/14/2016
Sodium Adsorption Ratio	3.8		0.010	none	1	11/14/2016
ELECTRICAL CONDUCTIVITY (SAR)						
Electrical Conductivity @ Saturation	7.4		USDA H60 METHO 0.25	mmhos/cm @2	Prep: USDA Method 20B / 11/11/16 50	Analyst: JB 11/17/2016 04:45 PM
CHROMIUM, TRIVALENT						
Chromium, Trivalent	12		CALCULATION 0.54	mg/Kg-dry	1	Analyst: JB 11/16/2016 08:20 AM
CHROMIUM, HEXAVALENT						
Chromium, Hexavalent	ND		SW7196A 1.1	mg/Kg-dry	Prep: SW3060A / 11/14/16 1	Analyst: MB 11/15/2016 05:00 PM
MOISTURE						
Moisture	7.4		SW3550C 0.050	% of sample	1	Analyst: EDL 11/11/2016 05:14 PM
PH						
pH	7.2		SW9045D s.u.		Prep: EXTRACT / 11/9/16 1	Analyst: RZM 11/9/2016 03:00 PM

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

Client: Olsson Associates
Work Order: 1611421
Project: UP 128X-31 Spill

QC BATCH REPORT

Batch ID: **94631** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-94631-94631				Units: mg/Kg		Analysis Date: 11/16/2016 06:57 PM		
Client ID:		Run ID: GC8_161116A				SeqNo: 4158687		Prep Date: 11/16/2016		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								
<i>Surr: 4-Terphenyl-d14</i>	2.058	0	3.33	0	61.8	39-133	0			

LCS		Sample ID: DLCSS1-94631-94631				Units: mg/Kg		Analysis Date: 11/16/2016 07:27 PM		
Client ID:		Run ID: GC8_161116A				SeqNo: 4158688		Prep Date: 11/16/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	240.6	5.0	333	0	72.2	61-109	0			
<i>Surr: 4-Terphenyl-d14</i>	1.794	0	3.33	0	53.9	39-133	0			

MS		Sample ID: 1611418-01A MS				Units: mg/Kg		Analysis Date: 11/16/2016 07:56 PM		
Client ID:		Run ID: GC8_161116A				SeqNo: 4158689		Prep Date: 11/16/2016		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	4061	98	326.4	6578	-771	48-110	0			SO
<i>Surr: 4-Terphenyl-d14</i>	3.986	0	3.264	0	122	39-133	0			

MSD		Sample ID: 1611418-01A MSD				Units: mg/Kg		Analysis Date: 11/16/2016 08:26 PM		
Client ID:		Run ID: GC8_161116A				SeqNo: 4158691		Prep Date: 11/16/2016		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	5699	96	321.3	6578	-274	48-110	4061	33.6	30	SRO
<i>Surr: 4-Terphenyl-d14</i>	3.937	0	3.213	0	123	39-133	3.986	1.25	30	

The following samples were analyzed in this batch: 1611421-01A 1611421-02A

Client: Olsson Associates
 Work Order: 1611421
 Project: UP 128X-31 Spill

QC BATCH REPORT

Batch ID: **94465** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-94465-94465				Units: µg/Kg-dry		Analysis Date: 11/14/2016 02:06 PM		
Client ID:		Run ID: GC9_161114A				SeqNo: 4153485		Prep Date: 11/14/2016		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								
Surr: Toluene-d8	4265	0	5000	0	85.3	50-150	0			

MBLK		Sample ID: MBLK-94465-94465				Units: µg/Kg-dry		Analysis Date: 11/15/2016 01:11 A		
Client ID:		Run ID: GC9_161114B				SeqNo: 4153536		Prep Date: 11/14/2016		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								
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LCS		Sample ID: LCS-94465-94465				Units: µg/Kg-dry		Analysis Date: 11/14/2016 01:42 PM		
Client ID:		Run ID: GC9_161114A				SeqNo: 4153481		Prep Date: 11/14/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	473500	2,500	500000	0	94.7	70-130	0			
Surr: Toluene-d8	5004	0	5000	0	100	50-150	0			

LCS		Sample ID: LCS-94465-94465				Units: µg/Kg-dry		Analysis Date: 11/15/2016 12:44 PM		
Client ID:		Run ID: GC9_161114B				SeqNo: 4153542		Prep Date: 11/14/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	10090	2,500	10000	0	101	80-120	0			
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LCSD		Sample ID: LCSD-94465-94465				Units: µg/Kg-dry		Analysis Date: 11/15/2016 03:22 A		
Client ID:		Run ID: GC9_161114B				SeqNo: 4153541		Prep Date: 11/14/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	11560	2,500	10000	0	116	80-120	10090	13.6	20	
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MS		Sample ID: 1611395-02A MS				Units: µg/Kg-dry		Analysis Date: 11/14/2016 05:01 PM		
Client ID:		Run ID: GC9_161114A				SeqNo: 4153497		Prep Date: 11/14/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	707000	3,500	690500	0	102	70-130	0			
Surr: Toluene-d8	7761	0	6905	0	112	50-150	0			

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

Client: Olsson Associates
Work Order: 1611421
Project: UP 128X-31 Spill

QC BATCH REPORT

Batch ID: **94465** Instrument ID **GC9** Method: **SW8015D**

MSD		Sample ID: 1611395-02A MSD				Units: µg/Kg-dry		Analysis Date: 11/14/2016 05:26 PM		
Client ID:		Run ID: GC9_161114A				SeqNo: 4153499		Prep Date: 11/14/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	757900	3,500	690500	0	110	70-130	707000	6.95	30	
<i>Surr: Toluene-d8</i>	<i>7439</i>	<i>0</i>	<i>6905</i>	<i>0</i>	<i>108</i>	<i>50-150</i>	<i>7761</i>	<i>4.23</i>	<i>30</i>	

The following samples were analyzed in this batch:

1611421-01A 1611421-02A

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

Client: Olsson Associates
Work Order: 1611421
Project: UP 128X-31 Spill

QC BATCH REPORT

Batch ID: **94677** Instrument ID **HG1** Method: **SW7471B**

MBLK		Sample ID: MBLK-94677-94677				Units: mg/Kg		Analysis Date: 11/16/2016 11:25 PM		
Client ID:		Run ID: HG1_161116A				SeqNo: 4158001		Prep Date: 11/16/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0095	0.020								J

LCS		Sample ID: LCS-94677-94677				Units: mg/Kg		Analysis Date: 11/16/2016 11:27 PM		
Client ID:		Run ID: HG1_161116A				SeqNo: 4158002		Prep Date: 11/16/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1692	0.020	0.1665	0	102	80-120	0			

MS		Sample ID: 1611420-03AMS				Units: mg/Kg		Analysis Date: 11/16/2016 11:38 PM		
Client ID:		Run ID: HG1_161116A				SeqNo: 4158006		Prep Date: 11/16/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1335	0.014	0.115	0.02647	93.1	75-125	0			

MSD		Sample ID: 1611420-03AMSD				Units: mg/Kg		Analysis Date: 11/16/2016 11:40 PM		
Client ID:		Run ID: HG1_161116A				SeqNo: 4158007		Prep Date: 11/16/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1404	0.014	0.1159	0.02647	98.3	75-125	0.1335	5.03	35	

The following samples were analyzed in this batch:

1611421-01A	1611421-02A	1611421-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1611421
Project: UP 128X-31 Spill

QC BATCH REPORT

Batch ID: **94437** Instrument ID **SAR** Method: **USDA H60 Metho**

DUP		Sample ID: 1611399-03ADUP				Units: none		Analysis Date: 11/14/2016		
Client ID:		Run ID: SAR_161114A				SeqNo: 4156666		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
Exchangeable Sodium Percentage	ND	0.010	0	0	0		-0.7294	0	50	
Sodium Adsorption Ratio	0.4389	0.010	0	0	0		0.3633	18.8	50	

The following samples were analyzed in this batch:

1611421-01A	1611421-02A	1611421-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
 Work Order: 1611421
 Project: UP 128X-31 Spill

QC BATCH REPORT

Batch ID: **94498** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK		Sample ID: MBLK-94498-94498				Units: mg/Kg		Analysis Date: 11/15/2016 12:04 PM		
Client ID:		Run ID: ICP2_161115A				SeqNo: 4154287		Prep Date: 11/14/2016		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	0.02936	0.50								J
Chromium	0.03967	0.25								J
Copper	ND	0.50								
Lead	ND	0.25								
Selenium	ND	0.50								
Silver	ND	0.25								
Zinc	0.06949	0.50								J

MBLK		Sample ID: MBLK-94498-94498				Units: mg/Kg		Analysis Date: 11/15/2016 03:30 PM		
Client ID:		Run ID: ICP2_161115A				SeqNo: 4155466		Prep Date: 11/14/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nickel	ND	0.25								

LCS		Sample ID: LCS-94498-94498				Units: mg/Kg		Analysis Date: 11/15/2016 12:09 PM		
Client ID:		Run ID: ICP2_161115A				SeqNo: 4154288		Prep Date: 11/14/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.654	0.25	5	0	93.1	80-120	0			
Barium	4.605	0.25	5	0	92.1	80-120	0			
Cadmium	4.714	0.50	5	0	94.3	80-120	0			
Chromium	4.684	0.25	5	0	93.7	80-120	0			
Copper	4.92	0.50	5	0	98.4	80-120	0			
Lead	4.544	0.25	5	0	90.9	80-120	0			
Selenium	4.406	0.50	5	0	88.1	80-120	0			
Silver	4.609	0.25	5	0	92.2	80-120	0			
Zinc	4.657	0.50	5	0	93.1	80-120	0			

LCS		Sample ID: LCS-94498-94498				Units: mg/Kg		Analysis Date: 11/15/2016 03:35 PM		
Client ID:		Run ID: ICP2_161115A				SeqNo: 4155467		Prep Date: 11/14/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nickel	4.697	0.25	5	0	93.9	80-120	0			

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

Client: Olsson Associates
 Work Order: 1611421
 Project: UP 128X-31 Spill

QC BATCH REPORT

Batch ID: 94498 Instrument ID ICP2 Method: SW846 6010C

MS					Sample ID: 1611420-03AMS			Units: mg/Kg		Analysis Date: 11/15/2016 12:31 PM	
Client ID:			Run ID: ICP2_161115A			SeqNo: 4154292		Prep Date: 11/14/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Barium	39.55	0.40	7.949	27.06	157	75-125	0			S	
Chromium	15.26	0.40	7.949	5.228	126	75-125	0			S	
Copper	13.4	0.79	7.949	6.177	90.9	75-125	0				
Silver	7.604	0.40	7.949	-0.3095	99.6	75-125	0				

MS				Sample ID: 1611420-03AMS			Units: mg/Kg		Analysis Date: 11/15/2016 03:46 PM		
Client ID:			Run ID: ICP2_161115A			SeqNo: 4155469		Prep Date: 11/14/2016		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	14.55	4.0	7.949	8.87	71.4	75-125	0			S	
Cadmium	9.161	7.9	7.949	0.2087	113	75-125	0				
Lead	15.38	4.0	7.949	7.058	105	75-125	0				
Nickel	20.87	4.0	7.949	13.32	95	75-125	0				
Selenium	9.099	7.9	7.949	0.1652	112	75-125	0				
Zinc	46.91	7.9	7.949	42.42	56.5	75-125	0			SO	

MSD				Sample ID: 1611420-03AMSD				Units: mg/Kg			Analysis Date: 11/15/2016 12:37 PM			
Client ID:				Run ID: ICP2_161115A				SeqNo: 4154293			Prep Date: 11/14/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Barium	39.87	0.39	7.862	27.06	163	75-125	39.55	0.803	20	S				
Chromium	14.6	0.39	7.862	5.228	119	75-125	15.26	4.42	20					
Copper	13.06	0.79	7.862	6.177	87.6	75-125	13.4	2.57	20					
Silver	7.164	0.39	7.862	-0.3095	95.1	75-125	7.604	5.96	20					

MSD				Sample ID: 1611420-03AMSD				Units: mg/Kg			Analysis Date: 11/15/2016 03:52 PM		
Client ID:			Run ID: ICP2_161115A				SeqNo: 4155470		Prep Date: 11/14/2016			DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Arsenic	13.43	3.9	7.862	8.87	58	75-125	14.55	8.01	20	S			
Cadmium	7.831	7.9	7.862	0.2087	97	75-125	9.161	0	20	J			
Lead	13.67	3.9	7.862	7.058	84	75-125	15.38	11.8	20				
Nickel	17.53	3.9	7.862	13.32	53.6	75-125	20.87	17.4	20	S			
Selenium	8.598	7.9	7.862	0.1652	107	75-125	9.099	5.66	20				
Zinc	42.94	7.9	7.862	42.42	6.59	75-125	46.91	8.85	20	SO			

The following samples were analyzed in this batch: 1611421-01A 1611421-02A 1611421-03A

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

Client: Olsson Associates
 Work Order: 1611421
 Project: UP 128X-31 Spill

QC BATCH REPORT

Batch ID: 94629 Instrument ID SVMS5 Method: SW846 8270D

MBLK		Sample ID: SBLKS1-94629-94629				Units: µg/Kg		Analysis Date: 11/16/2016 03:24 PM		
Client ID:		Run ID: SVMS5_161116A				SeqNo: 4158586		Prep Date: 11/16/2016		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	2859	0	3333	0	85.8	12-100	0			
Surr: 4-Terphenyl-d14	2887	0	3333	0	86.6	25-137	0			
Surr: Nitrobenzene-d5	2121	0	3333	0	63.6	37-107	0			

LCS		Sample ID: SLCSS1-94629-94629				Units: µg/Kg		Analysis Date: 11/16/2016 03:47 PM		
Client ID:		Run ID: SVMS5_161116A				SeqNo: 4158587		Prep Date: 11/16/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1217	6.7	1333	0	91.3	45-110	0			
Anthracene	1248	6.7	1333	0	93.6	55-105	0			
Benzo(a)anthracene	1295	6.7	1333	0	97.1	50-110	0			
Benzo(a)pyrene	1232	6.7	1333	0	92.4	50-110	0			
Benzo(b)fluoranthene	1169	6.7	1333	0	87.7	45-115	0			
Benzo(k)fluoranthene	1299	6.7	1333	0	97.4	45-115	0			
Chrysene	1281	6.7	1333	0	96.1	55-110	0			
Dibenzo(a,h)anthracene	1313	6.7	1333	0	98.5	40-125	0			
Fluoranthene	1258	6.7	1333	0	94.4	55-115	0			
Fluorene	1286	6.7	1333	0	96.5	50-110	0			
Indeno(1,2,3-cd)pyrene	1070	6.7	1333	0	80.3	40-120	0			
Naphthalene	993.3	6.7	1333	0	74.5	40-105	0			
Pyrene	1357	6.7	1333	0	102	45-125	0			
Surr: 2-Fluorobiphenyl	3026	0	3333	0	90.8	12-100	0			
Surr: 4-Terphenyl-d14	2941	0	3333	0	88.2	25-137	0			
Surr: Nitrobenzene-d5	2261	0	3333	0	67.8	37-107	0			

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

Client: Olsson Associates
 Work Order: 1611421
 Project: UP 128X-31 Spill

QC BATCH REPORT

Batch ID: 94629 Instrument ID SVMS5 Method: SW846 8270D

MS				Sample ID: 1611421-02A MS			Units: µg/Kg		Analysis Date: 11/16/2016 09:29 PM	
Client ID: UP 128X-31-SS2				Run ID: SVMS5_161116A			SeqNo: 4158590		Prep Date: 11/16/2016	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1062	6.5	1304	0	81.4	45-110	0			
Anthracene	1164	6.5	1304	0	89.2	55-105	0			
Benzo(a)anthracene	1179	6.5	1304	0	90.4	50-110	0			
Benzo(a)pyrene	1138	6.5	1304	0	87.2	50-110	0			
Benzo(b)fluoranthene	1036	6.5	1304	0	79.4	45-115	0			
Benzo(k)fluoranthene	1204	6.5	1304	0	92.3	45-115	0			
Chrysene	1179	6.5	1304	0	90.4	55-110	0			
Dibenzo(a,h)anthracene	1205	6.5	1304	0	92.4	40-125	0			
Fluoranthene	1162	6.5	1304	0	89.1	55-115	0			
Fluorene	1180	6.5	1304	0	90.5	50-110	0			
Indeno(1,2,3-cd)pyrene	989.6	6.5	1304	0	75.9	40-120	0			
Naphthalene	878	6.5	1304	0	67.3	40-105	0			
Pyrene	1232	6.5	1304	0	94.5	45-125	0			
Surr: 2-Fluorobiphenyl	2747	0	3261	0	84.2	12-100	0			
Surr: 4-Terphenyl-d14	2673	0	3261	0	81.9	25-137	0			
Surr: Nitrobenzene-d5	2089	0	3261	0	64.1	37-107	0			

MSD				Sample ID: 1611421-02A MSD			Units: µg/Kg		Analysis Date: 11/16/2016 09:51 PM	
Client ID: UP 128X-31-SS2				Run ID: SVMS5_161116A			SeqNo: 4158591		Prep Date: 11/16/2016	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1020	6.5	1297	0	78.7	45-110	1062	4.01	30	
Anthracene	1116	6.5	1297	0	86	55-105	1164	4.23	30	
Benzo(a)anthracene	1145	6.5	1297	0	88.3	50-110	1179	2.92	30	
Benzo(a)pyrene	1094	6.5	1297	0	84.3	50-110	1138	3.95	30	
Benzo(b)fluoranthene	1034	6.5	1297	0	79.7	45-115	1036	0.195	30	
Benzo(k)fluoranthene	1138	6.5	1297	0	87.7	45-115	1204	5.68	30	
Chrysene	1132	6.5	1297	0	87.3	55-110	1179	4.12	30	
Dibenzo(a,h)anthracene	1162	6.5	1297	0	89.6	40-125	1205	3.7	30	
Fluoranthene	1132	6.5	1297	0	87.3	55-115	1162	2.67	30	
Fluorene	1114	6.5	1297	0	85.9	50-110	1180	5.79	30	
Indeno(1,2,3-cd)pyrene	959.9	6.5	1297	0	74	40-120	989.6	3.04	30	
Naphthalene	862	6.5	1297	0	66.5	40-105	878	1.84	30	
Pyrene	1186	6.5	1297	0	91.5	45-125	1232	3.8	30	
Surr: 2-Fluorobiphenyl	2703	0	3243	0	83.3	12-100	2747	1.62	40	
Surr: 4-Terphenyl-d14	2683	0	3243	0	82.7	25-137	2673	0.375	40	
Surr: Nitrobenzene-d5	2041	0	3243	0	62.9	37-107	2089	2.34	40	

The following samples were analyzed in this batch:

1611421-01A 1611421-02A

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

Client: Olsson Associates
 Work Order: 1611421
 Project: UP 128X-31 Spill

QC BATCH REPORT

Batch ID: **94464** Instrument ID **VMS7** Method: **SW8260B**

Sample ID: MBLK-94464-94464				Units: µg/Kg-dry			Analysis Date: 11/13/2016 11:15 A			
Client ID:		Run ID: VMS7_161113A			SeqNo: 4150461		Prep Date: 11/13/2016		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								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>980</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>963</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>96.3</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>922</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>92.2</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>1008</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>			

LCS				Sample ID: LCS-94464-94464			Units: µg/Kg-dry		Analysis Date: 11/13/2016 10:12 A		
Client ID:			Run ID: VMS7_161113A			SeqNo: 4150460		Prep Date: 11/13/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1070	30	1000	0	107	75-125	0				
Ethylbenzene	1048	30	1000	0	105	75-125	0				
m,p-Xylene	2118	60	2000	0	106	80-125	0				
o-Xylene	1055	30	1000	0	106	75-125	0				
Toluene	1046	30	1000	0	105	70-125	0				
Xylenes, Total	3174	90	3000	0	106	75-125	0				
Surr: 1,2-Dichloroethane-d4	979	0	1000	0	97.9	70-130	0				
Surr: 4-Bromofluorobenzene	1006	0	1000	0	101	70-130	0				
Surr: Dibromofluoromethane	991	0	1000	0	99.1	70-130	0				
Surr: Toluene-d8	988	0	1000	0	98.8	70-130	0				

MS				Sample ID: 1611395-02A MS				Units: µg/Kg-dry		Analysis Date: 11/13/2016 07:48 PM	
Client ID:			Run ID: VMS9_161113A			SeqNo: 4149968		Prep Date: 11/13/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1441	41	1381	0	104	75-125	0				
Ethylbenzene	1464	41	1381	0	106	75-125	0				
m,p-Xylene	2975	83	2762	0	108	80-125	0				
o-Xylene	1470	41	1381	0	106	75-125	0				
Toluene	1442	41	1381	0	104	70-125	0				
Xylenes, Total	4445	120	4143	0	107	75-125	0				
Surr: 1,2-Dichloroethane-d4	1445	0	1381	0	105	70-130	0				
Surr: 4-Bromofluorobenzene	1414	0	1381	0	102	70-130	0				
Surr: Dibromofluoromethane	1284	0	1381	0	93	70-130	0				
Surr: Toluene-d8	1366	0	1381	0	98.9	70-130	0				

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

Client: Olsson Associates
Work Order: 1611421
Project: UP 128X-31 Spill

QC BATCH REPORT

Batch ID: **94464** Instrument ID **VMS7** Method: **SW8260B**

MSD				Sample ID: 1611395-02A MSD			Units: µg/Kg-dry		Analysis Date: 11/13/2016 08:12 PM		
Client ID:			Run ID: VMS9_161113A			SeqNo: 4149969		Prep Date: 11/13/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1473	41	1381	0	107	75-125	1441	2.18	30		
Ethylbenzene	1474	41	1381	0	107	75-125	1464	0.705	30		
m,p-Xylene	2939	83	2762	0	106	80-125	2975	1.24	30		
o-Xylene	1483	41	1381	0	107	75-125	1470	0.888	30		
Toluene	1392	41	1381	0	101	70-125	1442	3.56	30		
Xylenes, Total	4422	120	4143	0	107	75-125	4445	0.53	30		
Surr: 1,2-Dichloroethane-d4	1481	0	1381	0	107	70-130	1445	2.45	30		
Surr: 4-Bromofluorobenzene	1456	0	1381	0	105	70-130	1414	2.93	30		
Surr: Dibromofluoromethane	1351	0	1381	0	97.8	70-130	1284	5.14	30		
Surr: Toluene-d8	1380	0	1381	0	99.9	70-130	1366	1.01	30		

The following samples were analyzed in this batch:

1611421-01A 1611421-02A 1611421-03A

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

Client: Olsson Associates
 Work Order: 1611421
 Project: UP 128X-31 Spill

QC BATCH REPORT

Batch ID: **94301** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-94301-94301					Units: s.u.		Analysis Date: 11/9/2016 03:00 PM		
Client ID:		Run ID: WETCHEM_161109P				SeqNo: 4143465		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	

pH 4.06 0 4 0 102 90-110 0

LCS		Sample ID: LCS-94301-94301				Units: s.u.		Analysis Date: 11/9/2016 03:00 PM		
Client ID:		Run ID: WETCHEM_161109P			SeqNo: 4143481		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

pH 4.06 0 4 0 102 90-110 0

DUP				Sample ID: 1611421-01A DUP				Units: s.u.			Analysis Date: 11/9/2016 03:00 PM			
Client ID: UP 128X-31-SS1				Run ID: WETCHEM_161109P				SeqNo: 4143468			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				

pH 7.87 0 0 0 0 0-0 7.86 0.127 20

DUP				Sample ID: 1611421-03A DUP				Units: s.u.			Analysis Date: 11/9/2016 03:00 PM			
Client ID: UP 128X-31-BG1				Run ID: WETCHEM_161109P				SeqNo: 4143471			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				

pH 7.31 0 0 0 0 0-0 7.19 1.66 20

DUP				Sample ID: 1611522-01A DUP				Units: s.u.			Analysis Date: 11/9/2016 03:00 PM			
Client ID:				Run ID: WETCHEM_161109P				SeqNo: 4143475			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				

pH 12.91 0 0 0 0 0-0 12.74 1.33 20

The following samples were analyzed in this batch:

1611421-01A	1611421-02A	1611421-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1611421
Project: UP 128X-31 Spill

QC BATCH REPORT

Batch ID: **94437** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP		Sample ID: 1611399-03A DUP				Units: mmhos/cm @25°		Analysis Date: 11/17/2016 04:45 PM		
Client ID:		Run ID: WETCHEM_1611170			SeqNo: 4159977		Prep Date: 11/11/2016		DF: 50	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.515	0.25	0	0	0		1.58	4.2	50	

The following samples were analyzed in this batch:

1611421-01A	1611421-02A	1611421-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
 Work Order: 1611421
 Project: UP 128X-31 Spill

QC BATCH REPORT

Batch ID: **94571** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-94571-94571				Units: mg/Kg		Analysis Date: 11/15/2016 05:00 PM		
Client ID:		Run ID: WETCHEM_161115Q		SeqNo: 4155113		Prep Date: 11/14/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 1.0

LCS		Sample ID: LCS-94571-94571				Units: mg/Kg		Analysis Date: 11/15/2016 05:00 PM		
Client ID:		Run ID: WETCHEM_161115Q		SeqNo: 4155112		Prep Date: 11/14/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.43 1.0 5 0 88.6 80-120 0

MS		Sample ID: 1611420-03A MS				Units: mg/Kg		Analysis Date: 11/15/2016 05:00 PM		
Client ID:		Run ID: WETCHEM_161115Q		SeqNo: 4155101		Prep Date: 11/14/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.222 1.0 5.051 0.02 83.2 75-125 0

MS		Sample ID: 1611420-03A MSI				Units: mg/Kg		Analysis Date: 11/15/2016 05:00 PM		
Client ID:		Run ID: WETCHEM_161115Q		SeqNo: 4155103		Prep Date: 11/14/2016		DF: 100		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1554 97 1562 0.02 99.5 75-125 0

MSD		Sample ID: 1611420-03A MSD				Units: mg/Kg		Analysis Date: 11/15/2016 05:00 PM		
Client ID:		Run ID: WETCHEM_161115Q		SeqNo: 4155102		Prep Date: 11/14/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 3.92 1.0 5 0.02 78 75-125 4.222 7.42 20

The following samples were analyzed in this batch:

1611421-01A	1611421-02A	1611421-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1611421
Project: UP 128X-31 Spill

QC BATCH REPORT

Batch ID: **R200511** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R200511				Units: % of sample		Analysis Date: 11/11/2016 05:14 PM		
Client ID:		Run ID: MOIST_161111C				SeqNo: 4150267		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-R200511				Units: % of sample			Analysis Date: 11/11/2016 05:14 PM			
Client ID:				Run ID: MOIST_161111C				SeqNo: 4150266			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: 1611420-02A DUP				Units: % of sample			Analysis Date: 11/11/2016 05:14 PM			
Client ID:				Run ID: MOIST_161111C				SeqNo: 4150247			Prep Date:		DF: 1	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 18.05 0.050 0 0 0 19.46 7.52 20

DUP				Sample ID: 1611421-02A DUP				Units: % of sample			Analysis Date: 11/11/2016 05:14 PM			
Client ID: UP 128X-31-SS2				Run ID: MOIST_161111C				SeqNo: 4150251			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Moisture 12.23 0.050 0 0 0 12.24 0.0817 20

The following samples were analyzed in this batch:

1611421-01A	1611421-02A	1611421-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.



Environmental

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 #:

1011421

Customer Information		Project Information		Parameter/Method Request for Analysis															
Purchase Order		Project Name	UP 128X-31 Spill	A. TPH (GRO & DRO)															
Work Order		Project Number	013.3287.100.100004	B. BTEX															
Company Name	Oleson Associates	Billed To Company	Oleson Associates	C. PAH (See Attached List) CO Table 910															
Send 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															
				F. pH															
City/State/Zip	Grand Junction, CO 81506	City/State/Zip	Grand Junction, CO 81506	G. Metals (See Attached List) CO Table 910															
Phone	970.263.7800	Phone	970.263.7800	H. Arsenic Only															
Fax	970.263.7456	Fax	970.263.7456	I.															
e-Mail Address	tdobransky@oaconsulting.com	e-Mail Address		J.															
No.	Sample Description	Date	Time	Matrix	Pres.	# Batches	A	B	C	D	E	F	G	H	I	J	Hold		
1	UP 128X-31- SS1	11/03/16	1400	Soil	8	2	X	X	X	X	X	X	X						
2	UP 128X-31- SS2	11/03/16	1410	Soil	8	2	X	X	X	X	X	X	X						
3	UP 128X-31- BG1	11/03/16	1420	Soil	8	2	X	X	X	X	X	X	X						
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			

Sample(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: <i>Jason McLarty</i>	Date: 11/4/16	Time: 1100	Received by: <i>[Signature]</i>	Notes: Chevron Pricing Applies - Per Bruce Schlatter
Relinquished by: <i>[Signature]</i>	Date: 11/4/16	Time: 1730	Received by (Laboratory): <i>[Signature]</i>	Cooler Temp: 32
Logged by (Laboratory): NB	Date: 11/5/16	Time: 1250	Checked by (Laboratory): <i>[Signature]</i>	QC Package: (Check Box Below) <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:

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degree C 9-5035

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

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ORIGIN ID: RILA (616) 298-1033
 NICK MARTINEZ
 ALS ENVIRONMENTAL PARACHUTE
 PARACHUTE SERVICE CENTER
 127 EAST 1ST ST
 PARACHUTE, CO 81635
 UNITED STATES US

SHIP DATE: 04NOV16
 ACTWGT: 70.00 LB
 CAD: 2264840/NET13790
 DIMS: 14x26x15 IN

BILL SENDER

TO **SAMPLE RECEIVING**
ALS ENVIRONMENTAL HOLLAND LAB
3352 128TH AVE

HOLLAND MI 49424

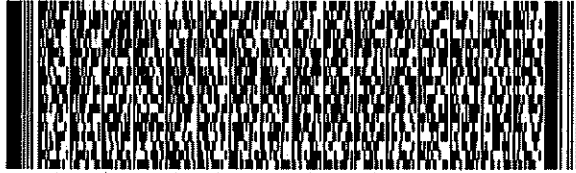
(616) 399-6070

REF: 110416-3

INV

PO: PARACHUTE

DEPT



FedEx
Express



REL#
3785346

1 of 2

TRK#

0201

7776 4460 2531

MASTER

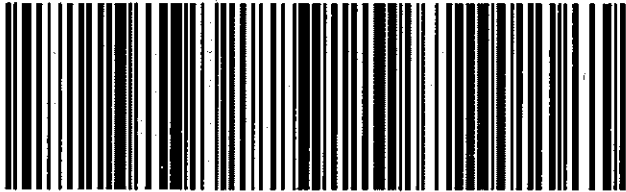
X0 HLMA

SATURDAY 12:00P
PRIORITY OVERNIGHT

49424

MI-US

GRR



544,025,061,4EB

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number. Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Sample Receipt Checklist

Client Name: **OLSSON**

Date/Time Received: **05-Nov-16 09:30**

Work Order: **1611421**

Received by: **MBB**

Checklist completed by Meghan Broadbent
eSignature

05-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>3.2/3.2</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>11/5/2016 12:52:41 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:



04-Sep-2020

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

Re: **UP 128X31 Spill Resampling**

Work Order: **20081892**

Dear Tim,

ALS Environmental received 1 sample on 24-Aug-2020 11:30 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 7.

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 128X31 Spill Resampling
Work Order: 20081892

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>
20081892-01	UP128X-31-SS1	Soil		8/19/2020 09:10	8/24/2020 11:30	<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>
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	

ALS Group, USA

Date: 04-Sep-20

Client: Entrada Consulting Group
Project: UP 128X31 Spill Resampling
Sample ID: UP128X-31-SS1
Collection Date: 8/19/2020 09:10 AM

Work Order: 20081892
Lab ID: 20081892-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
SOLUBLE CATIONS FOR SAR			Method: SW6020B		Prep: USDA Method 20B / 9/2/20		Analyst: STP
Calcium	640		2.5	5.0	mg/L	10	9/2/2020 17:18
Magnesium	5.6		0.50	2.0	mg/L	10	9/2/2020 17:18
Sodium	6.3		1.8	2.0	mg/L	10	9/2/2020 17:18
SODIUM ADSORPTION RATIO			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 9/2/20		Analyst: STP
Sodium Adsorption Ratio	0.068		0.010	0.010	none	1	9/2/2020
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 9/2/20		Analyst: QTN
Electrical Conductivity @ Saturation	3.8		0.011	0.10	mmhos/cm @25°	20	9/3/2020 15:06

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

Client: Entrada Consulting Group
Work Order: 20081892
Project: UP 128X31 Spill Resampling

QC BATCH REPORT

Batch ID: **163568** Instrument ID **ICPMS4** Method: **SW6020B**

DUP		Sample ID: 20081888-01ADUP				Units: mg/L		Analysis Date: 9/2/2020 05:09 PM		
Client ID:		Run ID: ICPMS4_200902A				SeqNo: 6680026		Prep Date: 9/2/2020		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	1332	5.0	0	0	0	0-0	1412	5.8		
Magnesium	38.85	2.0	0	0	0	0-0	40.85	5.03		
Sodium	88.29	2.0	0	0	0	0-0	89.53	1.4		

The following samples were analyzed in this batch:

20081892-01A

Batch ID: **163568** Instrument ID **SAR** Method: **USDA H60 Method**

DUP		Sample ID: 20081888-01ADUP				Units: none		Analysis Date: 9/2/2020		
Client ID:		Run ID: SAR_200902A				SeqNo: 6680070		Prep Date: 9/2/2020		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	0.6506	0.010	0	0	0		0.641	1.49	50	

The following samples were analyzed in this batch:

20081892-01A



Page 1 of 1

COC ID: 123456

York, PA
+1 717 505 5280

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Sample Receipt Checklist

Client Name: **ENTRADA**

Date/Time Received: **24-Aug-20 11:30**

Work Order: **20081892**

Received by: **DS**

Checklist completed by **Diane Shaw**

24-Aug-20

Reviewed by: **Alex J. Csaszar**

24-Aug-20

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): **5.6/5.6 c** **IR1**

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: **8/24/2020 12:48:13 PM**

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:



08-Apr-2021

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

Re: **UP 128X-31 Resampling**

Work Order: **21040273**

Dear Tim,

ALS Environmental received 1 sample on 03-Apr-2021 09:30 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 6.

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 128X-31 Resampling
Work Order: 21040273**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>
21040273-01	UP128X31-SS2	Soil		4/1/2021 13:00	4/3/2021 09:30	<input type="checkbox"/>

Client: Entrada Consulting Group
Project: UP 128X-31 Resampling
WorkOrder: 21040273

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.

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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>
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius

ALS Group, USA

Date: 08-Apr-21

Client: Entrada Consulting Group
Project: UP 128X-31 Resampling
Sample ID: UP128X31-SS2
Collection Date: 4/1/2021 01:00 PM

Work Order: 21040273
Lab ID: 21040273-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ELECTRICAL CONDUCTIVITY (SAR)							
				Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 4/8/21	Analyst: QTN
Electrical Conductivity @ Saturation	0.46		0.011	0.10	mmhos/cm @25°	20	4/8/2021 12:48

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



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

Customer Information		Project Information					Parameter/Method Request for Analysis												
Purchase Order		Project Name	UP 128X-31 Resampling					A	TPH (GRO & DRO)										
Work Order		Project Number	018-065					B	BTEX										
Company Name	Entrada Consulting Group	Bill To Company	Entrada Consulting Group					C	PAH (See Attached List) CO Table 910										
Send Report To	Tim Dobransky	Invoice Attn	Tim Dobransky					D	Electrical Conductivity										
Address	330 Grand Ave, Suite C	Address						E	Sodium Adsorption Ratio										
City/State/Zip	Grand Junction, CO 81501	City/State/Zip						F	pH										
Phone	970.270.2986	Phone						G	Metals (See Attached List) CO Table 910										
Fax		Fax						H	Arsenic Only										
e-Mail Address	tdobransky@entradainc.com	e-Mail Address	tdobransky@entradainc.com					I											
								J											
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	UP128X31-SS2	04/01/21	1300	Soil	8	1				X									
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Sampler(s): Please Print & Sign Tim Dobransky		Shipment Method: FedEx		Required Turnaround Time: <input type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input checked="" type="checkbox"/> Other <u>3 Day Rush</u>		Results Due Date:	
Relinquished by:	Date:	Time:	Received by:	Notes:			
				3 Day Rush			
Relinquished by:	Date:	Time:	Received by (Laboratory):	QC Package: (Check Box Below)			
	4-2-21	1130	4/3/21 0930	Cooler Temp. <u>12.1 4.2°C</u>			
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	<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:			
	4/5/21	0915					

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

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

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Sample Receipt Checklist

Client Name: **ENTRADA**

Date/Time Received: **03-Apr-21 09:30**

Work Order: **21040273**

Received by: **DS**

Checklist completed by **Diane Shaw**

05-Apr-21

Reviewed by: **Chad Whelton**

05-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 ☐

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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): **4.2/4.2 c** **IR1**

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: **4/5/2021 9:19:41 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: