

# Legend

- Spill Origin
- Soil Sample Location
- Spill Path

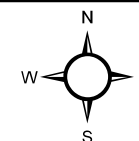
Spill 2147490

Location ID 311799

Document 2496377

0 100 200 400 Feet

1 inch = 175 feet



PROJECT NO: 013-3287

DRAWN BY: SBS

DATE: 07/14/2014

UNION PACIFIC 54-21  
SPILL RESPONSE  
CHEVRON USA, INC  
RIO BLANCO COUNTY, COLORADO  
NENW & NWNE S21 T2N R102W



Entrada Consulting Group  
240 Mesa Avenue  
Grand Junction, CO 81501  
(970) 270-2986  
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FIGURE

1

Table 1  
UP 54-21 Spill  
Soil Data Summary

SAMPLE SUMMARY																				
Location Description		UP 54-21 Spill																		
Sample Type		Soil																		

LABORATORY DATA SUMMARY																				
Sample ID	UP5421-SS1	UP5421-SS1	UP5421-SS1	UP5421-SS2	UP5421-SS2	UP5421-SS3	UP5421-SS3	UP5421-SS4	UP5421-SS4	UP5421-SS5	UP5421-SS5	UP5421-SS6	UP5421-SS6	UP5421-BG1	UP5421-BG2	UP5421-BG3	UP5421-BG4	UP5421-BG5	COGCC TABLE 910-1 CONCENTRATION LEVELS	UNITS
Depth	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"		
Sample Date	3/18/2014	5/11/2016	10/12/2017	3/18/2014	5/11/2016	3/18/2014	5/11/2016	3/18/2014	5/11/2016	3/18/2014	5/11/2016	3/18/2014	5/11/2016	3/18/2014	3/18/2014	3/18/2014	3/18/2014	3/18/2014		
Analytical Parameters																				
TPH																				
TPH Gasoline Range Organics	<2.9	NT	NT	50	NT	<2.9	NT	<3.2	NT	<3.0	NT	<3.0	NT	NT	NT	NT	NT	NT	500	mg/kg
TPH Diesel Range Organics	55	NT	NT	180	NT	280.0	NT	110	NT	<4.9	NT	19	NT	NT	NT	NT	NT	NT		
BTEX																				
Benzene	<0.035	NT	NT	<0.035	NT	<0.035	NT	<0.038	NT	<0.036	NT	<0.036	NT	NT	NT	NT	NT	NT	0.17	mg/kg
Toluene	<0.035	NT	NT	<0.035	NT	<0.035	NT	<0.038	NT	<0.036	NT	<0.036	NT	NT	NT	NT	NT	NT	85	mg/kg
Ethylbenzene	<0.035	NT	NT	<0.035	NT	<0.035	NT	<0.038	NT	<0.036	NT	<0.036	NT	NT	NT	NT	NT	NT	100	mg/kg
Total Xylene	<0.110	NT	NT	<0.110	NT	<0.100	NT	<0.110	NT	<0.110	NT	<0.110	NT	NT	NT	NT	NT	NT	175	mg/kg
Metals																				
Arsenic	7	NT	NT	8.2	NT	7.2	NT	6.9	NT	5.2	NT	5.2	NT	6.9	6.1	5.3	6.1	5.9	0.39	mg/kg
Barium	150	NT	NT	120	NT	230	NT	150	NT	110	NT	100	NT	140	NT	NT	NT	NT	15,000	mg/kg
Cadmium	<0.86	NT	NT	<0.94	NT	<0.090	NT	<1.0	NT	<0.86	NT	<0.89	NT	<0.86	NT	NT	NT	NT	70	mg/kg
Chromium	11	NT	NT	10	NT	11	NT	12	NT	10	NT	8.8	NT	13.0	NT	NT	NT	NT	NA	mg/kg
Copper	15	NT	NT	14	NT	14	NT	14	NT	12	NT	9.9	NT	15.0	NT	NT	NT	NT	3,100	mg/kg
Lead	19	NT	NT	17	NT	18	NT	19	NT	16	NT	14	NT	18.0	NT	NT	NT	NT	400	mg/kg
Mercury	0.033	NT	NT	0.038	NT	0.023	NT	0.023	NT	0.031	NT	0.026	NT	0.021	NT	NT	NT	NT	23	mg/kg
Nickel	19	NT	NT	20	NT	18	NT	18	NT	14	NT	13	NT	19.0	NT	NT	NT	NT	1,600	mg/kg
Selenium	2.4	NT	NT	<2.4	NT	<2.3	NT	<2.5	NT	2.6	NT	<2.2	NT	2.2	NT	NT	NT	NT	390	mg/kg
Silver	<2.2	NT	NT	<2.4	NT	<2.3	NT	<2.5	NT	<2.2	NT	<2.2	NT	<2.2	NT	NT	NT	NT	390	mg/kg
Zinc	87	NT	NT	79	NT	79	NT	81	NT	67	NT	59	NT	85.0	NT	NT	NT	NT	23,000	mg/kg
SAR Metals Analysis																				
Calcium	450	430	94	78	85	580	NT	61	140	18	120	40	120	68	NT	NT	NT	NT	NA	mg/L
Magnesium	260	100	13	9.5	18.0	43	NT	9.3	33.0	<4.0	28.0	5.6	25.0	8.1	NT	NT	NT	NT	NA	mg/L
Sodium	2600	1400	19	410	36	170	NT	460	18	310	33	700	39	290	NT	NT	NT	NT	NA	mg/L
Sodium Adsorption Ratio	24	15	0.50	12	0.92	1.9	NT	14	0.36	18	0.71	27	0.87	8.7	NT	NT	NT	NT	<12	ratio
Polynuclear Aromatic Hydrocarbons																				
Acenaphthene	<0.0078	NT	NT	<0.0077	NT	<0.0075	NT	<0.0083	NT	<0.0079	NT	<0.0079	NT	NT	NT	NT	NT	NT	1,000	mg/kg
Anthracene	<0.0078	NT	NT	<0.0077	NT	<0.0075	NT	<0.0083	NT	<0.0079	NT	<0.0079	NT	NT	NT	NT	NT	NT	1,000	mg/kg
Benzo(a)anthracene	<0.0078	NT	NT	<0.0077	NT	<0.0075	NT	<0.0083	NT	<0.0079	NT	<0.0079	NT	NT	NT	NT	NT	NT	0.22	mg/kg
Benzo(a)pyrene	<0.0078	NT	NT	<0.0077	NT	<0.0075	NT	<0.0083	NT	<0.0079	NT	<0.0079	NT	NT	NT	NT	NT	NT	0.022	mg/kg
Benzo(b)fluoranthene	<0.0078	NT	NT	<0.0077	NT	<0.0075	NT	<0.0083	NT	<0.0079	NT	<0.0079	NT	NT	NT	NT	NT	NT	0.22	mg/kg
Benzo(k)fluoranthene	<0.0078	NT	NT	<0.0077	NT	<0.0075	NT	<0.0083	NT	<0.0079	NT	<0.0079	NT	NT	NT	NT	NT	NT	2.2	mg/kg
Chrysene	<0.0078	NT	NT	<0.0077	NT	<0.0075	NT	<0.0083	NT	<0.0079	NT	<0.0079	NT	NT	NT	NT	NT	NT	22	mg/kg
Dibenzo(a,h)anthracene	<0.0078	NT	NT	<0.0077	NT	<0.0075	NT	<0.0083	NT	<0.0079	NT	<0.0079	NT	NT	NT	NT	NT	NT	0.022	mg/kg
Fluoranthene	<0.0078	NT	NT	<0.0077	NT	<0.0075	NT	<0.0083	NT	<0.0079	NT	<0.0079	NT	NT	NT	NT	NT	NT	1,000	mg/kg
Fluorene	<0.0078	NT	NT	<0.0077	NT	<0.0075	NT	<0.0083	NT	<0.0079	NT	<0.0079	NT	NT	NT	NT	NT	NT	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	<0.0078	NT	NT	<0.0077	NT	<0.0075	NT	<0.0083	NT	<0.0079	NT	<0.0079	NT	NT	NT	NT	NT	NT	0.22	mg/kg
Napthalene	<0.034	NT	NT	<0.0077	NT	<0.0075	NT	<0.0083	NT	<0.0079	NT	<0.0079	NT	NT	NT	NT	NT	NT	23	mg/kg
Pyrene	<0.0078	NT	NT	<0.0077	NT	<0.0075	NT	<0.0083	NT	<0.0079	NT	<0.0079	NT	NT	NT	NT	NT	NT	1,000	mg/kg
General Chemistry																				
Chromium, Hexavalent	<0.59	NT	NT	<0.58	NT	<0.58	NT	<0.65	NT	<0.59	NT	<0.61	NT	<0.58	NT	NT	NT	NT	23	mg/kg
Chromium, Trivalent	11	NT	NT	10	NT	11	NT	12	NT	10	NT	8.8	NT	13	NT	NT	NT	NT	120,000	mg/kg
Specific Conductivity	16	10	0.75	2.6	NT	4.5	1.0	2.3	NT	1.6	NT	3.4	NT	2	NT	NT	NT	NT	<4 or 2 x the background	mmhos/cm
pH	8.4	NT	NT	8.1	NT	8.8	NT	9.1	8.2	9.3	8.2	9	NT	8.5	NT	NT	NT	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



01-Apr-2014

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

Re: **Chevron UP 54-21 Spill 3.18.14**

Work Order: **1403953**

Dear Tim,

ALS Environmental received 11 samples on 21-Mar-2014 09:00 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 NELAP standard requirements and QC 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 47.

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

Sincerely,

A handwritten signature in cursive script that reads "Ann Preston".

Electronically approved by: Ann Preston

Ann Preston  
Project Manager



Certificate No: MN 532786

### Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

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

Environmental The ALS logo, a stylized blue triangle with a yellow flame inside.

[www.alsglobal.com](http://www.alsglobal.com)

RIGHT SOLUTIONS RIGHT PARTNER

**Client:** Olsson Associates  
**Project:** Chevron UP 54-21 Spill 3.18.14  
**Work Order:** 1403953

**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>
1403953-01	UP5421-SS1	Soil		3/18/2014 11:55	3/21/2014 09:00	<input type="checkbox"/>
1403953-02	UP5421-BG1	Soil		3/18/2014 12:00	3/21/2014 09:00	<input type="checkbox"/>
1403953-03	UP5421-SS2	Soil		3/18/2014 12:15	3/21/2014 09:00	<input type="checkbox"/>
1403953-04	UP5421-BG2	Soil		3/18/2014 12:20	3/21/2014 09:00	<input type="checkbox"/>
1403953-05	UP5421-SS3	Soil		3/18/2014 12:30	3/21/2014 09:00	<input type="checkbox"/>
1403953-06	UP5421-BG3	Soil		3/18/2014 12:40	3/21/2014 09:00	<input type="checkbox"/>
1403953-07	UP5421-SS4	Soil		3/18/2014 12:50	3/21/2014 09:00	<input type="checkbox"/>
1403953-08	UP5421-SS5	Soil		3/18/2014 13:50	3/21/2014 09:00	<input type="checkbox"/>
1403953-09	UP5421-BG4	Soil		3/18/2014 13:00	3/21/2014 09:00	<input type="checkbox"/>
1403953-10	UP5421-SS6	Soil		3/18/2014 14:20	3/21/2014 09:00	<input type="checkbox"/>
1403953-11	UP5421-BG5	Soil		3/18/2014 14:00	3/21/2014 09:00	<input type="checkbox"/>

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**Client:** Olsson Associates  
**Project:** Chevron UP 54-21 Spill 3.18.14  
**Work Order:** 1403953

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**Case Narrative**

Batch 56820 MS/MSD data for DRO is not related to this project's samples. No data requires qualification.

Batch 56890 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Batch 56891 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Batch 56898 MS/MSD data for Hexavalent Chromium is not related to this project's samples. No data requires qualification.

Batch 57006 MS/MSD data for Hexavalent Chromium is not related to this project's samples. No data requires qualification.

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**Client:** Olsson Associates  
**Project:** Chevron UP 54-21 Spill 3.18.14  
**WorkOrder:** 1403953

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**QUALIFIERS,  
ACRONYMS, UNITS**

<b><u>Qualifier</u></b>	<b><u>Description</u></b>
*	Value exceeds Regulatory Limit
a	Not accredited
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
n	Not offered for accreditation
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

<b><u>Acronym</u></b>	<b><u>Description</u></b>
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

<b><u>Units Reported</u></b>	<b><u>Description</u></b>
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
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, Corp

Date: 01-Apr-14

Client: Olsson Associates

Project: Chevron UP 54-21 Spill 3.18.14

Sample ID: UP5421-SS1

Collection Date: 3/18/2014 11:55 AM

Work Order: 1403953

Lab ID: 1403953-01

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>55</b>		<b>SW8015M</b>		Prep: SW3541 / 3/24/14	Analyst: <b>IT</b>
<i>Surr: 4-Terphenyl-d14</i>	75.7		4.9	mg/Kg-dry	1	3/25/2014 05:38 PM
			39-115	%REC	1	3/25/2014 05:38 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015</b>		Prep: SW5035 / 3/21/14	Analyst: <b>IT</b>
<i>Surr: Toluene-d8</i>	116		2.9	mg/Kg-dry	1	3/25/2014 03:09 AM
			50-150	%REC	1	3/25/2014 03:09 AM
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>0.033</b>		<b>SW7471</b>		Prep: SW7471 / 3/27/14	Analyst: <b>LR</b>
			0.018	mg/Kg-dry	1	3/27/2014 02:02 PM
<b>METALS BY ICP-MS</b>						
<b>Arsenic</b>	<b>7.0</b>		<b>SW6020A</b>		Prep: SW3050B / 3/25/14	Analyst: <b>ML</b>
<b>Barium</b>	<b>150</b>		2.2	mg/Kg-dry	5	3/26/2014 05:09 PM
<b>Cadmium</b>	<b>ND</b>		2.2	mg/Kg-dry	5	3/26/2014 05:09 PM
<b>Chromium</b>	<b>11</b>		0.86	mg/Kg-dry	5	3/26/2014 05:09 PM
<b>Copper</b>	<b>15</b>		2.2	mg/Kg-dry	5	3/26/2014 05:09 PM
<b>Lead</b>	<b>19</b>		2.2	mg/Kg-dry	5	3/26/2014 05:09 PM
<b>Nickel</b>	<b>19</b>		2.2	mg/Kg-dry	5	3/26/2014 05:09 PM
<b>Selenium</b>	<b>2.4</b>		2.2	mg/Kg-dry	5	3/26/2014 05:09 PM
<b>Silver</b>	<b>ND</b>		2.2	mg/Kg-dry	5	3/26/2014 05:09 PM
<b>Zinc</b>	<b>87</b>		4.3	mg/Kg-dry	5	3/26/2014 05:09 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW6020A</b>		Prep: USDA Method 20B / 3/27/14	Analyst: <b>ML</b>
<b>Calcium</b>	<b>450</b>		10	mg/L	20	3/27/2014 02:36 PM
<b>Magnesium</b>	<b>260</b>		4.0	mg/L	20	3/27/2014 02:36 PM
<b>Sodium</b>	<b>2,600</b>		4.0	mg/L	20	3/27/2014 02:36 PM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 3/27/14	Analyst: <b>ML</b>
<b>Sodium Adsorption Ratio</b>	<b>24</b>		0.010	none	1	3/27/2014
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep: SW3541 / 3/24/14	Analyst: <b>RM</b>
<b>Acenaphthene</b>	<b>ND</b>		7.8	µg/Kg-dry	1	3/26/2014 12:55 AM
<b>Anthracene</b>	<b>ND</b>		7.8	µg/Kg-dry	1	3/26/2014 12:55 AM
<b>Benzo(a)anthracene</b>	<b>ND</b>		7.8	µg/Kg-dry	1	3/26/2014 12:55 AM
<b>Benzo(a)pyrene</b>	<b>ND</b>		7.8	µg/Kg-dry	1	3/26/2014 12:55 AM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		7.8	µg/Kg-dry	1	3/26/2014 12:55 AM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		7.8	µg/Kg-dry	1	3/26/2014 12:55 AM
<b>Chrysene</b>	<b>ND</b>		7.8	µg/Kg-dry	1	3/26/2014 12:55 AM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		7.8	µg/Kg-dry	1	3/26/2014 12:55 AM
<b>Fluoranthene</b>	<b>ND</b>		7.8	µg/Kg-dry	1	3/26/2014 12:55 AM

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



# ALS Group USA, Corp

Date: 01-Apr-14

**Client:** Olsson Associates  
**Project:** Chevron UP 54-21 Spill 3.18.14  
**Sample ID:** UP5421-SS1  
**Collection Date:** 3/18/2014 11:55 AM

**Work Order:** 1403953  
**Lab ID:** 1403953-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		7.8	µg/Kg-dry	1	3/26/2014 12:55 AM
Indeno(1,2,3-cd)pyrene	ND		7.8	µg/Kg-dry	1	3/26/2014 12:55 AM
<b>Naphthalene</b>	<b>34</b>		<b>7.8</b>	<b>µg/Kg-dry</b>	<b>1</b>	3/26/2014 12:55 AM
Pyrene	ND		7.8	µg/Kg-dry	1	3/26/2014 12:55 AM
Surr: 2-Fluorobiphenyl	81.0		12-100	%REC	1	3/26/2014 12:55 AM
Surr: 4-Terphenyl-d14	92.2		25-137	%REC	1	3/26/2014 12:55 AM
Surr: Nitrobenzene-d5	72.1		37-107	%REC	1	3/26/2014 12:55 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 3/21/14	Analyst: <b>RS</b>	
Benzene	ND		35	µg/Kg-dry	1	3/26/2014 04:16 AM
Ethylbenzene	ND		35	µg/Kg-dry	1	3/26/2014 04:16 AM
m,p-Xylene	ND		70	µg/Kg-dry	1	3/26/2014 04:16 AM
o-Xylene	ND		35	µg/Kg-dry	1	3/26/2014 04:16 AM
Toluene	ND		35	µg/Kg-dry	1	3/26/2014 04:16 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	3/26/2014 04:16 AM
Surr: 1,2-Dichloroethane-d4	105		70-130	%REC	1	3/26/2014 04:16 AM
Surr: 4-Bromofluorobenzene	93.6		70-130	%REC	1	3/26/2014 04:16 AM
Surr: Dibromofluoromethane	97.2		70-130	%REC	1	3/26/2014 04:16 AM
Surr: Toluene-d8	100		70-130	%REC	1	3/26/2014 04:16 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 3/27/14	Analyst: <b>JB</b>	
Electrical Conductivity @ Saturation	16		0.050	mmhos/cm @25	10	3/27/2014 04:50 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>	Analyst: <b>MB</b>		
Chromium, Trivalent	11		0.58	mg/Kg-dry	1	3/27/2014 03:00 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 3/25/14	Analyst: <b>MB</b>	
Chromium, Hexavalent	ND		0.59	mg/Kg-dry	1	3/26/2014 03:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>	Analyst: <b>AT</b>		
Moisture	14		0.050	% of sample	1	3/24/2014 12:44 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 3/24/14	Analyst: <b>AT</b>	
pH	8.4			s.u.	1	3/24/2014 03:00 PM

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

# ALS Group USA, Corp

Date: 01-Apr-14

**Client:** Olsson Associates  
**Project:** Chevron UP 54-21 Spill 3.18.14  
**Sample ID:** UP5421-BG1  
**Collection Date:** 3/18/2014 12:00 PM

**Work Order:** 1403953  
**Lab ID:** 1403953-02  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MERCURY BY CVAA</b>						
Mercury	0.021		SW7471 0.018	mg/Kg-dry	Prep: SW7471 / 3/27/14 1	Analyst: LR 3/27/2014 02:09 PM
<b>METALS BY ICP-MS</b>						
Arsenic	6.9		SW6020A 2.2	mg/Kg-dry	Prep: SW3050B / 3/25/14 5	Analyst: ML 3/26/2014 05:15 PM
Barium	140		2.2	mg/Kg-dry	5	3/26/2014 05:15 PM
Cadmium	ND		0.86	mg/Kg-dry	5	3/26/2014 05:15 PM
Chromium	13		2.2	mg/Kg-dry	5	3/26/2014 05:15 PM
Copper	15		2.2	mg/Kg-dry	5	3/26/2014 05:15 PM
Lead	18		2.2	mg/Kg-dry	5	3/26/2014 05:15 PM
Nickel	19		2.2	mg/Kg-dry	5	3/26/2014 05:15 PM
Selenium	2.2		2.2	mg/Kg-dry	5	3/26/2014 05:15 PM
Silver	ND		2.2	mg/Kg-dry	5	3/26/2014 05:15 PM
Zinc	85		4.3	mg/Kg-dry	5	3/26/2014 05:15 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
Calcium	68		SW6020A 10	mg/L	Prep: USDA Method 20B / 3/27/14 20	Analyst: ML 3/27/2014 02:42 PM
Magnesium	8.1		4.0	mg/L	20	3/27/2014 02:42 PM
Sodium	290		4.0	mg/L	20	3/27/2014 02:42 PM
<b>SODIUM ADSORPTION RATIO</b>						
Sodium Adsorption Ratio	8.7		USDA H60 METHO 0.010	none	Prep: USDA Method 20B / 3/27/14 1	Analyst: ML 3/27/2014
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>						
Electrical Conductivity @ Saturation	2.0		USDA H60 METHO 0.050	mmhos/cm @25	Prep: USDA Method 20B / 3/27/14 10	Analyst: JB 3/27/2014 04:50 PM
<b>CHROMIUM, TRIVALENT</b>						
Chromium, Trivalent	13		CALCULATION 0.57	mg/Kg-dry	1	Analyst: MB 3/27/2014 03:00 PM
<b>CHROMIUM, HEXAVALENT</b>						
Chromium, Hexavalent	ND		SW7196A 0.58	mg/Kg-dry	Prep: SW3060A / 3/25/14 1	Analyst: MB 3/26/2014 03:00 PM
<b>MOISTURE</b>						
Moisture	12		A2540 G 0.050	% of sample	1	Analyst: AT 3/24/2014 12:44 PM
<b>PH</b>						
pH	8.5		SW9045D	s.u.	Prep: EXTRACT / 3/24/14 1	Analyst: AT 3/24/2014 03:00 PM

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

# ALS Group USA, Corp

Date: 01-Apr-14

Client: Olsson Associates

Project: Chevron UP 54-21 Spill 3.18.14

Sample ID: UP5421-SS2

Collection Date: 3/18/2014 12:15 PM

Work Order: 1403953

Lab ID: 1403953-03

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>180</b>		<b>19</b>	<b>mg/Kg-dry</b>	<b>4</b>	<b>3/26/2014 02:05 AM</b>
Surr: 4-Terphenyl-d14	80.0		39-115	%REC	4	3/26/2014 02:05 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>50</b>		<b>2.9</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>3/26/2014 07:13 AM</b>
Surr: Toluene-d8	122		50-150	%REC	1	3/26/2014 07:13 AM
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>0.038</b>		<b>0.019</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>3/27/2014 02:11 PM</b>
<b>METALS BY ICP-MS</b>						
<b>Arsenic</b>	<b>8.2</b>		<b>2.4</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>3/26/2014 05:21 PM</b>
<b>Barium</b>	<b>120</b>		<b>2.4</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>3/26/2014 05:21 PM</b>
Cadmium	ND		0.94	mg/Kg-dry	5	3/26/2014 05:21 PM
<b>Chromium</b>	<b>10</b>		<b>2.4</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>3/26/2014 05:21 PM</b>
<b>Copper</b>	<b>14</b>		<b>2.4</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>3/26/2014 05:21 PM</b>
<b>Lead</b>	<b>17</b>		<b>2.4</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>3/26/2014 05:21 PM</b>
<b>Nickel</b>	<b>20</b>		<b>2.4</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>3/26/2014 05:21 PM</b>
Selenium	ND		2.4	mg/Kg-dry	5	3/26/2014 05:21 PM
Silver	ND		2.4	mg/Kg-dry	5	3/26/2014 05:21 PM
<b>Zinc</b>	<b>79</b>		<b>4.7</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>3/26/2014 05:21 PM</b>
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW6020A</b>		Prep: USDA Method 20B / 3/27/14	Analyst: <b>ML</b>
<b>Calcium</b>	<b>78</b>		<b>10</b>	<b>mg/L</b>	<b>20</b>	<b>3/27/2014 02:49 PM</b>
<b>Magnesium</b>	<b>9.5</b>		<b>4.0</b>	<b>mg/L</b>	<b>20</b>	<b>3/27/2014 02:49 PM</b>
<b>Sodium</b>	<b>410</b>		<b>4.0</b>	<b>mg/L</b>	<b>20</b>	<b>3/27/2014 02:49 PM</b>
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 3/27/14	Analyst: <b>ML</b>
<b>Sodium Adsorption Ratio</b>	<b>12</b>		<b>0.010</b>	<b>none</b>	<b>1</b>	<b>3/27/2014</b>
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep: SW3541 / 3/25/14	Analyst: <b>HL</b>
Acenaphthene	ND		7.7	µg/Kg-dry	1	3/26/2014 08:34 PM
Anthracene	ND		7.7	µg/Kg-dry	1	3/26/2014 08:34 PM
Benzo(a)anthracene	ND		7.7	µg/Kg-dry	1	3/26/2014 08:34 PM
Benzo(a)pyrene	ND		7.7	µg/Kg-dry	1	3/26/2014 08:34 PM
Benzo(b)fluoranthene	ND		7.7	µg/Kg-dry	1	3/26/2014 08:34 PM
Benzo(k)fluoranthene	ND		7.7	µg/Kg-dry	1	3/26/2014 08:34 PM
Chrysene	ND		7.7	µg/Kg-dry	1	3/26/2014 08:34 PM
Dibenzo(a,h)anthracene	ND		7.7	µg/Kg-dry	1	3/26/2014 08:34 PM
Fluoranthene	ND		7.7	µg/Kg-dry	1	3/26/2014 08:34 PM

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

# ALS Group USA, Corp

Date: 01-Apr-14

**Client:** Olsson Associates  
**Project:** Chevron UP 54-21 Spill 3.18.14  
**Sample ID:** UP5421-SS2  
**Collection Date:** 3/18/2014 12:15 PM

**Work Order:** 1403953  
**Lab ID:** 1403953-03  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		7.7	µg/Kg-dry	1	3/26/2014 08:34 PM
Indeno(1,2,3-cd)pyrene	ND		7.7	µg/Kg-dry	1	3/26/2014 08:34 PM
Naphthalene	ND		7.7	µg/Kg-dry	1	3/26/2014 08:34 PM
Pyrene	ND		7.7	µg/Kg-dry	1	3/26/2014 08:34 PM
Surr: 2-Fluorobiphenyl	75.6		12-100	%REC	1	3/26/2014 08:34 PM
Surr: 4-Terphenyl-d14	95.9		25-137	%REC	1	3/26/2014 08:34 PM
Surr: Nitrobenzene-d5	67.1		37-107	%REC	1	3/26/2014 08:34 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 3/21/14		Analyst: <b>BG</b>
Benzene	ND		35	µg/Kg-dry	1	3/25/2014 05:54 AM
Ethylbenzene	ND		35	µg/Kg-dry	1	3/25/2014 05:54 AM
m,p-Xylene	ND		71	µg/Kg-dry	1	3/25/2014 05:54 AM
o-Xylene	ND		35	µg/Kg-dry	1	3/25/2014 05:54 AM
Toluene	ND		35	µg/Kg-dry	1	3/25/2014 05:54 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	3/25/2014 05:54 AM
Surr: 1,2-Dichloroethane-d4	100		70-130	%REC	1	3/25/2014 05:54 AM
Surr: 4-Bromofluorobenzene	97.9		70-130	%REC	1	3/25/2014 05:54 AM
Surr: Dibromofluoromethane	97.3		70-130	%REC	1	3/25/2014 05:54 AM
Surr: Toluene-d8	98.2		70-130	%REC	1	3/25/2014 05:54 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 3/27/14		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	2.6		0.050	mmhos/cm @25	10	3/27/2014 04:50 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>MB</b>
Chromium, Trivalent	10		0.59	mg/Kg-dry	1	3/27/2014 03:00 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 3/25/14		Analyst: <b>MB</b>
Chromium, Hexavalent	ND		0.58	mg/Kg-dry	1	3/26/2014 03:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>AT</b>
Moisture	15		0.050	% of sample	1	3/24/2014 12:44 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 3/24/14		Analyst: <b>AT</b>
pH	8.1			s.u.	1	3/24/2014 03:00 PM

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

**ALS Group USA, Corp**

Date: 01-Apr-14

Client: Olsson Associates

Project: Chevron UP 54-21 Spill 3.18.14

Sample ID: UP5421-BG2

Collection Date: 3/18/2014 12:20 PM

Work Order: 1403953

Lab ID: 1403953-04

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep: SW3050B / 3/25/14	Analyst: <b>ML</b>
Arsenic	6.1		2.1	mg/Kg-dry	5	3/26/2014 05:27 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>AT</b>
Moisture	10		0.050	% of sample	1	3/24/2014 09:30 AM

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

# ALS Group USA, Corp

Date: 01-Apr-14

Client: Olsson Associates

Project: Chevron UP 54-21 Spill 3.18.14

Sample ID: UP5421-SS3

Collection Date: 3/18/2014 12:30 PM

Work Order: 1403953

Lab ID: 1403953-05

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>280</b>		<b>24</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>3/26/2014 11:06 AM</b>
Surr: 4-Terphenyl-d14	78.1		39-115	%REC	5	3/26/2014 11:06 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>2.9</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>3/26/2014 07:39 AM</b>
Surr: Toluene-d8	113		50-150	%REC	1	3/26/2014 07:39 AM
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>0.023</b>		<b>0.016</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>3/27/2014 02:14 PM</b>
<b>METALS BY ICP-MS</b>						
<b>Arsenic</b>	<b>7.2</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>3/26/2014 05:33 PM</b>
<b>Barium</b>	<b>230</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>3/26/2014 05:33 PM</b>
Cadmium	ND		0.90	mg/Kg-dry	5	3/26/2014 05:33 PM
<b>Chromium</b>	<b>11</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>3/26/2014 05:33 PM</b>
<b>Copper</b>	<b>14</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>3/26/2014 05:33 PM</b>
<b>Lead</b>	<b>18</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>3/26/2014 05:33 PM</b>
<b>Nickel</b>	<b>18</b>		<b>2.3</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>3/26/2014 05:33 PM</b>
Selenium	ND		2.3	mg/Kg-dry	5	3/26/2014 05:33 PM
Silver	ND		2.3	mg/Kg-dry	5	3/26/2014 05:33 PM
<b>Zinc</b>	<b>79</b>		<b>4.5</b>	<b>mg/Kg-dry</b>	<b>5</b>	<b>3/26/2014 05:33 PM</b>
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW6020A</b>		Prep: USDA Method 20B / 3/27/14	Analyst: <b>ML</b>
<b>Calcium</b>	<b>580</b>		<b>10</b>	<b>mg/L</b>	<b>20</b>	<b>3/27/2014 03:32 PM</b>
<b>Magnesium</b>	<b>43</b>		<b>4.0</b>	<b>mg/L</b>	<b>20</b>	<b>3/27/2014 03:32 PM</b>
<b>Sodium</b>	<b>170</b>		<b>4.0</b>	<b>mg/L</b>	<b>20</b>	<b>3/27/2014 03:32 PM</b>
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 3/27/14	Analyst: <b>ML</b>
<b>Sodium Adsorption Ratio</b>	<b>1.9</b>		<b>0.010</b>	<b>none</b>	<b>1</b>	<b>3/27/2014</b>
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW8270</b>		Prep: SW3541 / 3/25/14	Analyst: <b>HL</b>
Acenaphthene	ND		7.5	µg/Kg-dry	1	3/26/2014 05:44 PM
Anthracene	ND		7.5	µg/Kg-dry	1	3/26/2014 05:44 PM
Benzo(a)anthracene	ND		7.5	µg/Kg-dry	1	3/26/2014 05:44 PM
Benzo(a)pyrene	ND		7.5	µg/Kg-dry	1	3/26/2014 05:44 PM
Benzo(b)fluoranthene	ND		7.5	µg/Kg-dry	1	3/26/2014 05:44 PM
Benzo(k)fluoranthene	ND		7.5	µg/Kg-dry	1	3/26/2014 05:44 PM
Chrysene	ND		7.5	µg/Kg-dry	1	3/26/2014 05:44 PM
Dibenzo(a,h)anthracene	ND		7.5	µg/Kg-dry	1	3/26/2014 05:44 PM
Fluoranthene	ND		7.5	µg/Kg-dry	1	3/26/2014 05:44 PM

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

# ALS Group USA, Corp

Date: 01-Apr-14

Client: Olsson Associates

Project: Chevron UP 54-21 Spill 3.18.14

Sample ID: UP5421-SS3

Collection Date: 3/18/2014 12:30 PM

Work Order: 1403953

Lab ID: 1403953-05

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		7.5	µg/Kg-dry	1	3/26/2014 05:44 PM
Indeno(1,2,3-cd)pyrene	ND		7.5	µg/Kg-dry	1	3/26/2014 05:44 PM
Naphthalene	ND		7.5	µg/Kg-dry	1	3/26/2014 05:44 PM
Pyrene	ND		7.5	µg/Kg-dry	1	3/26/2014 05:44 PM
Surr: 2-Fluorobiphenyl	87.8		12-100	%REC	1	3/26/2014 05:44 PM
Surr: 4-Terphenyl-d14	122		25-137	%REC	1	3/26/2014 05:44 PM
Surr: Nitrobenzene-d5	56.1		37-107	%REC	1	3/26/2014 05:44 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 3/21/14		Analyst: <b>BG</b>
Benzene	ND		35	µg/Kg-dry	1	3/25/2014 06:20 AM
Ethylbenzene	ND		35	µg/Kg-dry	1	3/25/2014 06:20 AM
m,p-Xylene	ND		70	µg/Kg-dry	1	3/25/2014 06:20 AM
o-Xylene	ND		35	µg/Kg-dry	1	3/25/2014 06:20 AM
Toluene	ND		35	µg/Kg-dry	1	3/25/2014 06:20 AM
Xylenes, Total	ND		100	µg/Kg-dry	1	3/25/2014 06:20 AM
Surr: 1,2-Dichloroethane-d4	100		70-130	%REC	1	3/25/2014 06:20 AM
Surr: 4-Bromofluorobenzene	99.3		70-130	%REC	1	3/25/2014 06:20 AM
Surr: Dibromofluoromethane	95.5		70-130	%REC	1	3/25/2014 06:20 AM
Surr: Toluene-d8	99.6		70-130	%REC	1	3/25/2014 06:20 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 3/27/14		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	4.5		0.050	mmhos/cm @25	10	3/27/2014 04:50 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>MB</b>
Chromium, Trivalent	11		0.58	mg/Kg-dry	1	3/27/2014 03:00 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 3/25/14		Analyst: <b>MB</b>
Chromium, Hexavalent	ND		0.58	mg/Kg-dry	1	3/26/2014 03:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>AT</b>
Moisture	14		0.050	% of sample	1	3/24/2014 12:44 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 3/24/14		Analyst: <b>AT</b>
pH	8.8			s.u.	1	3/24/2014 03:00 PM

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

## ALS Group USA, Corp

Date: 01-Apr-14

Client: Olsson Associates

Project: Chevron UP 54-21 Spill 3.18.14

Sample ID: UP5421-BG3

Collection Date: 3/18/2014 12:40 PM

Work Order: 1403953

Lab ID: 1403953-06

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep: SW3050B / 3/25/14	Analyst: <b>ML</b>
Arsenic	5.3		2.1	mg/Kg-dry	5	3/26/2014 05:39 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>AT</b>
Moisture	11		0.050	% of sample	1	3/24/2014 09:30 AM

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



# ALS Group USA, Corp

Date: 01-Apr-14

Client: Olsson Associates

Project: Chevron UP 54-21 Spill 3.18.14

Sample ID: UP5421-SS4

Collection Date: 3/18/2014 12:50 PM

Work Order: 1403953

Lab ID: 1403953-07

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>110</b>		<b>SW8015M</b>		Prep: SW3541 / 3/25/14	Analyst: <b>IT</b>
<i>Surr: 4-Terphenyl-d14</i>	<i>74.8</i>		<i>39-115</i>	<i>%REC</i>	<i>1</i>	<i>3/26/2014 01:36 AM</i>
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015</b>		Prep: SW5035 / 3/21/14	Analyst: <b>IT</b>
<i>Surr: Toluene-d8</i>	<i>112</i>		<i>50-150</i>	<i>%REC</i>	<i>1</i>	<i>3/26/2014 08:04 AM</i>
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>0.023</b>		<b>SW7471</b>		Prep: SW7471 / 3/27/14	Analyst: <b>LR</b>
<b>METALS BY ICP-MS</b>						
<b>Arsenic</b>	<b>6.9</b>		<b>SW6020A</b>		Prep: SW3050B / 3/25/14	Analyst: <b>ML</b>
<b>Barium</b>	<b>150</b>					
<b>Cadmium</b>	<b>ND</b>					
<b>Chromium</b>	<b>12</b>					
<b>Copper</b>	<b>14</b>					
<b>Lead</b>	<b>19</b>					
<b>Nickel</b>	<b>18</b>					
<b>Selenium</b>	<b>ND</b>					
<b>Silver</b>	<b>ND</b>					
<b>Zinc</b>	<b>81</b>					
<b>SOLUBLE CATIONS FOR SAR</b>						
<b>Calcium</b>	<b>61</b>		<b>SW6020A</b>		Prep: USDA Method 20B / 3/27/14	Analyst: <b>ML</b>
<b>Magnesium</b>	<b>9.3</b>					
<b>Sodium</b>	<b>460</b>					
<b>SODIUM ADSORPTION RATIO</b>						
<b>Sodium Adsorption Ratio</b>	<b>14</b>		<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 3/27/14	Analyst: <b>ML</b>
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
<b>Acenaphthene</b>	<b>ND</b>		<b>SW8270</b>		Prep: SW3541 / 3/25/14	Analyst: <b>HL</b>
<b>Anthracene</b>	<b>ND</b>					
<b>Benzo(a)anthracene</b>	<b>ND</b>					
<b>Benzo(a)pyrene</b>	<b>ND</b>					
<b>Benzo(b)fluoranthene</b>	<b>ND</b>					
<b>Benzo(k)fluoranthene</b>	<b>ND</b>					
<b>Chrysene</b>	<b>ND</b>					
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>					
<b>Fluoranthene</b>	<b>ND</b>					

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

# ALS Group USA, Corp

Date: 01-Apr-14

Client: Olsson Associates

Project: Chevron UP 54-21 Spill 3.18.14

Sample ID: UP5421-SS4

Collection Date: 3/18/2014 12:50 PM

Work Order: 1403953

Lab ID: 1403953-07

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		8.3	µg/Kg-dry	1	3/26/2014 06:07 PM
Indeno(1,2,3-cd)pyrene	ND		8.3	µg/Kg-dry	1	3/26/2014 06:07 PM
Naphthalene	ND		8.3	µg/Kg-dry	1	3/26/2014 06:07 PM
Pyrene	ND		8.3	µg/Kg-dry	1	3/26/2014 06:07 PM
Surr: 2-Fluorobiphenyl	69.3		12-100	%REC	1	3/26/2014 06:07 PM
Surr: 4-Terphenyl-d14	113		25-137	%REC	1	3/26/2014 06:07 PM
Surr: Nitrobenzene-d5	46.7		37-107	%REC	1	3/26/2014 06:07 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 3/21/14		Analyst: <b>BG</b>
Benzene	ND		38	µg/Kg-dry	1	3/25/2014 06:47 AM
Ethylbenzene	ND		38	µg/Kg-dry	1	3/25/2014 06:47 AM
m,p-Xylene	ND		77	µg/Kg-dry	1	3/25/2014 06:47 AM
o-Xylene	ND		38	µg/Kg-dry	1	3/25/2014 06:47 AM
Toluene	ND		38	µg/Kg-dry	1	3/25/2014 06:47 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	3/25/2014 06:47 AM
Surr: 1,2-Dichloroethane-d4	100		70-130	%REC	1	3/25/2014 06:47 AM
Surr: 4-Bromofluorobenzene	97.9		70-130	%REC	1	3/25/2014 06:47 AM
Surr: Dibromofluoromethane	95.6		70-130	%REC	1	3/25/2014 06:47 AM
Surr: Toluene-d8	97.8		70-130	%REC	1	3/25/2014 06:47 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 3/27/14		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	2.3		0.25	mmhos/cm @25	50	3/27/2014 04:50 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>MB</b>
Chromium, Trivalent	12		0.64	mg/Kg-dry	1	3/27/2014 03:00 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 3/25/14		Analyst: <b>MB</b>
Chromium, Hexavalent	ND		0.65	mg/Kg-dry	1	3/26/2014 03:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>AT</b>
Moisture	22		0.050	% of sample	1	3/24/2014 12:44 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 3/24/14		Analyst: <b>AT</b>
pH	9.1			s.u.	1	3/24/2014 03:00 PM

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

# ALS Group USA, Corp

Date: 01-Apr-14

Client: Olsson Associates

Project: Chevron UP 54-21 Spill 3.18.14

Sample ID: UP5421-SS5

Collection Date: 3/18/2014 01:50 PM

Work Order: 1403953

Lab ID: 1403953-08

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
DRO (C10-C28)	ND		SW8015M	4.9 mg/Kg-dry	Prep: SW3541 / 3/25/14	Analyst: IT
Surr: 4-Terphenyl-d14	69.5		39-115	%REC	1	3/26/2014 10:06 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
GRO (C6-C10)	ND		SW8015	3.0 mg/Kg-dry	Prep: SW5035 / 3/21/14	Analyst: IT
Surr: Toluene-d8	121		50-150	%REC	1	3/26/2014 08:30 AM
<b>MERCURY BY CVAA</b>						
Mercury	0.031		SW7471	0.016 mg/Kg-dry	Prep: SW7471 / 3/27/14	Analyst: LR
<b>METALS BY ICP-MS</b>						
Arsenic	5.2		SW6020A	2.2 mg/Kg-dry	Prep: SW3050B / 3/25/14	Analyst: ML
Barium	110			2.2 mg/Kg-dry	5	3/26/2014 05:06 AM
Cadmium	ND			0.86 mg/Kg-dry	5	3/26/2014 05:06 AM
Chromium	10			2.2 mg/Kg-dry	5	3/26/2014 05:06 AM
Copper	12			2.2 mg/Kg-dry	5	3/26/2014 05:06 AM
Lead	16			2.2 mg/Kg-dry	5	3/26/2014 05:06 AM
Nickel	14			2.2 mg/Kg-dry	5	3/26/2014 05:06 AM
Selenium	2.6			2.2 mg/Kg-dry	5	3/26/2014 05:06 AM
Silver	ND			2.2 mg/Kg-dry	5	3/26/2014 05:06 AM
Zinc	67			4.3 mg/Kg-dry	5	3/26/2014 05:06 AM
<b>SOLUBLE CATIONS FOR SAR</b>						
Calcium	18		SW6020A	10 mg/L	Prep: USDA Method 20B / 3/27/14	Analyst: ML
Magnesium	ND			4.0 mg/L	20	3/27/2014 03:44 PM
Sodium	310			4.0 mg/L	20	3/27/2014 03:44 PM
<b>SODIUM ADSORPTION RATIO</b>						
Sodium Adsorption Ratio	18		USDA H60 METHO	0.010 none	Prep: USDA Method 20B / 3/27/14	Analyst: ML
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
Acenaphthene	ND		SW8270	7.9 µg/Kg-dry	Prep: SW3541 / 3/25/14	Analyst: HL
Anthracene	ND			7.9 µg/Kg-dry	1	3/26/2014 01:31 PM
Benzo(a)anthracene	ND			7.9 µg/Kg-dry	1	3/26/2014 01:31 PM
Benzo(a)pyrene	ND			7.9 µg/Kg-dry	1	3/26/2014 01:31 PM
Benzo(b)fluoranthene	ND			7.9 µg/Kg-dry	1	3/26/2014 01:31 PM
Benzo(k)fluoranthene	ND			7.9 µg/Kg-dry	1	3/26/2014 01:31 PM
Chrysene	ND			7.9 µg/Kg-dry	1	3/26/2014 01:31 PM
Dibenzo(a,h)anthracene	ND			7.9 µg/Kg-dry	1	3/26/2014 01:31 PM
Fluoranthene	ND			7.9 µg/Kg-dry	1	3/26/2014 01:31 PM

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

# ALS Group USA, Corp

Date: 01-Apr-14

Client: Olsson Associates

Project: Chevron UP 54-21 Spill 3.18.14

Sample ID: UP5421-SS5

Collection Date: 3/18/2014 01:50 PM

Work Order: 1403953

Lab ID: 1403953-08

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		7.9	µg/Kg-dry	1	3/26/2014 01:31 PM
Indeno(1,2,3-cd)pyrene	ND		7.9	µg/Kg-dry	1	3/26/2014 01:31 PM
Naphthalene	ND		7.9	µg/Kg-dry	1	3/26/2014 01:31 PM
Pyrene	ND		7.9	µg/Kg-dry	1	3/26/2014 01:31 PM
Surr: 2-Fluorobiphenyl	75.8		12-100	%REC	1	3/26/2014 01:31 PM
Surr: 4-Terphenyl-d14	97.0		25-137	%REC	1	3/26/2014 01:31 PM
Surr: Nitrobenzene-d5	68.8		37-107	%REC	1	3/26/2014 01:31 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 3/21/14		Analyst: <b>BG</b>
Benzene	ND		36	µg/Kg-dry	1	3/25/2014 07:13 AM
Ethylbenzene	ND		36	µg/Kg-dry	1	3/25/2014 07:13 AM
m,p-Xylene	ND		72	µg/Kg-dry	1	3/25/2014 07:13 AM
o-Xylene	ND		36	µg/Kg-dry	1	3/25/2014 07:13 AM
Toluene	ND		36	µg/Kg-dry	1	3/25/2014 07:13 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	3/25/2014 07:13 AM
Surr: 1,2-Dichloroethane-d4	99.4		70-130	%REC	1	3/25/2014 07:13 AM
Surr: 4-Bromofluorobenzene	98.6		70-130	%REC	1	3/25/2014 07:13 AM
Surr: Dibromofluoromethane	95.6		70-130	%REC	1	3/25/2014 07:13 AM
Surr: Toluene-d8	99.2		70-130	%REC	1	3/25/2014 07:13 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 3/27/14		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	1.6		0.050	mmhos/cm @25	10	3/27/2014 04:50 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>JJG</b>
Chromium, Trivalent	10		0.60	mg/Kg-dry	1	3/27/2014 07:56 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 3/25/14		Analyst: <b>MB</b>
Chromium, Hexavalent	ND		0.59	mg/Kg-dry	1	3/26/2014 03:00 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>AT</b>
Moisture	17		0.050	% of sample	1	3/24/2014 12:44 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 3/24/14		Analyst: <b>AT</b>
pH	9.3			s.u.	1	3/24/2014 04:00 PM

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

**ALS Group USA, Corp**

Date: 01-Apr-14

Client: Olsson Associates

Project: Chevron UP 54-21 Spill 3.18.14

Sample ID: UP5421-BG4

Collection Date: 3/18/2014 01:00 PM

Work Order: 1403953

Lab ID: 1403953-09

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep: SW3050B / 3/26/14	Analyst: <b>ML</b>
Arsenic	6.1		2.0	mg/Kg-dry	5	3/26/2014 08:03 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>AT</b>
Moisture	19		0.050	% of sample	1	3/24/2014 09:30 AM

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

# ALS Group USA, Corp

Date: 01-Apr-14

Client: Olsson Associates

Project: Chevron UP 54-21 Spill 3.18.14

Sample ID: UP5421-SS6

Collection Date: 3/18/2014 02:20 PM

Work Order: 1403953

Lab ID: 1403953-10

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>19</b>		<b>SW8015M</b>		Prep: SW3541 / 3/25/14	Analyst: <b>IT</b>
<i>Surr: 4-Terphenyl-d14</i>	<i>64.0</i>		<i>39-115</i>	<i>%REC</i>	<i>1</i>	<i>3/26/2014 11:36 AM</i>
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015</b>		Prep: SW5035 / 3/21/14	Analyst: <b>IT</b>
<i>Surr: Toluene-d8</i>	<i>118</i>		<i>50-150</i>	<i>%REC</i>	<i>1</i>	<i>3/26/2014 08:56 AM</i>
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>0.026</b>		<b>SW7471</b>		Prep: SW7471 / 3/27/14	Analyst: <b>LR</b>
<b>METALS BY ICP-MS</b>						
<b>Arsenic</b>	<b>5.2</b>		<b>SW6020A</b>		Prep: SW3050B / 3/26/14	Analyst: <b>ML</b>
<b>Barium</b>	<b>100</b>					
<b>Cadmium</b>	<b>ND</b>					
<b>Chromium</b>	<b>8.8</b>					
<b>Copper</b>	<b>9.9</b>					
<b>Lead</b>	<b>14</b>					
<b>Nickel</b>	<b>13</b>					
<b>Selenium</b>	<b>ND</b>					
<b>Silver</b>	<b>ND</b>					
<b>Zinc</b>	<b>59</b>					
<b>SOLUBLE CATIONS FOR SAR</b>						
<b>Calcium</b>	<b>40</b>		<b>SW6020A</b>		Prep: USDA Method 20B / 3/27/14	Analyst: <b>ML</b>
<b>Magnesium</b>	<b>5.6</b>					
<b>Sodium</b>	<b>700</b>					
<b>SODIUM ADSORPTION RATIO</b>						
<b>Sodium Adsorption Ratio</b>	<b>27</b>		<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 3/27/14	Analyst: <b>ML</b>
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
<b>Acenaphthene</b>	<b>ND</b>		<b>SW8270</b>		Prep: SW3541 / 3/25/14	Analyst: <b>HL</b>
<b>Anthracene</b>	<b>ND</b>					
<b>Benzo(a)anthracene</b>	<b>ND</b>					
<b>Benzo(a)pyrene</b>	<b>ND</b>					
<b>Benzo(b)fluoranthene</b>	<b>ND</b>					
<b>Benzo(k)fluoranthene</b>	<b>ND</b>					
<b>Chrysene</b>	<b>ND</b>					
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>					
<b>Fluoranthene</b>	<b>ND</b>					

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

# ALS Group USA, Corp

Date: 01-Apr-14

**Client:** Olsson Associates  
**Project:** Chevron UP 54-21 Spill 3.18.14  
**Sample ID:** UP5421-SS6  
**Collection Date:** 3/18/2014 02:20 PM

**Work Order:** 1403953  
**Lab ID:** 1403953-10  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		7.9	µg/Kg-dry	1	3/26/2014 02:04 PM
Indeno(1,2,3-cd)pyrene	ND		7.9	µg/Kg-dry	1	3/26/2014 02:04 PM
Naphthalene	ND		7.9	µg/Kg-dry	1	3/26/2014 02:04 PM
Pyrene	ND		7.9	µg/Kg-dry	1	3/26/2014 02:04 PM
Surr: 2-Fluorobiphenyl	76.1		12-100	%REC	1	3/26/2014 02:04 PM
Surr: 4-Terphenyl-d14	85.7		25-137	%REC	1	3/26/2014 02:04 PM
Surr: Nitrobenzene-d5	55.0		37-107	%REC	1	3/26/2014 02:04 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 3/21/14		Analyst: <b>BG</b>
Benzene	ND		36	µg/Kg-dry	1	3/25/2014 07:40 AM
Ethylbenzene	ND		36	µg/Kg-dry	1	3/25/2014 07:40 AM
m,p-Xylene	ND		72	µg/Kg-dry	1	3/25/2014 07:40 AM
o-Xylene	ND		36	µg/Kg-dry	1	3/25/2014 07:40 AM
Toluene	ND		36	µg/Kg-dry	1	3/25/2014 07:40 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	3/25/2014 07:40 AM
Surr: 1,2-Dichloroethane-d4	99.6		70-130	%REC	1	3/25/2014 07:40 AM
Surr: 4-Bromofluorobenzene	98.4		70-130	%REC	1	3/25/2014 07:40 AM
Surr: Dibromofluoromethane	94.5		70-130	%REC	1	3/25/2014 07:40 AM
Surr: Toluene-d8	99.0		70-130	%REC	1	3/25/2014 07:40 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 3/27/14		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	3.4		0.25	mmhos/cm @25	50	3/27/2014 04:50 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>JJG</b>
Chromium, Trivalent	8.8		0.60	mg/Kg-dry	1	3/28/2014 04:10 PM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 3/27/14		Analyst: <b>MB</b>
Chromium, Hexavalent	ND		0.61	mg/Kg-dry	1	3/28/2014 09:00 AM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>AT</b>
Moisture	17		0.050	% of sample	1	3/24/2014 12:44 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 3/24/14		Analyst: <b>AT</b>
pH	9.0			s.u.	1	3/24/2014 03:00 PM

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

# ALS Group USA, Corp

Date: 01-Apr-14

Client: Olsson Associates

Project: Chevron UP 54-21 Spill 3.18.14

Sample ID: UP5421-BG5

Collection Date: 3/18/2014 02:00 PM

Work Order: 1403953

Lab ID: 1403953-11

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS BY ICP-MS</b>			<b>SW6020A</b>		Prep: SW3050B / 3/26/14	Analyst: <b>ML</b>
Arsenic	5.9		1.8	mg/Kg-dry	5	3/26/2014 08:15 PM
<b>MOISTURE</b>			<b>A2540 G</b>			Analyst: <b>AT</b>
Moisture	10		0.050	% of sample	1	3/24/2014 09:30 AM

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



Client: Olsson Associates

Work Order: 1403953

Project: Chevron UP 54-21 Spill 3.18.14

# QC BATCH REPORT

Batch ID: 56820

Instrument ID GC8

Method: SW8015M

MBLK				Sample ID: DBLKS1-56820-56820				Units: mg/Kg		Analysis Date: 3/25/2014 01:51 AM	
Client ID:				Run ID: GC8_140324A				SeqNo: 2683337		Prep Date: 3/24/2014	
										DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
DRO (C10-C28)	ND	4.2									
Surr: 4-Terphenyl-d14	1.238	0	1.667	0	74.3	39-115	0				

LCS				Sample ID: DLCSS1-56820-56820				Units: mg/Kg		Analysis Date: 3/25/2014 02:21 AM	
Client ID:				Run ID: GC8_140324A				SeqNo: 2683341		Prep Date: 3/24/2014	
										DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
DRO (C10-C28)	148.6	4.2	166.7	0	89.1	49-124	0				
Surr: 4-Terphenyl-d14	1.224	0	1.667	0	73.5	39-115	0				

MS				Sample ID: 1403950-07A MS				Units: mg/Kg		Analysis Date: 3/25/2014 02:51 AM	
Client ID:				Run ID: GC8_140324A				SeqNo: 2683342		Prep Date: 3/24/2014	
										DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
DRO (C10-C28)	585.2	82	328.8	188.2	121	49-130	0				
Surr: 4-Terphenyl-d14	2.677	0	3.288	0	81.4	39-115	0				

MSD				Sample ID: 1403950-07A MSD				Units: mg/Kg		Analysis Date: 3/25/2014 03:21 AM	
Client ID:				Run ID: GC8_140324A				SeqNo: 2683343		Prep Date: 3/24/2014	
										DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
DRO (C10-C28)	797.6	83	330.3	188.2	185	49-130	585.2	30.7	30	SR	
Surr: 4-Terphenyl-d14	2.285	0	3.303	0	69.2	39-115	2.677	15.8	30		

The following samples were analyzed in this batch: 1403953-01A

Client: Olsson Associates  
 Work Order: 1403953  
 Project: Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56864** Instrument ID **GC8** Method: **SW8015M**

<b>MBLK</b>		Sample ID: <b>DBLKS1-56864-56864</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/25/2014 11:36 PM</b>		
Client ID:		Run ID: <b>GC8_140325A</b>				SeqNo: <b>2685163</b>		Prep Date: <b>3/25/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	4.2								
Surr: 4-Terphenyl-d14	1.21	0	1.667	0	72.6	39-115	0			

<b>LCS</b>		Sample ID: <b>DLCSS1-56864-56864</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/26/2014 12:06 PM</b>		
Client ID:		Run ID: <b>GC8_140325A</b>				SeqNo: <b>2685187</b>		Prep Date: <b>3/25/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	148.9	4.2	166.7	0	89.3	49-124	0			
Surr: 4-Terphenyl-d14	1.176	0	1.667	0	70.6	39-115	0			

<b>MS</b>		Sample ID: <b>1403953-07A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/26/2014 12:36 PM</b>		
Client ID: <b>UP5421-SS4</b>		Run ID: <b>GC8_140325A</b>				SeqNo: <b>2685189</b>		Prep Date: <b>3/25/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	322.9	8.1	324.9	83.04	73.8	49-130	0			
Surr: 4-Terphenyl-d14	2.213	0	3.249	0	68.1	39-115	0			

<b>MSD</b>		Sample ID: <b>1403953-07A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/26/2014 01:06 AM</b>		
Client ID: <b>UP5421-SS4</b>		Run ID: <b>GC8_140325A</b>				SeqNo: <b>2685165</b>		Prep Date: <b>3/25/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	348	8.2	328.4	83.04	80.7	49-130	322.9	7.46	30	
Surr: 4-Terphenyl-d14	2.321	0	3.284	0	70.7	39-115	2.213	4.75	30	

The following samples were analyzed in this batch:

1403953-03A	1403953-05A	1403953-07A
1403953-08A	1403953-10A	

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

Client: Olsson Associates  
 Work Order: 1403953  
 Project: Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56766** Instrument ID **GC9** Method: **SW8015**

<b>MBLK</b>		Sample ID: <b>MBLK-56766-56766</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>3/21/2014 03:51 PM</b>		
Client ID:		Run ID: <b>GC9_140321A</b>				SeqNo: <b>2681252</b>		Prep Date: <b>3/21/2014</b>		DF: <b>1</b>
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	4988	0	5000	0	99.8	50-150	0			

<b>LCS</b>		Sample ID: <b>LCS-56766-56766</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>3/21/2014 03:26 PM</b>		
Client ID:		Run ID: <b>GC9_140321A</b>				SeqNo: <b>2681249</b>		Prep Date: <b>3/21/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	617500	2,500	500000	0	123	70-130	0			
Surr: Toluene-d8	5170	0	5000	0	103	50-150	0			

<b>MS</b>		Sample ID: <b>1403932-01A MS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>3/21/2014 09:49 PM</b>		
Client ID:		Run ID: <b>GC9_140321A</b>				SeqNo: <b>2681299</b>		Prep Date: <b>3/21/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	848100	2,500	500000	200800	129	70-130	0			
Surr: Toluene-d8	5130	0	5000	0	103	50-150	0			

<b>MSD</b>		Sample ID: <b>1403932-01A MSD</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>3/21/2014 10:14 PM</b>		
Client ID:		Run ID: <b>GC9_140321A</b>				SeqNo: <b>2681300</b>		Prep Date: <b>3/21/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	818300	2,500	500000	200800	123	70-130	848100	3.58	30	
Surr: Toluene-d8	4522	0	5000	0	90.4	50-150	5130	12.6	30	

The following samples were analyzed in this batch:

1403953-01A	1403953-03A	1403953-05A
1403953-07A	1403953-08A	1403953-10A

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

**Client:** Olsson Associates  
**Work Order:** 1403953  
**Project:** Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56945**      Instrument ID **HG1**      Method: **SW7471**

<b>MBLK</b>		Sample ID: <b>MBLK-56945-56945</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/27/2014 01:30 PM</b>		
Client ID:		Run ID: <b>HG1_140327A</b>				SeqNo: <b>2687823</b>		Prep Date: <b>3/27/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      ND      0.020

<b>LCS</b>		Sample ID: <b>LCS-56945-56945</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/27/2014 01:32 PM</b>		
Client ID:		Run ID: <b>HG1_140327A</b>				SeqNo: <b>2687824</b>		Prep Date: <b>3/27/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1878      0.020      0.1665      0      113      80-120      0

<b>MS</b>		Sample ID: <b>1403953-01AMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/27/2014 02:04 PM</b>		
Client ID: <b>UP5421-SS1</b>		Run ID: <b>HG1_140327A</b>				SeqNo: <b>2687838</b>		Prep Date: <b>3/27/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1758      0.016      0.1309      0.02819      113      75-125      0

<b>MSD</b>		Sample ID: <b>1403953-01AMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/27/2014 02:07 PM</b>		
Client ID: <b>UP5421-SS1</b>		Run ID: <b>HG1_140327A</b>				SeqNo: <b>2687839</b>		Prep Date: <b>3/27/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury      0.1677      0.015      0.1281      0.02819      109      75-125      0.1758      4.73      35

The following samples were analyzed in this batch:

1403953-01A	1403953-02A	1403953-03A
1403953-05A	1403953-07A	1403953-08A
1403953-10A		

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

Client: Olsson Associates  
 Work Order: 1403953  
 Project: Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56890** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK Sample ID: <b>MBLK-56890-56890</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/25/2014 11:35 PM</b>				
Client ID:		Run ID: <b>ICPMS1_140325A</b>		SeqNo: <b>2685049</b>		Prep Date: <b>3/25/2014</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	0.02162	0.25								J
Cadmium	ND	0.10								
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	0.002373	0.25								J
Nickel	ND	0.25								
Selenium	0.04676	0.25								J
Silver	0.001094	0.25								J
Zinc	0.02914	0.50								J

LCS Sample ID: <b>LCS-56890-56890</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/25/2014 11:41 PM</b>				
Client ID:		Run ID: <b>ICPMS1_140325A</b>		SeqNo: <b>2685050</b>		Prep Date: <b>3/25/2014</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.646	0.25	5	0	92.9	80-120	0			
Barium	4.894	0.25	5	0	97.9	80-120	0			
Cadmium	4.842	0.10	5	0	96.8	80-120	0			
Chromium	4.901	0.25	5	0	98	80-120	0			
Copper	4.97	0.25	5	0	99.4	80-120	0			
Lead	4.9	0.25	5	0	98	80-120	0			
Nickel	4.866	0.25	5	0	97.3	80-120	0			
Selenium	4.554	0.25	5	0	91.1	80-120	0			
Silver	4.824	0.25	5	0	96.5	80-120	0			
Zinc	4.761	0.50	5	0	95.2	80-120	0			

MS Sample ID: <b>14031077-05BMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/26/2014 01:11 AM</b>				
Client ID:		Run ID: <b>ICPMS1_140325A</b>		SeqNo: <b>2685062</b>		Prep Date: <b>3/25/2014</b>		DF: <b>5</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.05	1.6	6.477	4.711	97.9	75-125	0			
Barium	231.5	1.6	6.477	263.9	-501	75-125	0			SO
Cadmium	6.428	0.65	6.477	0.4242	92.7	75-125	0			
Chromium	17.96	1.6	6.477	9.566	130	75-125	0			S
Copper	16.39	1.6	6.477	10.67	88.4	75-125	0			
Lead	17.91	1.6	6.477	11.06	106	75-125	0			
Nickel	20.32	1.6	6.477	13.78	101	75-125	0			
Selenium	6.985	1.6	6.477	1.381	86.5	75-125	0			
Silver	5.641	1.6	6.477	0.02901	86.7	75-125	0			
Zinc	59	3.2	6.477	48.91	156	75-125	0			SO

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

**Client:** Olsson Associates  
**Work Order:** 1403953  
**Project:** Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56890**      Instrument ID **ICPMS1**      Method: **SW6020A**

MSD		Sample ID: 14031077-05BMSD				Units: mg/Kg		Analysis Date: 3/26/2014 01:17 AM		
Client ID:		Run ID: ICPMS1_140325A				SeqNo: 2685063		Prep Date: 3/25/2014		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.47	1.6	6.443	4.711	105	75-125	11.05	3.7	25	
Barium	243.4	1.6	6.443	263.9	-318	75-125	231.5	5.03	25	SO
Cadmium	6.514	0.64	6.443	0.4242	94.5	75-125	6.428	1.33	25	
Chromium	18.13	1.6	6.443	9.566	133	75-125	17.96	0.933	25	S
Copper	16.21	1.6	6.443	10.67	86	75-125	16.39	1.13	25	
Lead	18.22	1.6	6.443	11.06	111	75-125	17.91	1.72	25	
Nickel	21.01	1.6	6.443	13.78	112	75-125	20.32	3.37	25	
Selenium	7.036	1.6	6.443	1.381	87.8	75-125	6.985	0.727	25	
Silver	5.78	1.6	6.443	0.02901	89.2	75-125	5.641	2.42	25	
Zinc	59.54	3.2	6.443	48.91	165	75-125	59	0.9	25	SO

The following samples were analyzed in this batch:

1403953-01A	1403953-02A	1403953-03A
1403953-04A	1403953-05A	1403953-06A
1403953-07A	1403953-08A	

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

Client: Olsson Associates  
 Work Order: 1403953  
 Project: Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56891** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: <b>MBLK-56891-56891</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/26/2014 07:09 PM</b>		
Client ID:		Run ID: <b>ICPMS1_140326A</b>				SeqNo: <b>2686634</b>		Prep Date: <b>3/26/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	0.01403	0.25								J
Cadmium	0.001078	0.10								J
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	0.00416	0.25								J
Nickel	ND	0.25								
Selenium	0.03461	0.25								J
Silver	ND	0.25								
Zinc	ND	0.50								

LCS		Sample ID: <b>LCS-56891-56891</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/26/2014 07:15 PM</b>		
Client ID:		Run ID: <b>ICPMS1_140326A</b>				SeqNo: <b>2686635</b>		Prep Date: <b>3/26/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.554	0.25	5	0	91.1	80-120	0			
Barium	4.618	0.25	5	0	92.4	80-120	0			
Cadmium	4.653	0.10	5	0	93.1	80-120	0			
Chromium	4.717	0.25	5	0	94.3	80-120	0			
Copper	4.69	0.25	5	0	93.8	80-120	0			
Lead	4.679	0.25	5	0	93.6	80-120	0			
Nickel	4.655	0.25	5	0	93.1	80-120	0			
Selenium	4.592	0.25	5	0	91.8	80-120	0			
Silver	4.456	0.25	5	0	89.1	80-120	0			
Zinc	4.666	0.50	5	0	93.3	80-120	0			

MS		Sample ID: <b>1403976-08BMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/27/2014 12:43 PM</b>		
Client ID:		Run ID: <b>ICPMS1_140327A</b>				SeqNo: <b>2687696</b>		Prep Date: <b>3/26/2014</b>		DF: <b>5</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.19	1.8	7.174	3.473	108	75-125	0			
Barium	14.86	1.8	7.174	6.113	122	75-125	0			
Cadmium	8.379	0.72	7.174	0.07347	116	75-125	0			
Chromium	12.9	1.8	7.174	3.898	126	75-125	0			S
Copper	11.59	1.8	7.174	4.62	97.1	75-125	0			
Lead	11.98	1.8	7.174	3.88	113	75-125	0			
Nickel	13.35	1.8	7.174	5.639	108	75-125	0			
Selenium	8.841	1.8	7.174	0.5679	115	75-125	0			
Silver	7.93	1.8	7.174	0.01868	110	75-125	0			
Zinc	23.69	3.6	7.174	16	107	75-125	0			

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

**Client:** Olsson Associates  
**Work Order:** 1403953  
**Project:** Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56891**      Instrument ID **ICPMS1**      Method: **SW6020A**

MSD		Sample ID: <b>1403976-08BMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/27/2014 12:49 PM</b>		
Client ID:		Run ID: <b>ICPMS1_140327A</b>				SeqNo: <b>2687697</b>		Prep Date: <b>3/26/2014</b>		DF: <b>5</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.1	1.8	7.386	3.473	103	75-125	11.19	0.81	25	
Barium	14.68	1.8	7.386	6.113	116	75-125	14.86	1.28	25	
Cadmium	8.054	0.74	7.386	0.07347	108	75-125	8.379	3.95	25	
Chromium	12.36	1.8	7.386	3.898	115	75-125	12.9	4.32	25	
Copper	12.29	1.8	7.386	4.62	104	75-125	11.59	5.9	25	
Lead	12.32	1.8	7.386	3.88	114	75-125	11.98	2.76	25	
Nickel	13.27	1.8	7.386	5.639	103	75-125	13.35	0.643	25	
Selenium	8.671	1.8	7.386	0.5679	110	75-125	8.841	1.95	25	
Silver	7.699	1.8	7.386	0.01868	104	75-125	7.93	2.96	25	
Zinc	24.02	3.7	7.386	16	109	75-125	23.69	1.37	25	

The following samples were analyzed in this batch:      1403953-09A      1403953-10A      1403953-11A     

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



**Client:** Olsson Associates  
**Work Order:** 1403953  
**Project:** Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56942**      Instrument ID **ICPMS1**      Method: **SW6020A**

<b>DUP</b>		Sample ID: <b>1403953-03BDUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>3/27/2014 02:55 PM</b>		
Client ID: <b>UP5421-SS2</b>		Run ID: <b>ICPMS1_140327A</b>				SeqNo: <b>2688215</b>		Prep Date: <b>3/27/2014</b>		DF: <b>20</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	70.46	10	0	0	0	0-0	78.14	10.3		
Magnesium	7.87	4.0	0	0	0	0-0	9.534	19.1		
Sodium	374.8	4.0	0	0	0	0-0	405.4	7.84		

<b>DUP</b>		Sample ID: <b>1403953-03BDUP</b>				Units: <b>none</b>		Analysis Date: <b>3/27/2014</b>		
Client ID: <b>UP5421-SS2</b>		Run ID: <b>SAR_140327A</b>				SeqNo: <b>2689315</b>		Prep Date: <b>3/27/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	11.3	0.010	0	0	0		11.52	1.96	50	

The following samples were analyzed in this batch:

1403953-01B	1403953-02B	1403953-03B
1403953-05B	1403953-07B	1403953-08B
1403953-10B		

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

Client: Olsson Associates  
 Work Order: 1403953  
 Project: Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56819** Instrument ID **SVMS8** Method: **SW8270**

MBLK		Sample ID: <b>SBLKS1-56819-56819</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>3/24/2014 11:56 PM</b>		
Client ID:		Run ID: <b>SVMS8_140324B</b>				SeqNo: <b>2684409</b>		Prep Date: <b>3/24/2014</b>		DF: <b>1</b>
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	1300	0	1667	0	78	12-100	0			
Surr: 4-Terphenyl-d14	1458	0	1667	0	87.5	25-137	0			
Surr: Nitrobenzene-d5	1242	0	1667	0	74.5	37-107	0			

LCS		Sample ID: <b>SLCSS1-56819-56819</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>3/25/2014 12:16 AM</b>		
Client ID:		Run ID: <b>SVMS8_140324B</b>				SeqNo: <b>2684410</b>		Prep Date: <b>3/24/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	404.7	6.7	666.7	0	60.7	45-110	0			
Anthracene	593.3	6.7	666.7	0	89	55-105	0			
Benzo(a)anthracene	619	6.7	666.7	0	92.8	50-110	0			
Benzo(a)pyrene	657	6.7	666.7	0	98.5	50-110	0			
Benzo(b)fluoranthene	620.3	6.7	666.7	0	93	45-115	0			
Benzo(k)fluoranthene	583	6.7	666.7	0	87.4	45-115	0			
Chrysene	577	6.7	666.7	0	86.5	55-110	0			
Dibenzo(a,h)anthracene	637.7	6.7	666.7	0	95.6	40-125	0			
Fluoranthene	611	6.7	666.7	0	91.6	55-115	0			
Fluorene	472.3	6.7	666.7	0	70.8	50-110	0			
Indeno(1,2,3-cd)pyrene	677	6.7	666.7	0	102	40-120	0			
Naphthalene	376.3	6.7	666.7	0	56.4	40-105	0			
Pyrene	559	6.7	666.7	0	83.8	45-125	0			
Surr: 2-Fluorobiphenyl	1012	0	1667	0	60.7	12-100	0			
Surr: 4-Terphenyl-d14	1456	0	1667	0	87.3	25-137	0			
Surr: Nitrobenzene-d5	975.3	0	1667	0	58.5	37-107	0			

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

Client: Olsson Associates  
 Work Order: 1403953  
 Project: Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56819** Instrument ID **SVMS8** Method: **SW8270**

MS				Sample ID: 1403950-07A MS				Units: µg/Kg		Analysis Date: 3/25/2014 12:37 AM	
Client ID:			Run ID: SVMS8_140324B			SeqNo: 2684411		Prep Date: 3/24/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	999.7	13	1293	0	77.3	45-110	0				
Anthracene	1201	13	1293	0	92.8	55-105	0				
Benzo(a)anthracene	1225	13	1293	0	94.7	50-110	0				
Benzo(a)pyrene	1261	13	1293	0	97.5	50-110	0				
Benzo(b)fluoranthene	1195	13	1293	0	92.4	45-115	0				
Benzo(k)fluoranthene	1140	13	1293	0	88.1	45-115	0				
Chrysene	1121	13	1293	0	86.6	55-110	0				
Dibenzo(a,h)anthracene	1250	13	1293	0	96.6	40-125	0				
Fluoranthene	1222	13	1293	0	94.5	55-115	0				
Fluorene	1121	13	1293	0	86.6	50-110	0				
Indeno(1,2,3-cd)pyrene	1335	13	1293	0	103	40-120	0				
Naphthalene	862	13	1293	0	66.6	40-105	0				
Pyrene	1108	13	1293	0	85.7	45-125	0				
Surr: 2-Fluorobiphenyl	2544	0	3233	0	78.7	12-100	0				
Surr: 4-Terphenyl-d14	2890	0	3233	0	89.4	25-137	0				
Surr: Nitrobenzene-d5	2217	0	3233	0	68.6	37-107	0				

MSD				Sample ID: 1403950-07A MSD				Units: µg/Kg		Analysis Date: 3/25/2014 12:57 AM	
Client ID:			Run ID: SVMS8_140324B			SeqNo: 2684412		Prep Date: 3/24/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1042	13	1315	0	79.2	45-110	999.7	4.11	30		
Anthracene	1242	13	1315	0	94.5	55-105	1201	3.38	30		
Benzo(a)anthracene	1240	13	1315	0	94.3	50-110	1225	1.2	30		
Benzo(a)pyrene	1283	13	1315	0	97.6	50-110	1261	1.73	30		
Benzo(b)fluoranthene	1214	13	1315	0	92.3	45-115	1195	1.57	30		
Benzo(k)fluoranthene	1156	13	1315	0	87.9	45-115	1140	1.4	30		
Chrysene	1140	13	1315	0	86.7	55-110	1121	1.74	30		
Dibenzo(a,h)anthracene	1242	13	1315	0	94.4	40-125	1250	0.679	30		
Fluoranthene	1256	13	1315	0	95.5	55-115	1222	2.73	30		
Fluorene	1136	13	1315	0	86.4	50-110	1121	1.39	30		
Indeno(1,2,3-cd)pyrene	1334	13	1315	0	101	40-120	1335	0.135	30		
Naphthalene	878.1	13	1315	0	66.8	40-105	862	1.85	30		
Pyrene	1140	13	1315	0	86.7	45-125	1108	2.78	30		
Surr: 2-Fluorobiphenyl	2588	0	3286	0	78.8	12-100	2544	1.72	40		
Surr: 4-Terphenyl-d14	2959	0	3286	0	90	25-137	2890	2.36	40		
Surr: Nitrobenzene-d5	2294	0	3286	0	69.8	37-107	2217	3.41	40		

The following samples were analyzed in this batch:

1403953-01A

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

Client: Olsson Associates  
 Work Order: 1403953  
 Project: Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56863** Instrument ID **SVMS7** Method: **SW8270**

MBLK		Sample ID: <b>SBLKS1-56863-56863</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>3/26/2014 09:19 AM</b>		
Client ID:		Run ID: <b>SVMS7_140326A</b>				SeqNo: <b>2685762</b>		Prep Date: <b>3/25/2014</b>		DF: <b>1</b>
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	1328	0	1667	0	79.7	12-100	0			
Surr: 4-Terphenyl-d14	1906	0	1667	0	114	25-137	0			
Surr: Nitrobenzene-d5	1060	0	1667	0	63.6	37-107	0			

LCS		Sample ID: <b>SLCSS1-56863-56863</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>3/26/2014 08:57 AM</b>		
Client ID:		Run ID: <b>SVMS7_140326A</b>				SeqNo: <b>2685760</b>		Prep Date: <b>3/25/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	488.7	6.7	666.7	0	73.3	45-110	0			
Anthracene	558	6.7	666.7	0	83.7	55-105	0			
Benzo(a)anthracene	599.3	6.7	666.7	0	89.9	50-110	0			
Benzo(a)pyrene	646.3	6.7	666.7	0	96.9	50-110	0			
Benzo(b)fluoranthene	637.7	6.7	666.7	0	95.6	45-115	0			
Benzo(k)fluoranthene	647	6.7	666.7	0	97	45-115	0			
Chrysene	610	6.7	666.7	0	91.5	55-110	0			
Dibenzo(a,h)anthracene	577.7	6.7	666.7	0	86.6	40-125	0			
Fluoranthene	588	6.7	666.7	0	88.2	55-115	0			
Fluorene	533.7	6.7	666.7	0	80	50-110	0			
Indeno(1,2,3-cd)pyrene	600.7	6.7	666.7	0	90.1	40-120	0			
Naphthalene	500.3	6.7	666.7	0	75	40-105	0			
Pyrene	565.7	6.7	666.7	0	84.8	45-125	0			
Surr: 2-Fluorobiphenyl	1415	0	1667	0	84.9	12-100	0			
Surr: 4-Terphenyl-d14	2009	0	1667	0	121	25-137	0			
Surr: Nitrobenzene-d5	1233	0	1667	0	74	37-107	0			

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

Client: Olsson Associates  
 Work Order: 1403953  
 Project: Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56863** Instrument ID **SVMS7** Method: **SW8270**

MS				Sample ID: 14031033-01B MS			Units: µg/Kg		Analysis Date: 3/26/2014 10:39 AM	
Client ID:		Run ID: SVMS7_140326A			SeqNo: 2685765		Prep Date: 3/25/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	951.7	13	1308	0	72.7	45-110	0			
Anthracene	1099	13	1308	0	84	55-105	0			
Benzo(a)anthracene	1158	13	1308	0	88.5	50-110	0			
Benzo(a)pyrene	1246	13	1308	4.197	94.9	50-110	0			
Benzo(b)fluoranthene	1254	13	1308	8.394	95.2	45-115	0			
Benzo(k)fluoranthene	1309	13	1308	4.52	99.7	45-115	0			
Chrysene	1237	13	1308	0	94.6	55-110	0			
Dibenzo(a,h)anthracene	1056	13	1308	18.08	79.4	40-125	0			
Fluoranthene	1096	13	1308	6.134	83.3	55-115	0			
Fluorene	1072	13	1308	0	81.9	50-110	0			
Indeno(1,2,3-cd)pyrene	1112	13	1308	4.842	84.6	40-120	0			
Naphthalene	961.5	13	1308	0	73.5	40-105	0			
Pyrene	1165	13	1308	4.842	88.7	45-125	0			
Surr: 2-Fluorobiphenyl	2690	0	3270	0	82.2	12-100	0			
Surr: 4-Terphenyl-d14	3929	0	3270	0	120	25-137	0			
Surr: Nitrobenzene-d5	2177	0	3270	0	66.6	37-107	0			

MSD				Sample ID: 14031033-01B MSD			Units: µg/Kg		Analysis Date: 3/26/2014 11:01 AM	
Client ID:		Run ID: SVMS7_140326A			SeqNo: 2685768		Prep Date: 3/25/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	988.3	13	1285	0	76.9	45-110	951.7	3.78	30	
Anthracene	1140	13	1285	0	88.7	55-105	1099	3.67	30	
Benzo(a)anthracene	1197	13	1285	0	93.1	50-110	1158	3.3	30	
Benzo(a)pyrene	1262	13	1285	4.197	97.9	50-110	1246	1.28	30	
Benzo(b)fluoranthene	1288	13	1285	8.394	99.5	45-115	1254	2.67	30	
Benzo(k)fluoranthene	1276	13	1285	4.52	98.9	45-115	1309	2.52	30	
Chrysene	1225	13	1285	0	95.3	55-110	1237	0.98	30	
Dibenzo(a,h)anthracene	1131	13	1285	18.08	86.6	40-125	1056	6.83	30	
Fluoranthene	1087	13	1285	6.134	84.1	55-115	1096	0.76	30	
Fluorene	1055	13	1285	0	82.1	50-110	1072	1.59	30	
Indeno(1,2,3-cd)pyrene	1166	13	1285	4.842	90.4	40-120	1112	4.77	30	
Naphthalene	872	13	1285	0	67.8	40-105	961.5	9.76	30	
Pyrene	1240	13	1285	4.842	96.1	45-125	1165	6.21	30	
Surr: 2-Fluorobiphenyl	2647	0	3213	0	82.4	12-100	2690	1.6	40	
Surr: 4-Terphenyl-d14	3893	0	3213	0	121	25-137	3929	0.924	40	
Surr: Nitrobenzene-d5	2312	0	3213	0	72	37-107	2177	6	40	

The following samples were analyzed in this batch:

1403953-03A	1403953-05A	1403953-07A
1403953-08A	1403953-10A	

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

**Client:** Olsson Associates  
**Work Order:** 1403953  
**Project:** Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56765**      Instrument ID **VMS6**      Method: **SW8260B**

Sample ID: <b>MBLK-56765-56765</b>				Units: <b>µg/Kg</b>			Analysis Date: <b>3/21/2014 03:01 PM</b>			
Client ID:		Run ID: <b>VMS6_140321A</b>			SeqNo: <b>2681744</b>		Prep Date: <b>3/21/2014</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	17	30								J
Ethylbenzene	14	30								J
m,p-Xylene	27.5	60								J
o-Xylene	ND	30								
Toluene	15	30								J
Xylenes, Total	ND	90								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>972</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.2</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>988.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.8</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>949.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>95</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>970</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97</i>	<i>70-130</i>	<i>0</i>			

LCS				Sample ID: LCS-56765-56765			Units: µg/Kg		Analysis Date: 3/21/2014 01:14 PM		
Client ID:		Run ID: VMS6_140321A			SeqNo: 2681743		Prep Date: 3/21/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1018	30	1000	0	102	75-125	0				
Ethylbenzene	962.5	30	1000	0	96.2	75-125	0				
m,p-Xylene	1914	60	2000	0	95.7	80-125	0				
o-Xylene	964.5	30	1000	0	96.4	75-125	0				
Toluene	963	30	1000	0	96.3	70-125	0				
Xylenes, Total	2878	90	3000	0	95.9	75-125	0				
Surr: 1,2-Dichloroethane-d4	985.5	0	1000	0	98.6	70-130	0				
Surr: 4-Bromofluorobenzene	1012	0	1000	0	101	70-130	0				
Surr: Dibromofluoromethane	988.5	0	1000	0	98.8	70-130	0				
Surr: Toluene-d8	966	0	1000	0	96.6	70-130	0				

MS					Sample ID: 1403953-01A MS			Units: µg/Kg		Analysis Date: 3/27/2014 12:26 PM	
Client ID: UP5421-SS1			Run ID: VMS9_140326A			SeqNo: 2686776		Prep Date: 3/21/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1011	30	1000	0	101	75-125	0				
Ethylbenzene	1040	30	1000	0	104	75-125	0				
m,p-Xylene	2140	60	2000	0	107	80-125	0				
o-Xylene	1075	30	1000	0	108	75-125	0				
Toluene	1008	30	1000	0	101	70-125	0				
Xylenes, Total	3216	90	3000	0	107	75-125	0				
Surr: 1,2-Dichloroethane-d4	967.5	0	1000	0	96.8	70-130	0				
Surr: 4-Bromofluorobenzene	1038	0	1000	0	104	70-130	0				
Surr: Dibromofluoromethane	971	0	1000	0	97.1	70-130	0				
Surr: Toluene-d8	1026	0	1000	0	103	70-130	0				

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

**Client:** Olsson Associates  
**Work Order:** 1403953  
**Project:** Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56765**      Instrument ID **VMS6**      Method: **SW8260B**

MSD				Sample ID: 1403953-01A MSD			Units: µg/Kg		Analysis Date: 3/27/2014 12:51 PM	
Client ID: UP5421-SS1				Run ID: VMS9_140326A			SeqNo: 2686777		Prep Date: 3/21/2014	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	972.5	30	1000	0	97.2	75-125	1011	3.88	30	
Ethylbenzene	1004	30	1000	0	100	75-125	1040	3.42	30	
m,p-Xylene	2064	60	2000	0	103	80-125	2140	3.61	30	
o-Xylene	1026	30	1000	0	103	75-125	1075	4.71	30	
Toluene	962	30	1000	0	96.2	70-125	1008	4.72	30	
Xylenes, Total	3090	90	3000	0	103	75-125	3216	3.98	30	
Surr: 1,2-Dichloroethane-d4	972	0	1000	0	97.2	70-130	967.5	0.464	30	
Surr: 4-Bromofluorobenzene	1018	0	1000	0	102	70-130	1038	1.9	30	
Surr: Dibromofluoromethane	941.5	0	1000	0	94.2	70-130	971	3.08	30	
Surr: Toluene-d8	988	0	1000	0	98.8	70-130	1026	3.77	30	

The following samples were analyzed in this batch:

1403953-01A	1403953-03A	1403953-05A
1403953-07A	1403953-08A	1403953-10A

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

**Client:** Olsson Associates  
**Work Order:** 1403953  
**Project:** Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56851** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-56851-56851					Units: s.u.		Analysis Date: 3/24/2014 03:00 PM		
Client ID:			Run ID: WETCHEM_140324P			SeqNo: 2682822		Prep Date: 3/24/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH 3.98 0 4 0 99.5 90-110 0

DUP		Sample ID: 1403950-03A DUP					Units: s.u.		Analysis Date: 3/24/2014 03:00 PM		
Client ID:		Run ID: WETCHEM_140324P			SeqNo: 2682836		Prep Date: 3/24/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH 8.68 0 0 0 0 0-0 8.66 0.231 20

DUP		Sample ID: 1403947-02A DUP					Units: s.u.		Analysis Date: 3/24/2014 03:00 PM		
Client ID:			Run ID: WETCHEM_140324P			SeqNo: 2682847		Prep Date: 3/24/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH 7.68 0 0 0 0 0-0 7.62 0.784 20

The following samples were analyzed in this batch:

1403953-01A	1403953-02A	1403953-03A
1403953-05A	1403953-07A	1403953-10A

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



**Client:** Olsson Associates  
**Work Order:** 1403953  
**Project:** Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56852** Instrument ID **WETCHEM** Method: **SW9045D**

LCS					Sample ID: LCS-56852-56852					Units: s.u.			Analysis Date: 3/24/2014 04:00 PM				
Client ID:					Run ID: WETCHEM_140324Q					SeqNo: 2682848			Prep Date: 3/24/2014			DF: 1	
Analyte					Result		PQL	SPK Val	SPK Ref Value	%REC		Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH					3.98		0	4	0	99.5		90-110	0				

DUP					Sample ID: 1403953-08A DUP					Units: s.u.		Analysis Date: 3/24/2014 04:00 PM			
Client ID: UP5421-SS5					Run ID: WETCHEM_140324Q					SeqNo: 2682851		Prep Date: 3/24/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
pH		9.28	0	0	0	0	0-0	9.27	0.108	20					

The following samples were analyzed in this batch:

1403953-08A

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

Client: Olsson Associates  
 Work Order: 1403953  
 Project: Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56898** Instrument ID **WETCHEM** Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-56898-56898</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/26/2014 03:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_140326S</b>				SeqNo: <b>2686525</b>		Prep Date: <b>3/25/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.50

<b>LCS</b>		Sample ID: <b>LCS-56898-56898</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/26/2014 03:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_140326S</b>				SeqNo: <b>2686524</b>		Prep Date: <b>3/25/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.848 0.50 2 0 92.4 80-120 0

<b>MS</b>		Sample ID: <b>1403954-03A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/26/2014 03:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_140326S</b>				SeqNo: <b>2686520</b>		Prep Date: <b>3/25/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 0.5709 0.51 2.024 0.2169 17.5 75-125 0 S

<b>MS</b>		Sample ID: <b>1403954-03A MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/26/2014 03:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_140326S</b>				SeqNo: <b>2686522</b>		Prep Date: <b>3/25/2014</b>		DF: <b>100</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1048 50 1168 0.2169 89.7 75-125 0

<b>MSD</b>		Sample ID: <b>1403954-03A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/26/2014 03:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_140326S</b>				SeqNo: <b>2686521</b>		Prep Date: <b>3/25/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 0.3198 0.51 2.024 0.2169 5.09 75-125 0.5709 0 20 JS

The following samples were analyzed in this batch:

1403953-01A	1403953-02A	1403953-03A
1403953-05A	1403953-07A	1403953-08A

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

**Client:** Olsson Associates  
**Work Order:** 1403953  
**Project:** Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **56942** Instrument ID **WETCHEM** Method: **USDA H60 Method**

<b>DUP</b>		Sample ID: <b>1403953-03B DUP</b>				Units: <b>mmhos/cm @25°C</b>		Analysis Date: <b>3/27/2014 04:50 PM</b>		
Client ID: <b>UP5421-SS2</b>		Run ID: <b>WETCHEM_140327L</b>				SeqNo: <b>2688120</b>		Prep Date: <b>3/27/2014</b>		DF: <b>10</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	2.55	0.050	0	0	0		2.65	3.85	50	

The following samples were analyzed in this batch:

1403953-01B	1403953-02B	1403953-03B
1403953-05B	1403953-07B	1403953-08B
1403953-10B		

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

Client: Olsson Associates  
 Work Order: 1403953  
 Project: Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **57006** Instrument ID **WETCHEM** Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-57006-57006</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/28/2014 09:00 AM</b>		
Client ID:		Run ID: <b>WETCHEM_140328E</b>				SeqNo: <b>2688917</b>		Prep Date: <b>3/27/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.50

<b>LCS</b>		Sample ID: <b>LCS-57006-57006</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/28/2014 09:00 AM</b>		
Client ID:		Run ID: <b>WETCHEM_140328E</b>				SeqNo: <b>2688918</b>		Prep Date: <b>3/27/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.88 0.50 2 0 94 80-120 0

<b>MS</b>		Sample ID: <b>14031136-01B MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/28/2014 09:00 AM</b>		
Client ID:		Run ID: <b>WETCHEM_140328E</b>				SeqNo: <b>2688927</b>		Prep Date: <b>3/27/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.49 1.961 0.119 -6.07 75-125 0 S

<b>MS</b>		Sample ID: <b>14031136-01B MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/28/2014 09:00 AM</b>		
Client ID:		Run ID: <b>WETCHEM_140328E</b>				SeqNo: <b>2688929</b>		Prep Date: <b>3/27/2014</b>		DF: <b>100</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 904.8 50 772.6 0.119 117 75-125 0

<b>MSD</b>		Sample ID: <b>14031136-01B MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/28/2014 09:00 AM</b>		
Client ID:		Run ID: <b>WETCHEM_140328E</b>				SeqNo: <b>2688928</b>		Prep Date: <b>3/27/2014</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.50 2 0.119 -5.95 75-125 0.1176 0 20 S

The following samples were analyzed in this batch:

1403953-10A

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

**Client:** Olsson Associates  
**Work Order:** 1403953  
**Project:** Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **R137684**      Instrument ID **MOIST**      Method: **A2540 G**

<b>MBLK</b>		Sample ID: <b>WBLKS-R137684</b>				Units: % of sample		Analysis Date: <b>3/24/2014 09:30 AM</b>		
Client ID:		Run ID: <b>MOIST_140324A</b>				SeqNo: <b>2683747</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture      ND      0.050

<b>LCS</b>		Sample ID: <b>LCS-R137684</b>				Units: % of sample		Analysis Date: <b>3/24/2014 09:30 AM</b>		
Client ID:		Run ID: <b>MOIST_140324A</b>				SeqNo: <b>2683746</b>		Prep Date:		DF: <b>1</b>
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

<b>DUP</b>		Sample ID: <b>1403934-01A DUP</b>				Units: % of sample		Analysis Date: <b>3/24/2014 09:30 AM</b>		
Client ID:		Run ID: <b>MOIST_140324A</b>				SeqNo: <b>2683726</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture      15.09      0.050      0      0      0      0-0      14.09      6.85      20

<b>DUP</b>		Sample ID: <b>1403953-11A DUP</b>				Units: % of sample		Analysis Date: <b>3/24/2014 09:30 AM</b>		
Client ID: <b>UP5421-BG5</b>		Run ID: <b>MOIST_140324A</b>				SeqNo: <b>2683736</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture      10.35      0.050      0      0      0      0-0      10.19      1.56      20

The following samples were analyzed in this batch:

1403953-04A	1403953-06A	1403953-09A
1403953-11A		

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

**Client:** Olsson Associates  
**Work Order:** 1403953  
**Project:** Chevron UP 54-21 Spill 3.18.14

## QC BATCH REPORT

Batch ID: **R137688** Instrument ID **MOIST** Method: **A2540 G**

<b>MBLK</b>		Sample ID: <b>WBLKS-R137688</b>				Units: % of sample		Analysis Date: <b>3/24/2014 12:44 PM</b>		
Client ID:		Run ID: <b>MOIST_140324C</b>				SeqNo: <b>2683835</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture ND 0.050

<b>LCS</b>		Sample ID: <b>LCS-R137688</b>				Units: % of sample		Analysis Date: <b>3/24/2014 12:44 PM</b>		
Client ID:		Run ID: <b>MOIST_140324C</b>				SeqNo: <b>2683832</b>		Prep Date:		DF: <b>1</b>
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

<b>DUP</b>		Sample ID: <b>1403925-01A DUP</b>				Units: % of sample		Analysis Date: <b>3/24/2014 12:44 PM</b>		
Client ID:		Run ID: <b>MOIST_140324C</b>				SeqNo: <b>2683797</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 0.64 0.050 0 0 0 0-0 0.65 1.55 20

<b>DUP</b>		Sample ID: <b>1403950-07A DUP</b>				Units: % of sample		Analysis Date: <b>3/24/2014 12:44 PM</b>		
Client ID:		Run ID: <b>MOIST_140324C</b>				SeqNo: <b>2683800</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 9.7 0.050 0 0 0 0-0 9.68 0.206 20

The following samples were analyzed in this batch:

1403953-01A	1403953-02A	1403953-03A
1403953-05A	1403953-07A	1403953-08A
1403953-10A		

**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

Customer Information		Project Information						Parameter/Method Request for Analysis											
Purchase Order		Project Name	Chevron UP 54-21 Spill					A TPH (GRO & DRO)											
Work Order		Project Number	013.3287.100.100004					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.	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 81506	City/State/Zip	Grand Junction, CO 81506					F pH											
Phone	970.263.7800	Phone	970.263.7800					G Metals (See Attached List) CO Table 910											
Fax	970.263.7456	Fax	970.263.7456					H Arsenic Only											
e-Mail Address	tdobransky@oacconsulting.com	e-Mail Address						I											
								J											
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	UP5421-SS1	03/18/14	1155	Soil	8	2	X	X	X	X	X	X	X						
	UP5421-BG1	03/18/14	1200	Soil	8	2				X	X	X	X						
3	UP5421-SS2	03/18/14	1215	Soil	8	2	X	X	X	X	X	X	X						
4	UP5421-BG2	03/18/14	1220	Soil	8	1								X					
5	UP5421-SS3	03/18/14	1230	Soil	8	2	X	X	X	X	X	X	X						
6	UP5421-BG3	03/18/14	1240	Soil	8	1								X					
7	UP5421-SS4	03/18/14	1250	Soil	8	2	X	X	X	X	X	X	X						
8	UP5421-SS5	03/18/14	1350	Soil	8	2	X	X	X	X	X	X	X						
9	UP5421-BG4	03/18/14	1300	Soil	8	1								X					
10	UP5421-SS6	03/18/14	1420	Soil	8	2	X	X	X	X	X	X	X						
12	UP5421-BG5	03/18/14	1400	Soil	8	1								X					

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: 3/20/14 Time: 1630	Received by:	Notes: Chevron Pricing Applies - Per Bruce Schlatter	
Relinquished by:	Date: 3/21/14 Time: 0900	Received by (Laboratory):	QC Package: (Check Box Below)	
Logged by (Laboratory):	Date: 3/21/14 Time: 1200	Graded by (Laboratory):	<input checked="" type="checkbox"/> Level II: Standard QC	
Preservative Key:			<input type="checkbox"/> Level III: Std QC + Raw Data	
			<input type="checkbox"/> Level IV: SW846 CLP-Like	
			Other:	

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: **OLSSON**

Date/Time Received: **21-Mar-14 09:00**

Work Order: **1403953**

Received by: **JR**

Checklist completed by Joseph Ribar  
eSignature

21-Mar-14  
Date

Reviewed by: Ann Preston  
eSignature

24-Mar-14  
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 checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input 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>4.6 c</u>		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	<u>3/21/2014 12:26:47 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:			

Login Notes:

-----

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:





# ALS Environmental

10450 Stancliff Rd., Suite 210  
Houston, Texas 77099  
Tel. +1 281 530 5656  
Fax. +1 281 530 5887

CUSTOMER SEAL

Date: 3/20/14  
Name: K. B.  
Company: OCS

Seal Broken By:

Date:

RODY

Time

ORIGIN ID: GJTA (970) 270-2986  
TIM DOBRANSKY  
OLSSON ASSOCIATES, INC.  
760 HORIZON DRIVE STE 102

GRAND JUNCTION, CO 81506  
UNITED STATES US

SHIP DATE: 20MAR14  
ACTWGT: 65.0 LB MAN  
CAD: 380082/CAFE2704

BILL SENDER

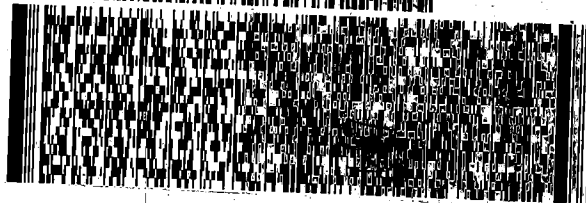
TO SAMPLE RECEIVING  
ALS ENVIRONMENTAL  
3352 128TH AVENUE

HOLLAND MI 49424

(616) 339-6070

PO: 13.3287.100004

100004



FedEx  
Express



TRK# 5632 6808 4529  
0201

FRI - 21 MAR 10:30A  
PRIORITY OVERNIGHT

XX GRRRA

49424  
MI-US GRR

Part # 156148-434 NRTT 06-07





24-May-2016

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

Re: **Chevron UP 54-21 Spill**

Work Order: **1605877**

Dear Tim,

ALS Environmental received 6 samples on 16-May-2016 09:45 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 NELAP standard requirements and QC 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 15.

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 Avenue Holland, Michigan 49424-9263 | 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](http://www.alsglobal.com)

RIGHT SOLUTIONS RIGHT PARTNER

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**Client:** Olsson Associates  
**Project:** Chevron UP 54-21 Spill  
**Work Order:** 1605877

**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>
1605877-01	UP5421-SS1	Soil		5/11/2016 13:15	5/16/2016 09:45	<input type="checkbox"/>
1605877-02	UP5421-SS2	Soil		5/11/2016 13:20	5/16/2016 09:45	<input type="checkbox"/>
1605877-03	UP5421-SS3	Soil		5/11/2016 13:25	5/16/2016 09:45	<input type="checkbox"/>
1605877-04	UP5421-SS4	Soil		5/11/2016 13:30	5/16/2016 09:45	<input type="checkbox"/>
1605877-05	UP5421-SS5	Soil		5/11/2016 13:35	5/16/2016 09:45	<input type="checkbox"/>
1605877-06	UP5421-SS6	Soil		5/11/2016 13:40	5/16/2016 09:45	<input type="checkbox"/>

<b><u>Qualifier</u></b>	<b><u>Description</u></b>
*	Value exceeds Regulatory Limit
a	Not accredited
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
n	Not offered for accreditation
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 PQL, sample results may exhibit background or reagent contamination at the observed level.

<b><u>Acronym</u></b>	<b><u>Description</u></b>
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

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

**ALS Group USA, Corp****Date:** 24-May-16

**Client:** Olsson Associates  
**Project:** Chevron UP 54-21 Spill  
**Sample ID:** UP5421-SS1  
**Collection Date:** 5/11/2016 01:15 PM

**Work Order:** 1605877  
**Lab ID:** 1605877-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SOLUBLE CATIONS FOR SAR</b>			<b>SW846 6010C</b>		Prep: USDA Method 20B / 5/18/16	Analyst: <b>JEC</b>
Calcium	430		5.0	mg/L	10	5/18/2016 12:29 PM
Magnesium	100		2.0	mg/L	10	5/18/2016 12:29 PM
Sodium	1,400		2.0	mg/L	10	5/18/2016 12:29 PM
<b>SODIUM ADSORPTION RATIO</b>			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 5/18/16	Analyst: <b>JEC</b>
Sodium Adsorption Ratio	15		0.010	none	1	5/18/2016
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 5/18/16	Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	10		0.050	mmhos/cm @2	10	5/18/2016 01:50 PM

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

**ALS Group USA, Corp****Date:** 24-May-16

**Client:** Olsson Associates  
**Project:** Chevron UP 54-21 Spill  
**Sample ID:** UP5421-SS2  
**Collection Date:** 5/11/2016 01:20 PM

**Work Order:** 1605877  
**Lab ID:** 1605877-02  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SOLUBLE CATIONS FOR SAR</b>			<b>SW846 6010C</b>		Prep: USDA Method 20B / 5/18/16	Analyst: <b>JEC</b>
Calcium	85		5.0	mg/L	10	5/18/2016 12:34 PM
Magnesium	18		2.0	mg/L	10	5/18/2016 12:34 PM
Sodium	36		2.0	mg/L	10	5/18/2016 12:34 PM
<b>SODIUM ADSORPTION RATIO</b>			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 5/18/16	Analyst: <b>JEC</b>
Sodium Adsorption Ratio	0.92		0.010	none	1	5/18/2016

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

## ALS Group USA, Corp

Date: 24-May-16

**Client:** Olsson Associates  
**Project:** Chevron UP 54-21 Spill  
**Sample ID:** UP5421-SS3  
**Collection Date:** 5/11/2016 01:25 PM

**Work Order:** 1605877  
**Lab ID:** 1605877-03  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 5/18/16		
Electrical Conductivity @ Saturation	1.0		0.050	mmhos/cm @2	10	Analyst: <b>JB</b> 5/18/2016 01:50 PM

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

**ALS Group USA, Corp****Date:** 24-May-16

**Client:** Olsson Associates  
**Project:** Chevron UP 54-21 Spill  
**Sample ID:** UP5421-SS4  
**Collection Date:** 5/11/2016 01:30 PM

**Work Order:** 1605877  
**Lab ID:** 1605877-04  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SOLUBLE CATIONS FOR SAR</b>			<b>SW846 6010C</b>		Prep: USDA Method 20B / 5/18/16	Analyst: <b>JEC</b>
Calcium	140		5.0	mg/L	10	5/18/2016 12:43 PM
Magnesium	33		2.0	mg/L	10	5/18/2016 12:43 PM
Sodium	18		2.0	mg/L	10	5/18/2016 12:43 PM
<b>SODIUM ADSORPTION RATIO</b>			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 5/18/16	Analyst: <b>JEC</b>
Sodium Adsorption Ratio	0.36		0.010	none	1	5/18/2016
<b>MOISTURE</b>			<b>SW3550C</b>			Analyst: <b>EDL</b>
Moisture	16		0.050	% of sample	1	5/16/2016 05:38 PM
<b>PH</b>			<b>SW9045D</b>		Prep: EXTRACT / 5/16/16	Analyst: <b>STP</b>
pH	8.2			s.u.	1	5/16/2016 05:50 PM

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



**ALS Group USA, Corp****Date:** 24-May-16

**Client:** Olsson Associates  
**Project:** Chevron UP 54-21 Spill  
**Sample ID:** UP5421-SS5  
**Collection Date:** 5/11/2016 01:35 PM

**Work Order:** 1605877  
**Lab ID:** 1605877-05  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SOLUBLE CATIONS FOR SAR</b>			<b>SW846 6010C</b>		Prep: USDA Method 20B / 5/18/16	Analyst: <b>JEC</b>
Calcium	120		5.0	mg/L	10	5/18/2016 12:48 PM
Magnesium	28		2.0	mg/L	10	5/18/2016 12:48 PM
Sodium	33		2.0	mg/L	10	5/18/2016 12:48 PM
<b>SODIUM ADSORPTION RATIO</b>			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 5/18/16	Analyst: <b>JEC</b>
Sodium Adsorption Ratio	0.71		0.010	none	1	5/18/2016
<b>MOISTURE</b>			<b>SW3550C</b>			Analyst: <b>EDL</b>
Moisture	17		0.050	% of sample	1	5/16/2016 05:38 PM
<b>PH</b>			<b>SW9045D</b>		Prep: EXTRACT / 5/16/16	Analyst: <b>STP</b>
pH	8.2			s.u.	1	5/16/2016 05:50 PM

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

**ALS Group USA, Corp****Date:** 24-May-16

**Client:** Olsson Associates  
**Project:** Chevron UP 54-21 Spill  
**Sample ID:** UP5421-SS6  
**Collection Date:** 5/11/2016 01:40 PM

**Work Order:** 1605877  
**Lab ID:** 1605877-06  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SOLUBLE CATIONS FOR SAR</b>			<b>SW846 6010C</b>		Prep: USDA Method 20B / 5/18/16	Analyst: JEC
Calcium	120		5.0	mg/L	10	5/18/2016 12:53 PM
Magnesium	25		2.0	mg/L	10	5/18/2016 12:53 PM
Sodium	39		2.0	mg/L	10	5/18/2016 12:53 PM
<b>SODIUM ADSORPTION RATIO</b>			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 5/18/16	Analyst: JEC
Sodium Adsorption Ratio	0.87		0.010	none	1	5/18/2016

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

# ALS Group USA, Corp

Date: 24-May-16

Client: Olsson Associates

Work Order: 1605877

Project: Chevron UP 54-21 Spill

## QC BATCH REPORT

Batch ID: **86100**

Instrument ID **ICP2**

Method: **SW846 6010C**

DUP		Sample ID: <b>1605870-01ADUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>5/18/2016 11:32 AM</b>		
Client ID:		Run ID: <b>ICP2_160518A</b>				SeqNo: <b>3834237</b>		Prep Date: <b>5/18/2016</b>		DF: <b>10</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	180.3	5.0	0	0	0	0-0	177.6	1.51		
Magnesium	8.103	2.0	0	0	0	0-0	8.024	0.978		
Sodium	24.16	2.0	0	0	0	0-0	23.82	1.41		

DUP		Sample ID: <b>1605870-01ADUP</b>				Units: <b>none</b>		Analysis Date: <b>5/18/2016</b>		
Client ID:		Run ID: <b>SAR_160518A</b>				SeqNo: <b>3834365</b>		Prep Date: <b>5/18/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	0.4782	0.010	0	0	0		0.4749	0.677	50	

The following samples were analyzed in this batch:

1605877-01A	1605877-02A	1605877-03A
1605877-04A	1605877-05A	1605877-06A

Batch ID: **86100**

Instrument ID **WETCHEM**

Method: **USDA H60 Metho**

DUP		Sample ID: <b>1605870-01A DUP</b>				Units: <b>mmhos/cm @25°</b>		Analysis Date: <b>5/18/2016 01:50 PM</b>		
Client ID:		Run ID: <b>WETCHEM_160518K</b>				SeqNo: <b>3834547</b>		Prep Date: <b>5/18/2016</b>		DF: <b>10</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.198	0.050	0	0	0		1.186	1.01	50	

The following samples were analyzed in this batch:

1605877-01A	1605877-02A	1605877-03A
1605877-04A	1605877-05A	1605877-06A

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

**Client:** Olsson Associates  
**Work Order:** 1605877  
**Project:** Chevron UP 54-21 Spill

## QC BATCH REPORT

Batch ID: **86126** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-86126-86126				Units: s.u.		Analysis Date: 5/16/2016 05:50 PM		
Client ID:		Run ID: WETCHEM_160516M				SeqNo: 3830031		Prep Date: 5/16/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH	3.93	0	4	0	98.2	90-110	0			
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DUP		Sample ID: 1605709-01A DUP				Units: s.u.		Analysis Date: 5/16/2016 05:50 PM		
Client ID:		Run ID: WETCHEM_160516M				SeqNo: 3830033		Prep Date: 5/16/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH	7.53	0	0	0	0	0-0	7.46	0.934	20	
----	------	---	---	---	---	-----	------	-------	----	--

DUP				Sample ID: 1605877-04A DUP				Units: s.u.			Analysis Date: 5/16/2016 05:50 PM			
Client ID: UP5421-SS4				Run ID: WETCHEM_160516M				SeqNo: 3830043			Prep Date: 5/16/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

pH	8.22	0	0	0	0	0-0	8.15	0.855	20	
----	------	---	---	---	---	-----	------	-------	----	--

The following samples were analyzed in this batch:

1605877-04A	1605877-05A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Olsson Associates  
**Work Order:** 1605877  
**Project:** Chevron UP 54-21 Spill

## QC BATCH REPORT

Batch ID: **R187651** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R187651				Units: % of sample		Analysis Date: 5/16/2016 05:38 PM		
Client ID:		Run ID: MOIST_160516A				SeqNo: 3830956		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-R187651					Units: % of sample		Analysis Date: 5/16/2016 05:38 PM		
Client ID:			Run ID: MOIST_160516A			SeqNo: 3830955		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: 1605864-04B DUP				Units: % of sample			Analysis Date: 5/16/2016 05:38 PM			
Client ID:				Run ID: MOIST_160516A				SeqNo: 3830946			Prep Date:		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			

Moisture 18.62 0.050 0 0 0 20.59 10 20

The following samples were analyzed in this batch:

1605877-04A 1605877-05A

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



## Page 1 of 1

COC ID: 123456

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

ALS Project Manager:																	
Work Order #: 1605877																	
Customer Information			Project Information				Parameter/Method Request for Analysis										
Purchase Order			Project Name	Chevron UP 54-21 Spill			A	TPH (GRO & DRO)									
Work Order			Project Number	013.3287.100.100004			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.	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 81506		City/State/Zip	Grand Junction, CO 81506			F	pH									
Phone	970.263.7800		Phone	970.263.7800			G	Metals (See Attached List) CO Table 910									
Fax	970.263.7456		Fax	970.263.7456			H	Arsenic Only									
e-Mail Address	tobransk@olsonassoc.com		e-Mail Address				I										
J																	
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	UP5421-SS1	05/11/16	1315	Soil	8	1				X	X						
2	UP5421-SS2	05/11/16	1320	Soil	8	1					X						
3	UP5421-SS3	05/11/16	1325	Soil	8	1				X							
4	UP5421-SS4	05/11/16	1330	Soil	8	1					X	X					
5	UP5421-SS5	05/11/16	1335	Soil	8	1					X	X					
6	UP5421-SS6	05/11/16	1340	Soil	8	1					X						
Sampler(s): Please Print & Sign Tim Dobransky			Shipment Method: FedEx		Required Turnaround Time: <input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Other _____			Results Due Date:						
Relinquished by:		Date:	Time:	Received by:			Notes: Chevron Pricing Applies - Per Bruce Schlatter										
Relinquished by:		Date:	Time:	Received By Laboratory:			Cooler Temp.			QC Packages (Check Box Below):							
Logged By (Laboratory):		Date:	Time:	Checked by (Laboratory):			5.8°C			x	Level II: Standard QC						
		Date:	Time:								Level III: Std QC + Raw Data						
		Date:	Time:								Level IV: SW846 CLP-Like						
		Date:	Time:								Other: _____						
Preservative Key: 1-HCL 2-HNO <sub>3</sub> 3-H <sub>2</sub> SO <sub>4</sub> 4-NaOH 5-Na <sub>2</sub> SiO <sub>3</sub> 6-NaHSO <sub>4</sub> 7-Other 8-C 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: **OLSSON**

Date/Time Received: **16-May-16 09:45**

Work Order: **1605877**

Received by: **KRW**

Checklist completed by Keith Wurenga  
eSignature

16-May-16  
Date

Reviewed by: Chad Whelton  
eSignature

16-May-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>5.8/5.8 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>5/16/2016 11:12:07 AM</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:





27-Oct-2017

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

Re: **UP 54-21 Spill Resampling**

Work Order: **17101036**

Dear Tim,

ALS Environmental received 1 sample on 14-Oct-2017 10:00 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 7.

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](http://www.alsglobal.com)

RIGHT SOLUTIONS RIGHT PARTNER

**Client:** Olsson Associates  
**Project:** UP 54-21 Spill Resampling  
**Work Order:** 17101036

## 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>
17101036-01	UP5421-SS1	Soil		10/12/2017 16:00	10/16/2017 10:00	<input type="checkbox"/>

**Client:** Olsson Associates  
**Project:** UP 54-21 Spill Resampling  
**WorkOrder:** 17101036

## **QUALIFIERS, ACRONYMS, UNITS**

<b><u>Qualifier</u></b>	<b><u>Description</u></b>
*	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
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.

<b><u>Acronym</u></b>	<b><u>Description</u></b>
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

<b><u>Units Reported</u></b>	<b><u>Description</u></b>
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	

**ALS Group, USA****Date:** 27-Oct-17

**Client:** Olsson Associates  
**Project:** UP 54-21 Spill Resampling  
**Sample ID:** UP5421-SS1  
**Collection Date:** 10/12/2017 04:00 PM

**Work Order:** 17101036  
**Lab ID:** 17101036-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 10/18/17		Analyst: <b>RH</b>
Sodium Adsorption Ratio	0.50		0.010	0.010	none	1	10/18/2017
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6020A</b>		Prep: USDA Method 20B / 10/18/17		Analyst: <b>JF</b>
Calcium	94		0.86	5.0	mg/L	10	10/19/2017 13:29
Magnesium	13		0.068	2.0	mg/L	10	10/19/2017 13:29
Sodium	19		0.34	2.0	mg/L	10	10/19/2017 13:29
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>							
			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 10/18/17		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	0.75		0.028	0.25	mmhos/cm @25°	50	10/19/2017 10:00

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

# ALS Group, USA

Date: 27-Oct-17

**Client:** Olsson Associates  
**Work Order:** 17101036  
**Project:** UP 54-21 Spill Resampling

## QC BATCH REPORT

Batch ID: **109213** Instrument ID **SAR** Method: **USDA H60 Metho**

<b>DUP</b>	Sample ID: <b>17101034-01ADUP</b>					Units: <b>none</b>	Analysis Date: <b>10/18/2017</b>			
Client ID:	Run ID: <b>SAR_171018A</b>				SeqNo: <b>4710565</b>		Prep Date: <b>10/18/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	0.1694	0.010	0	0	0		0.183	7.71	50	

The following samples were analyzed in this batch:

17101036-01A

Batch ID: **109213** Instrument ID **ICPMS3** Method: **SW6020A**

<b>DUP</b>	Sample ID: <b>17101034-01ADUP</b>					Units: <b>mg/L</b>	Analysis Date: <b>10/18/2017 07:11 PM</b>			
Client ID:	Run ID: <b>ICPMS3_171018A</b>				SeqNo: <b>4708883</b>		Prep Date: <b>10/18/2017</b>		DF: <b>10</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	191.7	5.0	0	0	0	0-0	185.7	3.18		
Magnesium	15.68	2.0	0	0	0	0-0	16.23	3.44		
Sodium	9.074	2.0	0	0	0	0-0	9.686	6.52		

The following samples were analyzed in this batch:

17101036-01A

Batch ID: **109213** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

<b>DUP</b>	Sample ID: <b>17101034-01A DUP</b>					Units: <b>mmhos/cm @25°</b>	Analysis Date: <b>10/19/2017 10:00 A</b>			
Client ID:	Run ID: <b>WETCHEM_171019C</b>				SeqNo: <b>4709444</b>		Prep Date: <b>10/18/2017</b>		DF: <b>50</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.54	0.25	0	0	0		1.47	4.65	50	

The following samples were analyzed in this batch:

17101036-01A

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



## Page 1 of 1

**COC ID: 123456**

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Cincinnati, OH<br>+1 513 733 5336   | <input checked="" type="checkbox"/> Holland, MI<br>+1 616 399 5070 | <input type="checkbox"/> Salt Lake City, UT<br>+1 801 256 7796 |
| <input type="checkbox"/> Everett, WA<br>+1 425 358 2600      | <input type="checkbox"/> Houston, TX<br>+1 281 632 5806            | <input type="checkbox"/> Spring City, PA<br>+1 610 848 4903    |
| <input type="checkbox"/> Fort Collins, CO<br>+1 970 498 1511 | <input type="checkbox"/> Middlestown, PA<br>+1 717 844 3641        | <input type="checkbox"/> York, PA<br>+1 717 825 5235           |

[illegible]

**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: **OLSSON**

Date/Time Received: **14-Oct-17 10:00**

Work Order: **17101036**

Received by: **KRW**

Checklist completed by Keith Wurenga  
eSignature

16-Oct-17  
Date

Reviewed by: Chad Whelton  
eSignature

16-Oct-17  
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>4.8/4.8 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>10/16/2017 12:43:54 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:

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Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction: