



### Legend

- Spill Origin
- Other Soil Sample Location
- ▬ Spill Area

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



Project Number: 018-065

Drawn By: TPD

Revision Date: 6/22/2017

**AC McLaughlin 43  
Spill Response**  
Chevron USA, Inc  
Rio Blanco County, Colorado  
NSE S14 T2N R103W



330 Grand Ave., Suite C  
Grand Junction, CO 81501  
P: 970.549.1015

Figure

1

Table 1  
AC McLaughlin 43  
Soil Data Summary

SAMPLE SUMMARY	
Location Description	Ac McLaughlin 43 Spill
Sample Type	Soil

LABORATORY DATA SUMMARY											
Sample ID	ACM 43-SS1	ACM 43-SS2	ACM 43-SS3	ACM 43-SS4	ACM 43-SS5	ACM 43-SS6	ACM 43-SS7	ACM 43-BG1	ACM 43-BG2	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"		
Sample Date	4/19/2017	4/19/2017	4/19/2017	4/19/2017	4/19/2017	4/19/2017	4/19/2017	4/19/2017	4/19/2017		
Analytical Parameters											
TPH											
TPH Gasoline Range Organics	<1.6	<1.9	<2.0	<2.0	<2.1	<2.1	<2.1	NT	NT	500	mg/kg
TPH Diesel Range Organics	19	21	36	34	93	33	21	NT	NT		
BTEX											
Benzene	<0.0077	<0.041	<0.0096	<0.0096	<0.010	<0.010	<0.010	NT	NT	0.17	mg/kg
Toluene	<0.011	<0.041	<0.014	<0.014	<0.015	<0.015	<0.015	NT	NT	85	mg/kg
Ethylbenzene	<0.0079	<0.041	<0.0099	<0.0099	<0.010	<0.011	<0.010	NT	NT	100	mg/kg
Total Xylene	<0.026	<0.12	<0.033	<0.033	<0.034	<0.036	<0.035	NT	NT	175	mg/kg
Metals											
Arsenic	7.5	9.0	9.4	9.9	9.4	10	8.7	9.1	10	0.39	mg/kg
Barium	150	180	180	150	100	95	100	110	NT	15,000	mg/kg
Cadmium	0.93	0.86	0.79	0.88	0.84	0.91	0.82	0.83	NT	70	mg/kg
Chromium	12	12	10	13	16	14	15	12	NT	NA	mg/kg
Copper	13	16	15	16	17	16	17	15	NT	3,100	mg/kg
Lead	15	20	20	21	22	20	22	19	NT	400	mg/kg
Mercury	0.021	0.022	0.025	0.032	0.034	0.045	0.039	0.021	NT	23	mg/kg
Nickel	15	19	18	20	24	20	22	18	NT	1,600	mg/kg
Selenium	1.5	1.7	1.5	1.4	1.5	1.4	1.5	1.4	NT	390	mg/kg
Silver	<0.053	<0.057	<0.049	<0.060	<0.061	<0.063	<0.058	<0.054	NT	390	mg/kg
Zinc	89	99	97	100	110	100	110	91	NT	23,000	mg/kg
SAR Metals Analysis											
Calcium	710	750	530	83	60	390	33	99	NT	NA	mg/L
Magnesium	160	61	67	21	15	98	8.5	35	NT	NA	mg/L
Sodium	550	280	850	840	1300	2700	720	40	NT	NA	mg/L
Sodium Adsorption Ratio	4.8	2.6	9.3	21	39	31	29	0.89	NT	<12	ratio
Polynuclear Aromatic Hyrdrocarbons											
Acenaphthene	<0.0031	<0.0034	<0.0035	<0.0036	<0.0036	<0.0037	<0.0035	NT	NT	1,000	mg/kg
Anthracene	<0.0016	<0.0017	<0.0018	<0.0018	<0.0018	<0.0019	<0.0018	NT	NT	1,000	mg/kg
Benzo(a)anthracene	<0.0027	<0.0029	<0.0030	<0.0031	<0.0031	<0.0032	<0.0030	NT	NT	0.22	mg/kg
Benzo(a)pyrene	<0.0011	<0.0012	<0.0012	<0.0013	<0.0013	<0.0013	<0.0012	NT	NT	0.022	mg/kg
Benzo(b)fluoranthene	<0.0017	<0.0018	<0.0019	<0.0019	<0.0019	<0.0020	<0.0019	NT	NT	0.22	mg/kg
Benzo(k)fluoranthene	<0.0023	<0.0025	<0.0025	<0.0026	<0.0026	<0.0027	<0.0025	NT	NT	2.2	mg/kg
Chrysene	<0.0017	<0.0018	<0.0019	<0.0019	<0.0019	<0.0020	<0.0019	NT	NT	22	mg/kg
Dibenzo(a,h)anthracene	<0.0014	<0.0016	<0.0016	<0.0016	<0.0016	<0.0017	<0.0016	NT	NT	0.022	mg/kg
Fluoranthene	<0.0013	<0.0014	<0.0014	<0.0014	<0.0015	<0.0015	<0.0014	NT	NT	1,000	mg/kg
Fluorene	<0.0014	<0.0016	<0.0016	<0.0016	<0.0016	<0.0017	<0.0016	NT	NT	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	<0.0014	<0.0015	<0.0015	<0.0015	<0.0015	<0.0016	<0.0015	NT	NT	0.22	mg/kg
Napthalene	<0.0083	<0.0090	<0.0092	<0.0095	0.087	<0.0098	<0.0093	NT	NT	23	mg/kg
Pyrene	<0.0016	<0.0017	<0.0017	<0.0018	<0.0018	<0.0019	<0.0018	NT	NT	1,000	mg/kg
General Chemistry											
Chromium, Hexavalent	<0.33	3.7	1.0 J	<0.35	<0.36	<0.38	<0.36	<0.31	NT	23	mg/kg
Chromium, Trivalent	12	8.0	9.4	13	16	14	15	12.00	NT	120,000	mg/kg
Specific Conductivity	8.4	6.1	7.5	5.4	24	18	4.1	1.0	NT	<4 or 2 x the background	mmhos/cm
pH	7.21	7.98	8.44	8.61	8.66	8.11	9.07	7.53	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



24-Mar-2021

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

Re: **AC McLaughlin 43 013.3287.400.400004**

Work Order: **17041236**

Dear Tim,

ALS Environmental received 9 samples on 21-Apr-2017 09:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 44.

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

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

Sincerely,

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

Electronically approved by: Chad Whelton

Chad Whelton  
Project Manager

## Report of Laboratory Analysis

Certificate No: MN 026-999-449

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

Environmental 

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

RIGHT SOLUTIONS RIGHT PARTNER

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**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Work Order:** 17041236

**Work Order Sample Summary**

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<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>
17041236-01	ACM 43-SS1	Soil		4/19/2017 11:30	4/21/2017 09:30	<input type="checkbox"/>
17041236-02	ACM 43-BG1	Soil		4/19/2017 11:50	4/21/2017 09:30	<input type="checkbox"/>
17041236-03	ACM 43-SS2	Soil		4/19/2017 12:10	4/21/2017 09:30	<input type="checkbox"/>
17041236-04	ACM 43-SS3	Soil		4/19/2017 12:20	4/21/2017 09:30	<input type="checkbox"/>
17041236-05	ACM 43-SS4	Soil		4/19/2017 13:00	4/21/2017 09:30	<input type="checkbox"/>
17041236-06	ACM 43-SS5	Soil		4/19/2017 13:15	4/21/2017 09:30	<input type="checkbox"/>
17041236-07	ACM 43-SS6	Soil		4/19/2017 13:30	4/21/2017 09:30	<input type="checkbox"/>
17041236-08	ACM 43-SS7	Soil		4/19/2017 13:40	4/21/2017 09:30	<input type="checkbox"/>
17041236-09	ACM 43-BG2	Soil		4/19/2017 13:50	4/21/2017 09:30	<input type="checkbox"/>

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**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Work Order:** 17041236

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**Case Narrative**

Batch 101182, Method ICP\_6010\_S, Sample 17041236-01A MS/MSD: The MS and MSD recoveries were outside of the control limits for Barium and Zinc; however, the results in the parent sample are greater than 4x the spike amount. No qualification is required.

Batch 101182, Method ICP\_6010\_S, Sample 17041236-01A MS/MSD: The MS and MSD recovery was above the upper control limit for Arsenic. The corresponding result in the parent sample may be biased high.

Batch 101215, Method DRLVI\_8015\_S, Sample 17041236-08A: DRO surrogate recovery out due to matrix interference.

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

<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/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	
s.u.	Standard Units

# ALS Group, USA

Date: 24-Mar-21

Client: Olsson Associates  
Project: AC McLaughlin 43 013.3287.400.400004  
Sample ID: ACM 43-SS1  
Collection Date: 4/19/2017 11:30 AM

Work Order: 17041236  
Lab ID: 17041236-01  
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>			Prep: SW3546 / 4/24/17	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>19</b>		<b>0.83</b>	<b>5.3</b>	<b>mg/Kg-dry</b>	1	4/25/2017 09:05
Surr: 4-Terphenyl-d14	58.1			50-150	%REC	1	4/25/2017 09:05
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>			Prep: SW5035 / 4/24/17	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>U</b>		<b>1.6</b>	<b>2.8</b>	<b>mg/Kg-dry</b>	1	4/25/2017 04:19
Surr: Toluene-d8	106			50-150	%REC	1	4/25/2017 04:19
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>			Prep: SW7471 / 5/1/17	Analyst: <b>JJB</b>
<b>Mercury</b>	<b>0.021</b>		<b>0.0029</b>	<b>0.017</b>	<b>mg/Kg-dry</b>	1	5/2/2017 13:55
<b>METALS ANALYSIS BY ICP</b>							
			Method: <b>SW6010D</b>			Prep: SW3050B / 4/27/17	Analyst: <b>CC</b>
<b>Arsenic</b>	<b>7.5</b>		<b>0.11</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	1	4/27/2017 22:51
<b>Barium</b>	<b>150</b>		<b>0.17</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	1	4/27/2017 22:51
<b>Cadmium</b>	<b>0.93</b>		<b>0.041</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	1	4/27/2017 22:51
<b>Chromium</b>	<b>12</b>		<b>0.024</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	1	4/27/2017 22:51
<b>Copper</b>	<b>13</b>		<b>0.19</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	1	4/27/2017 22:51
<b>Lead</b>	<b>15</b>		<b>0.091</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	1	4/27/2017 22:51
<b>Nickel</b>	<b>15</b>		<b>0.17</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	1	4/27/2017 22:51
<b>Selenium</b>	<b>1.5</b>		<b>0.24</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	1	4/27/2017 22:51
Silver	U		0.053	0.43	mg/Kg-dry	1	4/27/2017 22:51
<b>Zinc</b>	<b>89</b>		<b>0.068</b>	<b>0.86</b>	<b>mg/Kg-dry</b>	1	4/27/2017 22:51
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6010D</b>			Prep: USDA Method 20B / 4/26/17	Analyst: <b>CC</b>
<b>Calcium</b>	<b>710</b>		<b>0.15</b>	<b>5.0</b>	<b>mg/L</b>	10	4/27/2017 11:17
<b>Magnesium</b>	<b>160</b>		<b>0.13</b>	<b>2.0</b>	<b>mg/L</b>	10	4/27/2017 11:17
<b>Sodium</b>	<b>550</b>		<b>0.12</b>	<b>2.0</b>	<b>mg/L</b>	10	4/27/2017 11:17
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>			Prep: USDA Method 20B / 4/26/17	Analyst: <b>CC</b>
<b>Exchangeable Sodium Percentage</b>	<b>5.5</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	4/27/2017
<b>Sodium Adsorption Ratio</b>	<b>4.8</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	4/27/2017
<b>POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)</b>							
			Method: <b>SW8270E</b>			Prep: SW3546 / 4/28/17	Analyst: <b>RS</b>
Acenaphthene	U		0.0031	0.044	mg/Kg-dry	1	4/28/2017 21:51
Acenaphthylene	U		0.0039	0.044	mg/Kg-dry	1	4/28/2017 21:51
Anthracene	U		0.0016	0.044	mg/Kg-dry	1	4/28/2017 21:51
Benzo(a)anthracene	U		0.0027	0.044	mg/Kg-dry	1	4/28/2017 21:51
Benzo(a)pyrene	U		0.0011	0.044	mg/Kg-dry	1	4/28/2017 21:51
Benzo(b)fluoranthene	U		0.0017	0.044	mg/Kg-dry	1	4/28/2017 21:51
Benzo(g,h,i)perylene	U		0.0030	0.044	mg/Kg-dry	1	4/28/2017 21:51
Benzo(k)fluoranthene	U		0.0023	0.044	mg/Kg-dry	1	4/28/2017 21:51

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

# ALS Group, USA

Date: 24-Mar-21

**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Sample ID:** ACM 43-SS1  
**Collection Date:** 4/19/2017 11:30 AM

**Work Order:** 17041236  
**Lab ID:** 17041236-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chrysene	U		0.0017	0.044	mg/Kg-dry	1	4/28/2017 21:51
Dibenzo(a,h)anthracene	U		0.0014	0.044	mg/Kg-dry	1	4/28/2017 21:51
Fluoranthene	U		0.0013	0.044	mg/Kg-dry	1	4/28/2017 21:51
Fluorene	U		0.0014	0.044	mg/Kg-dry	1	4/28/2017 21:51
Indeno(1,2,3-cd)pyrene	U		0.0014	0.044	mg/Kg-dry	1	4/28/2017 21:51
Naphthalene	U		0.0083	0.044	mg/Kg-dry	1	4/28/2017 21:51
Phenanthrene	U		0.0015	0.044	mg/Kg-dry	1	4/28/2017 21:51
Pyrene	U		0.0016	0.044	mg/Kg-dry	1	4/28/2017 21:51
Surr: 2-Fluorobiphenyl	62.9			20-140	%REC	1	4/28/2017 21:51
Surr: 4-Terphenyl-d14	41.2			22-172	%REC	1	4/28/2017 21:51
Surr: Nitrobenzene-d5	63.8			8-140	%REC	1	4/28/2017 21:51
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260C</b>		Prep: SW5035 / 4/24/17		Analyst: <b>EMR</b>
Benzene	U		0.0077	0.034	mg/Kg-dry	1	4/24/2017 21:15
Ethylbenzene	U		0.0079	0.034	mg/Kg-dry	1	4/24/2017 21:15
m,p-Xylene	U		0.015	0.068	mg/Kg-dry	1	4/24/2017 21:15
o-Xylene	U		0.011	0.034	mg/Kg-dry	1	4/24/2017 21:15
Toluene	U		0.011	0.034	mg/Kg-dry	1	4/24/2017 21:15
Xylenes, Total	U		0.026	0.10	mg/Kg-dry	1	4/24/2017 21:15
Surr: 1,2-Dichloroethane-d4	102			70-130	%REC	1	4/24/2017 21:15
Surr: 4-Bromofluorobenzene	101			70-130	%REC	1	4/24/2017 21:15
Surr: Dibromofluoromethane	93.4			70-130	%REC	1	4/24/2017 21:15
Surr: Toluene-d8	102			70-130	%REC	1	4/24/2017 21:15
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 4/26/17		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	8.4		0.0055	0.050	mmhos/cm @25°	10	4/27/2017 09:30
<b>CHROMIUM, TRIVALENT</b>			Method: <b>CALCULATION</b>				Analyst: <b>JB</b>
Chromium, Trivalent	12		0.33	1.1	mg/Kg-dry	1	4/28/2017 17:15
<b>CHROMIUM, HEXAVALENT</b>			Method: <b>SW7196A</b>		Prep: SW3060A / 4/26/17		Analyst: <b>LW</b>
Chromium, Hexavalent	U		0.33	1.1	mg/Kg-dry	1	4/27/2017 15:30
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>EDL</b>
Moisture	6.2		0.025	0.050	% of sample	1	4/27/2017 14:19
<b>SOIL PH MEASURED IN WATER AT NOTED TEMP.</b>			Method: <b>SW9045D</b>		Prep: SW9045D / 4/24/17		Analyst: <b>RZM</b>
pH	7.21		0.10	0.10	s.u.	1	4/25/2017 14:25

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

# ALS Group, USA

Date: 24-Mar-21

Client: Olsson Associates  
Project: AC McLaughlin 43 013.3287.400.400004  
Sample ID: ACM 43-BG1  
Collection Date: 4/19/2017 11:50 AM

Work Order: 17041236  
Lab ID: 17041236-02  
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>		Prep: SW7471 / 5/1/17		Analyst: <b>JJB</b>
Mercury	0.021		0.0027	0.017	mg/Kg-dry	1	5/2/2017 13:57
<b>METALS ANALYSIS BY ICP</b>							
			Method: <b>SW6010D</b>		Prep: SW3050B / 4/27/17		Analyst: <b>CC</b>
Arsenic	9.1		0.11	0.43	mg/Kg-dry	1	4/27/2017 23:09
Barium	110		0.17	0.43	mg/Kg-dry	1	4/27/2017 23:09
Cadmium	0.83		0.042	0.43	mg/Kg-dry	1	4/27/2017 23:09
Chromium	12		0.024	0.43	mg/Kg-dry	1	4/27/2017 23:09
Copper	15		0.19	0.43	mg/Kg-dry	1	4/27/2017 23:09
Lead	19		0.092	0.43	mg/Kg-dry	1	4/27/2017 23:09
Nickel	18		0.17	0.43	mg/Kg-dry	1	4/27/2017 23:09
Selenium	1.4		0.24	0.43	mg/Kg-dry	1	4/27/2017 23:09
Silver	U		0.054	0.43	mg/Kg-dry	1	4/27/2017 23:09
Zinc	91		0.069	0.87	mg/Kg-dry	1	4/27/2017 23:09
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6010D</b>		Prep: USDA Method 20B / 4/26/17		Analyst: <b>CC</b>
Calcium	99		0.15	5.0	mg/L	10	4/27/2017 11:24
Magnesium	35		0.13	2.0	mg/L	10	4/27/2017 11:24
Sodium	40		0.12	2.0	mg/L	10	4/27/2017 11:24
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 4/26/17		Analyst: <b>CC</b>
Exchangeable Sodium Percentage	0.054		0.010	0.010	none	1	4/27/2017
Sodium Adsorption Ratio	0.89		0.010	0.010	none	1	4/27/2017
<b>POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)</b>							
			Method: <b>SW8270E</b>		Prep: SW3546 / 4/28/17		Analyst: <b>RS</b>
Acenaphthene	U		0.0030	0.042	mg/Kg-dry	1	4/28/2017 22:16
Acenaphthylene	U		0.0037	0.042	mg/Kg-dry	1	4/28/2017 22:16
Anthracene	U		0.0015	0.042	mg/Kg-dry	1	4/28/2017 22:16
Benzo(a)anthracene	U		0.0026	0.042	mg/Kg-dry	1	4/28/2017 22:16
Benzo(a)pyrene	U		0.0011	0.042	mg/Kg-dry	1	4/28/2017 22:16
Benzo(b)fluoranthene	U		0.0016	0.042	mg/Kg-dry	1	4/28/2017 22:16
Benzo(g,h,i)perylene	U		0.0028	0.042	mg/Kg-dry	1	4/28/2017 22:16
Benzo(k)fluoranthene	U		0.0022	0.042	mg/Kg-dry	1	4/28/2017 22:16
Chrysene	U		0.0016	0.042	mg/Kg-dry	1	4/28/2017 22:16
Dibenzo(a,h)anthracene	U		0.0014	0.042	mg/Kg-dry	1	4/28/2017 22:16
Fluoranthene	U		0.0012	0.042	mg/Kg-dry	1	4/28/2017 22:16
Fluorene	U		0.0014	0.042	mg/Kg-dry	1	4/28/2017 22:16
Indeno(1,2,3-cd)pyrene	U		0.0013	0.042	mg/Kg-dry	1	4/28/2017 22:16
Naphthalene	U		0.0079	0.042	mg/Kg-dry	1	4/28/2017 22:16
Phenanthrene	U		0.0015	0.042	mg/Kg-dry	1	4/28/2017 22:16

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

# ALS Group, USA

Date: 24-Mar-21

**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Sample ID:** ACM 43-BG1  
**Collection Date:** 4/19/2017 11:50 AM

**Work Order:** 17041236  
**Lab ID:** 17041236-02  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Pyrene	U		0.0015	0.042	mg/Kg-dry	1	4/28/2017 22:16
Surr: 2-Fluorobiphenyl	56.7			20-140	%REC	1	4/28/2017 22:16
Surr: 4-Terphenyl-d14	43.5			22-172	%REC	1	4/28/2017 22:16
Surr: Nitrobenzene-d5	57.3			8-140	%REC	1	4/28/2017 22:16
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			Method: <b>USDA H60 METHOD 2</b> Prep: USDA Method 20B / 4/26/17				Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	1.0		0.0055	0.050	mmhos/cm @25°	10	4/27/2017 09:30
<b>CHROMIUM, TRIVALENT</b>			Method: <b>CALCULATION</b>				Analyst: <b>JB</b>
Chromium, Trivalent	12		0.33	1.1	mg/Kg-dry	1	4/28/2017 17:15
<b>CHROMIUM, HEXAVALENT</b>			Method: <b>SW7196A</b> Prep: SW3060A / 4/26/17				Analyst: <b>LW</b>
Chromium, Hexavalent	U		0.31	1.0	mg/Kg-dry	1	4/27/2017 15:30
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>EDL</b>
Moisture	5.4		0.025	0.050	% of sample	1	4/27/2017 14:19
<b>SOIL PH MEASURED IN WATER AT NOTED TEMP.</b>			Method: <b>SW9045D</b> Prep: SW9045D / 4/24/17				Analyst: <b>RZM</b>
pH	7.53		0.10	0.10	s.u.	1	4/25/2017 14:25

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

# ALS Group, USA

Date: 24-Mar-21

**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Sample ID:** ACM 43-SS2  
**Collection Date:** 4/19/2017 12:10 PM

**Work Order:** 17041236  
**Lab ID:** 17041236-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>			Prep: SW3546 / 4/24/17	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>21</b>		<b>0.92</b>	<b>5.8</b>	<b>mg/Kg-dry</b>	1	4/25/2017 12:59
Surr: 4-Terphenyl-d14	75.6			50-150	%REC	1	4/25/2017 12:59
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>			Prep: SW5035 / 4/24/17	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>U</b>		<b>1.9</b>	<b>3.4</b>	<b>mg/Kg-dry</b>	1	4/25/2017 04:45
Surr: Toluene-d8	126			50-150	%REC	1	4/25/2017 04:45
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>			Prep: SW7471 / 5/1/17	Analyst: <b>JJB</b>
<b>Mercury</b>	<b>0.022</b>		<b>0.0027</b>	<b>0.016</b>	<b>mg/Kg-dry</b>	1	5/2/2017 14:00
<b>METALS ANALYSIS BY ICP</b>							
			Method: <b>SW6010D</b>			Prep: SW3050B / 4/27/17	Analyst: <b>CC</b>
<b>Arsenic</b>	<b>9.0</b>		<b>0.12</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:15
<b>Barium</b>	<b>180</b>		<b>0.18</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:15
<b>Cadmium</b>	<b>0.86</b>		<b>0.044</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:15
<b>Chromium</b>	<b>12</b>		<b>0.026</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:15
<b>Copper</b>	<b>16</b>		<b>0.20</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:15
<b>Lead</b>	<b>20</b>		<b>0.098</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:15
<b>Nickel</b>	<b>19</b>		<b>0.18</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:15
<b>Selenium</b>	<b>1.7</b>		<b>0.26</b>	<b>0.46</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:15
Silver	U		0.057	0.46	mg/Kg-dry	1	4/27/2017 23:15
<b>Zinc</b>	<b>99</b>		<b>0.074</b>	<b>0.92</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:15
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6010D</b>			Prep: USDA Method 20B / 4/26/17	Analyst: <b>CC</b>
<b>Calcium</b>	<b>750</b>		<b>0.15</b>	<b>5.0</b>	<b>mg/L</b>	10	4/27/2017 11:30
<b>Magnesium</b>	<b>61</b>		<b>0.13</b>	<b>2.0</b>	<b>mg/L</b>	10	4/27/2017 11:30
<b>Sodium</b>	<b>280</b>		<b>0.12</b>	<b>2.0</b>	<b>mg/L</b>	10	4/27/2017 11:30
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>			Prep: USDA Method 20B / 4/26/17	Analyst: <b>CC</b>
<b>Exchangeable Sodium Percentage</b>	<b>2.5</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	4/27/2017
<b>Sodium Adsorption Ratio</b>	<b>2.6</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	4/27/2017
<b>POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)</b>							
			Method: <b>SW8270E</b>			Prep: SW3546 / 4/28/17	Analyst: <b>RS</b>
Acenaphthene	U		0.0034	0.048	mg/Kg-dry	1	4/28/2017 22:40
Acenaphthylene	U		0.0042	0.048	mg/Kg-dry	1	4/28/2017 22:40
Anthracene	U		0.0017	0.048	mg/Kg-dry	1	4/28/2017 22:40
Benzo(a)anthracene	U		0.0029	0.048	mg/Kg-dry	1	4/28/2017 22:40
Benzo(a)pyrene	U		0.0012	0.048	mg/Kg-dry	1	4/28/2017 22:40
Benzo(b)fluoranthene	U		0.0018	0.048	mg/Kg-dry	1	4/28/2017 22:40
Benzo(g,h,i)perylene	U		0.0032	0.048	mg/Kg-dry	1	4/28/2017 22:40
Benzo(k)fluoranthene	U		0.0025	0.048	mg/Kg-dry	1	4/28/2017 22:40

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

# ALS Group, USA

Date: 24-Mar-21

**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Sample ID:** ACM 43-SS2  
**Collection Date:** 4/19/2017 12:10 PM

**Work Order:** 17041236  
**Lab ID:** 17041236-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chrysene	U		0.0018	0.048	mg/Kg-dry	1	4/28/2017 22:40
Dibenzo(a,h)anthracene	U		0.0016	0.048	mg/Kg-dry	1	4/28/2017 22:40
Fluoranthene	U		0.0014	0.048	mg/Kg-dry	1	4/28/2017 22:40
Fluorene	U		0.0016	0.048	mg/Kg-dry	1	4/28/2017 22:40
Indeno(1,2,3-cd)pyrene	U		0.0015	0.048	mg/Kg-dry	1	4/28/2017 22:40
Naphthalene	U		0.0090	0.048	mg/Kg-dry	1	4/28/2017 22:40
Phenanthrene	U		0.0017	0.048	mg/Kg-dry	1	4/28/2017 22:40
Pyrene	U		0.0017	0.048	mg/Kg-dry	1	4/28/2017 22:40
Surr: 2-Fluorobiphenyl	67.7			20-140	%REC	1	4/28/2017 22:40
Surr: 4-Terphenyl-d14	47.8			22-172	%REC	1	4/28/2017 22:40
Surr: Nitrobenzene-d5	71.9			8-140	%REC	1	4/28/2017 22:40
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260C</b>		Prep: SW5035 / 4/24/17		Analyst: <b>EMR</b>
Benzene	U		0.0092	0.041	mg/Kg-dry	1	4/24/2017 21:31
Ethylbenzene	U		0.0095	0.041	mg/Kg-dry	1	4/24/2017 21:31
m,p-Xylene	U		0.018	0.081	mg/Kg-dry	1	4/24/2017 21:31
o-Xylene	U		0.013	0.041	mg/Kg-dry	1	4/24/2017 21:31
Toluene	U		0.013	0.041	mg/Kg-dry	1	4/24/2017 21:31
Xylenes, Total	U		0.031	0.12	mg/Kg-dry	1	4/24/2017 21:31
Surr: 1,2-Dichloroethane-d4	102			70-130	%REC	1	4/24/2017 21:31
Surr: 4-Bromofluorobenzene	96.9			70-130	%REC	1	4/24/2017 21:31
Surr: Dibromofluoromethane	101			70-130	%REC	1	4/24/2017 21:31
Surr: Toluene-d8	102			70-130	%REC	1	4/24/2017 21:31
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 4/26/17		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	6.1		0.0055	0.050	mmhos/cm @25°	10	4/27/2017 09:30
<b>CHROMIUM, TRIVALENT</b>			Method: <b>CALCULATION</b>				Analyst: <b>JB</b>
Chromium, Trivalent	8.0		0.36	1.2	mg/Kg-dry	1	4/28/2017 17:15
<b>CHROMIUM, HEXAVALENT</b>			Method: <b>SW7196A</b>		Prep: SW3060A / 4/26/17		Analyst: <b>LW</b>
Chromium, Hexavalent	3.7		0.36	1.2	mg/Kg-dry	1	4/27/2017 15:30
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>EDL</b>
Moisture	15		0.025	0.050	% of sample	1	4/27/2017 14:19
<b>SOIL PH MEASURED IN WATER AT NOTED TEMP.</b>			Method: <b>SW9045D</b>		Prep: SW9045D / 4/24/17		Analyst: <b>RZM</b>
pH	7.98		0.10	0.10	s.u.	1	4/25/2017 14:25

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

# ALS Group, USA

Date: 24-Mar-21

**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Sample ID:** ACM 43-SS3  
**Collection Date:** 4/19/2017 12:20 PM

**Work Order:** 17041236  
**Lab ID:** 17041236-04  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>			Prep: SW3546 / 4/24/17	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>36</b>		<b>0.95</b>	<b>6.0</b>	<b>mg/Kg-dry</b>	1	4/25/2017 13:29
Surr: 4-Terphenyl-d14	80.6			50-150	%REC	1	4/25/2017 13:29
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>			Prep: SW5035 / 4/24/17	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>U</b>		<b>2.0</b>	<b>3.5</b>	<b>mg/Kg-dry</b>	1	4/25/2017 05:11
Surr: Toluene-d8	131			50-150	%REC	1	4/25/2017 05:11
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>			Prep: SW7471 / 5/1/17	Analyst: <b>JJB</b>
<b>Mercury</b>	<b>0.025</b>		<b>0.0028</b>	<b>0.017</b>	<b>mg/Kg-dry</b>	1	5/2/2017 14:03
<b>METALS ANALYSIS BY ICP</b>							
			Method: <b>SW6010D</b>			Prep: SW3050B / 4/27/17	Analyst: <b>CC</b>
<b>Arsenic</b>	<b>9.4</b>		<b>0.10</b>	<b>0.39</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:21
<b>Barium</b>	<b>180</b>		<b>0.16</b>	<b>0.39</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:21
<b>Cadmium</b>	<b>0.79</b>		<b>0.038</b>	<b>0.39</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:21
<b>Chromium</b>	<b>10</b>		<b>0.022</b>	<b>0.39</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:21
<b>Copper</b>	<b>15</b>		<b>0.17</b>	<b>0.39</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:21
<b>Lead</b>	<b>20</b>		<b>0.083</b>	<b>0.39</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:21
<b>Nickel</b>	<b>18</b>		<b>0.16</b>	<b>0.39</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:21
<b>Selenium</b>	<b>1.5</b>		<b>0.22</b>	<b>0.39</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:21
Silver	U		0.049	0.39	mg/Kg-dry	1	4/27/2017 23:21
<b>Zinc</b>	<b>97</b>		<b>0.063</b>	<b>0.78</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:21
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6010D</b>			Prep: USDA Method 20B / 4/26/17	Analyst: <b>CC</b>
<b>Calcium</b>	<b>530</b>		<b>0.15</b>	<b>5.0</b>	<b>mg/L</b>	10	4/27/2017 11:37
<b>Magnesium</b>	<b>67</b>		<b>0.13</b>	<b>2.0</b>	<b>mg/L</b>	10	4/27/2017 11:37
<b>Sodium</b>	<b>850</b>		<b>0.12</b>	<b>2.0</b>	<b>mg/L</b>	10	4/27/2017 11:37
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>			Prep: USDA Method 20B / 4/26/17	Analyst: <b>CC</b>
<b>Exchangeable Sodium Percentage</b>	<b>11</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	4/27/2017
<b>Sodium Adsorption Ratio</b>	<b>9.3</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	4/27/2017
<b>POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)</b>							
			Method: <b>SW8270E</b>			Prep: SW3546 / 4/28/17	Analyst: <b>RS</b>
Acenaphthene	U		0.0035	0.049	mg/Kg-dry	1	4/28/2017 23:05
Acenaphthylene	U		0.0043	0.049	mg/Kg-dry	1	4/28/2017 23:05
Anthracene	U		0.0018	0.049	mg/Kg-dry	1	4/28/2017 23:05
Benzo(a)anthracene	U		0.0030	0.049	mg/Kg-dry	1	4/28/2017 23:05
Benzo(a)pyrene	U		0.0012	0.049	mg/Kg-dry	1	4/28/2017 23:05
Benzo(b)fluoranthene	U		0.0019	0.049	mg/Kg-dry	1	4/28/2017 23:05
Benzo(g,h,i)perylene	U		0.0033	0.049	mg/Kg-dry	1	4/28/2017 23:05
Benzo(k)fluoranthene	U		0.0025	0.049	mg/Kg-dry	1	4/28/2017 23:05

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

# ALS Group, USA

Date: 24-Mar-21

**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Sample ID:** ACM 43-SS3  
**Collection Date:** 4/19/2017 12:20 PM

**Work Order:** 17041236  
**Lab ID:** 17041236-04  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chrysene	U		0.0019	0.049	mg/Kg-dry	1	4/28/2017 23:05
Dibenzo(a,h)anthracene	U		0.0016	0.049	mg/Kg-dry	1	4/28/2017 23:05
Fluoranthene	U		0.0014	0.049	mg/Kg-dry	1	4/28/2017 23:05
Fluorene	U		0.0016	0.049	mg/Kg-dry	1	4/28/2017 23:05
Indeno(1,2,3-cd)pyrene	U		0.0015	0.049	mg/Kg-dry	1	4/28/2017 23:05
Naphthalene	U		0.0092	0.049	mg/Kg-dry	1	4/28/2017 23:05
Phenanthrene	U		0.0017	0.049	mg/Kg-dry	1	4/28/2017 23:05
Pyrene	U		0.0018	0.049	mg/Kg-dry	1	4/28/2017 23:05
Surr: 2-Fluorobiphenyl	74.7			20-140	%REC	1	4/28/2017 23:05
Surr: 4-Terphenyl-d14	52.4			22-172	%REC	1	4/28/2017 23:05
Surr: Nitrobenzene-d5	75.4			8-140	%REC	1	4/28/2017 23:05
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260C</b>		Prep: SW5035 / 4/24/17		Analyst: <b>EMR</b>
Benzene	U		0.0096	0.042	mg/Kg-dry	1	4/24/2017 21:47
Ethylbenzene	U		0.0099	0.042	mg/Kg-dry	1	4/24/2017 21:47
m,p-Xylene	U		0.019	0.085	mg/Kg-dry	1	4/24/2017 21:47
o-Xylene	U		0.014	0.042	mg/Kg-dry	1	4/24/2017 21:47
Toluene	U		0.014	0.042	mg/Kg-dry	1	4/24/2017 21:47
Xylenes, Total	U		0.033	0.13	mg/Kg-dry	1	4/24/2017 21:47
Surr: 1,2-Dichloroethane-d4	99.8			70-130	%REC	1	4/24/2017 21:47
Surr: 4-Bromofluorobenzene	95.2			70-130	%REC	1	4/24/2017 21:47
Surr: Dibromofluoromethane	94.7			70-130	%REC	1	4/24/2017 21:47
Surr: Toluene-d8	101			70-130	%REC	1	4/24/2017 21:47
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 4/26/17		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	7.5		0.0055	0.050	mmhos/cm @25°	10	4/27/2017 09:30
<b>CHROMIUM, TRIVALENT</b>			Method: <b>CALCULATION</b>				Analyst: <b>JB</b>
Chromium, Trivalent	9.4		0.37	1.2	mg/Kg-dry	1	4/28/2017 17:15
<b>CHROMIUM, HEXAVALENT</b>			Method: <b>SW7196A</b>		Prep: SW3060A / 4/26/17		Analyst: <b>LW</b>
Chromium, Hexavalent	1.0	J	0.35	1.1	mg/Kg-dry	1	4/27/2017 15:30
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>EDL</b>
Moisture	17		0.025	0.050	% of sample	1	4/27/2017 14:19
<b>SOIL PH MEASURED IN WATER AT NOTED TEMP.</b>			Method: <b>SW9045D</b>		Prep: SW9045D / 4/24/17		Analyst: <b>RZM</b>
pH	8.44		0.10	0.10	s.u.	1	4/25/2017 14:25

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

# ALS Group, USA

Date: 24-Mar-21

**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Sample ID:** ACM 43-SS4  
**Collection Date:** 4/19/2017 01:00 PM

**Work Order:** 17041236  
**Lab ID:** 17041236-05  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW3546 / 4/24/17		Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>34</b>		<b>0.94</b>	<b>5.9</b>	<b>mg/Kg-dry</b>	1	4/25/2017 13:59
Surr: 4-Terphenyl-d14	82.1			50-150	%REC	1	4/25/2017 13:59
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW5035 / 4/24/17		Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>U</b>		<b>2.0</b>	<b>3.5</b>	<b>mg/Kg-dry</b>	1	4/25/2017 05:37
Surr: Toluene-d8	131			50-150	%REC	1	4/25/2017 05:37
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>		Prep: SW7471 / 5/1/17		Analyst: <b>JJB</b>
<b>Mercury</b>	<b>0.032</b>		<b>0.0029</b>	<b>0.018</b>	<b>mg/Kg-dry</b>	1	5/2/2017 14:58
<b>METALS ANALYSIS BY ICP</b>							
			Method: <b>SW6010D</b>		Prep: SW3050B / 4/27/17		Analyst: <b>CC</b>
<b>Arsenic</b>	<b>9.9</b>		<b>0.13</b>	<b>0.48</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:28
<b>Barium</b>	<b>150</b>		<b>0.19</b>	<b>0.48</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:28
<b>Cadmium</b>	<b>0.88</b>		<b>0.046</b>	<b>0.48</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:28
<b>Chromium</b>	<b>13</b>		<b>0.027</b>	<b>0.48</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:28
<b>Copper</b>	<b>16</b>		<b>0.21</b>	<b>0.48</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:28
<b>Lead</b>	<b>21</b>		<b>0.10</b>	<b>0.48</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:28
<b>Nickel</b>	<b>20</b>		<b>0.19</b>	<b>0.48</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:28
<b>Selenium</b>	<b>1.4</b>		<b>0.27</b>	<b>0.48</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:28
Silver	U		0.060	0.48	mg/Kg-dry	1	4/27/2017 23:28
<b>Zinc</b>	<b>100</b>		<b>0.077</b>	<b>0.96</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:28
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6010D</b>		Prep: USDA Method 20B / 4/26/17		Analyst: <b>CC</b>
<b>Calcium</b>	<b>83</b>		<b>0.15</b>	<b>5.0</b>	<b>mg/L</b>	10	4/27/2017 11:43
<b>Magnesium</b>	<b>21</b>		<b>0.13</b>	<b>2.0</b>	<b>mg/L</b>	10	4/27/2017 11:43
<b>Sodium</b>	<b>840</b>		<b>0.12</b>	<b>2.0</b>	<b>mg/L</b>	10	4/27/2017 11:43
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 4/26/17		Analyst: <b>CC</b>
<b>Exchangeable Sodium Percentage</b>	<b>23</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	4/27/2017
<b>Sodium Adsorption Ratio</b>	<b>21</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	4/27/2017
<b>POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)</b>							
			Method: <b>SW8270E</b>		Prep: SW3546 / 4/28/17		Analyst: <b>RS</b>
Acenaphthene	U		0.0036	0.050	mg/Kg-dry	1	4/28/2017 23:30
Acenaphthylene	U		0.0044	0.050	mg/Kg-dry	1	4/28/2017 23:30
Anthracene	U		0.0018	0.050	mg/Kg-dry	1	4/28/2017 23:30
Benzo(a)anthracene	U		0.0031	0.050	mg/Kg-dry	1	4/28/2017 23:30
Benzo(a)pyrene	U		0.0013	0.050	mg/Kg-dry	1	4/28/2017 23:30
Benzo(b)fluoranthene	U		0.0019	0.050	mg/Kg-dry	1	4/28/2017 23:30
Benzo(g,h,i)perylene	U		0.0034	0.050	mg/Kg-dry	1	4/28/2017 23:30
Benzo(k)fluoranthene	U		0.0026	0.050	mg/Kg-dry	1	4/28/2017 23:30

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

# ALS Group, USA

Date: 24-Mar-21

**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Sample ID:** ACM 43-SS4  
**Collection Date:** 4/19/2017 01:00 PM

**Work Order:** 17041236  
**Lab ID:** 17041236-05  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chrysene	U		0.0019	0.050	mg/Kg-dry	1	4/28/2017 23:30
Dibenzo(a,h)anthracene	U		0.0016	0.050	mg/Kg-dry	1	4/28/2017 23:30
Fluoranthene	U		0.0014	0.050	mg/Kg-dry	1	4/28/2017 23:30
Fluorene	U		0.0016	0.050	mg/Kg-dry	1	4/28/2017 23:30
Indeno(1,2,3-cd)pyrene	U		0.0015	0.050	mg/Kg-dry	1	4/28/2017 23:30
Naphthalene	U		0.0095	0.050	mg/Kg-dry	1	4/28/2017 23:30
Phenanthrene	U		0.0017	0.050	mg/Kg-dry	1	4/28/2017 23:30
Pyrene	U		0.0018	0.050	mg/Kg-dry	1	4/28/2017 23:30
Surr: 2-Fluorobiphenyl	55.6			20-140	%REC	1	4/28/2017 23:30
Surr: 4-Terphenyl-d14	42.0			22-172	%REC	1	4/28/2017 23:30
Surr: Nitrobenzene-d5	61.1			8-140	%REC	1	4/28/2017 23:30
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260C</b>		Prep: SW5035 / 4/24/17		Analyst: <b>EMR</b>
Benzene	U		0.0096	0.042	mg/Kg-dry	1	4/24/2017 22:03
Ethylbenzene	U		0.0099	0.042	mg/Kg-dry	1	4/24/2017 22:03
m,p-Xylene	U		0.019	0.085	mg/Kg-dry	1	4/24/2017 22:03
o-Xylene	U		0.014	0.042	mg/Kg-dry	1	4/24/2017 22:03
Toluene	U		0.014	0.042	mg/Kg-dry	1	4/24/2017 22:03
Xylenes, Total	U		0.033	0.13	mg/Kg-dry	1	4/24/2017 22:03
Surr: 1,2-Dichloroethane-d4	102			70-130	%REC	1	4/24/2017 22:03
Surr: 4-Bromofluorobenzene	98.4			70-130	%REC	1	4/24/2017 22:03
Surr: Dibromofluoromethane	93.0			70-130	%REC	1	4/24/2017 22:03
Surr: Toluene-d8	103			70-130	%REC	1	4/24/2017 22:03
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 4/26/17		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	5.4		0.0055	0.050	mmhos/cm @25°	10	4/27/2017 09:30
<b>CHROMIUM, TRIVALENT</b>			Method: <b>CALCULATION</b>				Analyst: <b>JB</b>
Chromium, Trivalent	13		0.37	1.2	mg/Kg-dry	1	4/28/2017 17:15
<b>CHROMIUM, HEXAVALENT</b>			Method: <b>SW7196A</b>		Prep: SW3060A / 4/26/17		Analyst: <b>LW</b>
Chromium, Hexavalent	U		0.35	1.1	mg/Kg-dry	1	4/27/2017 15:30
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>EDL</b>
Moisture	17		0.025	0.050	% of sample	1	4/27/2017 14:19
<b>SOIL PH MEASURED IN WATER AT NOTED TEMP.</b>			Method: <b>SW9045D</b>		Prep: SW9045D / 4/24/17		Analyst: <b>RZM</b>
pH	8.61		0.10	0.10	s.u.	1	4/25/2017 14:25

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

# ALS Group, USA

Date: 24-Mar-21

**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Sample ID:** ACM 43-SS5  
**Collection Date:** 4/19/2017 01:15 PM

**Work Order:** 17041236  
**Lab ID:** 17041236-06  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>			Prep: SW3546 / 4/24/17	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>93</b>		<b>0.95</b>	<b>6.0</b>	<b>mg/Kg-dry</b>	1	4/25/2017 14:29
Surr: 4-Terphenyl-d14	87.6			50-150	%REC	1	4/25/2017 14:29
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>			Prep: SW5035 / 4/24/17	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>U</b>		<b>2.1</b>	<b>3.7</b>	<b>mg/Kg-dry</b>	1	4/25/2017 06:03
Surr: Toluene-d8	135			50-150	%REC	1	4/25/2017 06:03
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>			Prep: SW7471 / 5/1/17	Analyst: <b>JJB</b>
<b>Mercury</b>	<b>0.034</b>		<b>0.0028</b>	<b>0.017</b>	<b>mg/Kg-dry</b>	1	5/2/2017 14:15
<b>METALS ANALYSIS BY ICP</b>							
			Method: <b>SW6010D</b>			Prep: SW3050B / 4/27/17	Analyst: <b>CC</b>
<b>Arsenic</b>	<b>9.4</b>		<b>0.13</b>	<b>0.49</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:53
<b>Barium</b>	<b>100</b>		<b>0.20</b>	<b>0.49</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:53
<b>Cadmium</b>	<b>0.84</b>		<b>0.047</b>	<b>0.49</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:53
<b>Chromium</b>	<b>16</b>		<b>0.027</b>	<b>0.49</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:53
<b>Copper</b>	<b>17</b>		<b>0.22</b>	<b>0.49</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:53
<b>Lead</b>	<b>22</b>		<b>0.10</b>	<b>0.49</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:53
<b>Nickel</b>	<b>24</b>		<b>0.20</b>	<b>0.49</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:53
<b>Selenium</b>	<b>1.5</b>		<b>0.27</b>	<b>0.49</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:53
Silver	U		0.061	0.49	mg/Kg-dry	1	4/27/2017 23:53
<b>Zinc</b>	<b>110</b>		<b>0.078</b>	<b>0.98</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:53
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6010D</b>			Prep: USDA Method 20B / 4/26/17	Analyst: <b>CC</b>
<b>Calcium</b>	<b>60</b>		<b>0.15</b>	<b>5.0</b>	<b>mg/L</b>	10	4/27/2017 11:50
<b>Magnesium</b>	<b>15</b>		<b>0.13</b>	<b>2.0</b>	<b>mg/L</b>	10	4/27/2017 11:50
<b>Sodium</b>	<b>1,300</b>		<b>0.12</b>	<b>2.0</b>	<b>mg/L</b>	10	4/27/2017 11:50
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>			Prep: USDA Method 20B / 4/26/17	Analyst: <b>CC</b>
<b>Exchangeable Sodium Percentage</b>	<b>36</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	4/27/2017
<b>Sodium Adsorption Ratio</b>	<b>39</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	4/27/2017
<b>POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)</b>							
			Method: <b>SW8270E</b>			Prep: SW3546 / 5/1/17	Analyst: <b>RS</b>
Acenaphthene	U		0.0036	0.050	mg/Kg-dry	1	5/1/2017 20:02
Acenaphthylene	U		0.0045	0.050	mg/Kg-dry	1	5/1/2017 20:02
Anthracene	U		0.0018	0.050	mg/Kg-dry	1	5/1/2017 20:02
Benzo(a)anthracene	U		0.0031	0.050	mg/Kg-dry	1	5/1/2017 20:02
Benzo(a)pyrene	U		0.0013	0.050	mg/Kg-dry	1	5/1/2017 20:02
Benzo(b)fluoranthene	U		0.0019	0.050	mg/Kg-dry	1	5/1/2017 20:02
Benzo(g,h,i)perylene	U		0.0034	0.050	mg/Kg-dry	1	5/1/2017 20:02
Benzo(k)fluoranthene	U		0.0026	0.050	mg/Kg-dry	1	5/1/2017 20:02

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

# ALS Group, USA

Date: 24-Mar-21

**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Sample ID:** ACM 43-SS5  
**Collection Date:** 4/19/2017 01:15 PM

**Work Order:** 17041236  
**Lab ID:** 17041236-06  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chrysene	U		0.0019	0.050	mg/Kg-dry	1	5/1/2017 20:02
Dibenzo(a,h)anthracene	U		0.0016	0.050	mg/Kg-dry	1	5/1/2017 20:02
Fluoranthene	U		0.0015	0.050	mg/Kg-dry	1	5/1/2017 20:02
Fluorene	U		0.0016	0.050	mg/Kg-dry	1	5/1/2017 20:02
Indeno(1,2,3-cd)pyrene	U		0.0015	0.050	mg/Kg-dry	1	5/1/2017 20:02
<b>Naphthalene</b>	<b>0.087</b>		<b>0.0095</b>	<b>0.050</b>	<b>mg/Kg-dry</b>	1	5/1/2017 20:02
Phenanthrene	U		0.0017	0.050	mg/Kg-dry	1	5/1/2017 20:02
Pyrene	U		0.0018	0.050	mg/Kg-dry	1	5/1/2017 20:02
Surr: 2-Fluorobiphenyl	63.1			20-140	%REC	1	5/1/2017 20:02
Surr: 4-Terphenyl-d14	54.0			22-172	%REC	1	5/1/2017 20:02
Surr: Nitrobenzene-d5	76.0			8-140	%REC	1	5/1/2017 20:02
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260C</b>		Prep: SW5035 / 4/24/17		Analyst: <b>EMR</b>
Benzene	U		0.010	0.044	mg/Kg-dry	1	4/24/2017 22:19
Ethylbenzene	U		0.010	0.044	mg/Kg-dry	1	4/24/2017 22:19
m,p-Xylene	U		0.020	0.088	mg/Kg-dry	1	4/24/2017 22:19
o-Xylene	U		0.014	0.044	mg/Kg-dry	1	4/24/2017 22:19
Toluene	U		0.015	0.044	mg/Kg-dry	1	4/24/2017 22:19
Xylenes, Total	U		0.034	0.13	mg/Kg-dry	1	4/24/2017 22:19
Surr: 1,2-Dichloroethane-d4	104			70-130	%REC	1	4/24/2017 22:19
Surr: 4-Bromofluorobenzene	95.8			70-130	%REC	1	4/24/2017 22:19
Surr: Dibromofluoromethane	93.2			70-130	%REC	1	4/24/2017 22:19
Surr: Toluene-d8	101			70-130	%REC	1	4/24/2017 22:19
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 4/26/17		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	24		0.028	0.25	mmhos/cm @25°	50	4/27/2017 09:30
<b>CHROMIUM, TRIVALENT</b>			Method: <b>CALCULATION</b>				Analyst: <b>JB</b>
Chromium, Trivalent	16		0.38	1.2	mg/Kg-dry	1	4/28/2017 17:15
<b>CHROMIUM, HEXAVALENT</b>			Method: <b>SW7196A</b>		Prep: SW3060A / 4/26/17		Analyst: <b>LW</b>
Chromium, Hexavalent	U		0.36	1.2	mg/Kg-dry	1	4/27/2017 15:30
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>EDL</b>
Moisture	19		0.025	0.050	% of sample	1	4/27/2017 14:19
<b>SOIL PH MEASURED IN WATER AT NOTED TEMP.</b>			Method: <b>SW9045D</b>		Prep: SW9045D / 4/24/17		Analyst: <b>RZM</b>
pH	8.66		0.10	0.10	s.u.	1	4/25/2017 14:25

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

# ALS Group, USA

Date: 24-Mar-21

**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Sample ID:** ACM 43-SS6  
**Collection Date:** 4/19/2017 01:30 PM

**Work Order:** 17041236  
**Lab ID:** 17041236-07  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>			Prep: SW3546 / 4/24/17	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>33</b>		<b>1.0</b>	<b>6.3</b>	<b>mg/Kg-dry</b>	1	4/25/2017 14:59
Surr: 4-Terphenyl-d14	85.1			50-150	%REC	1	4/25/2017 14:59
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>			Prep: SW5035 / 4/24/17	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>U</b>		<b>2.1</b>	<b>3.8</b>	<b>mg/Kg-dry</b>	1	4/25/2017 06:29
Surr: Toluene-d8	142			50-150	%REC	1	4/25/2017 06:29
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>			Prep: SW7471 / 5/1/17	Analyst: <b>JJB</b>
<b>Mercury</b>	<b>0.045</b>		<b>0.0030</b>	<b>0.018</b>	<b>mg/Kg-dry</b>	1	5/2/2017 14:18
<b>METALS ANALYSIS BY ICP</b>							
			Method: <b>SW6010D</b>			Prep: SW3050B / 4/27/17	Analyst: <b>CC</b>
<b>Arsenic</b>	<b>10</b>		<b>0.13</b>	<b>0.51</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:59
<b>Barium</b>	<b>95</b>		<b>0.20</b>	<b>0.51</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:59
<b>Cadmium</b>	<b>0.91</b>		<b>0.049</b>	<b>0.51</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:59
<b>Chromium</b>	<b>14</b>		<b>0.028</b>	<b>0.51</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:59
<b>Copper</b>	<b>16</b>		<b>0.22</b>	<b>0.51</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:59
<b>Lead</b>	<b>20</b>		<b>0.11</b>	<b>0.51</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:59
<b>Nickel</b>	<b>20</b>		<b>0.20</b>	<b>0.51</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:59
<b>Selenium</b>	<b>1.4</b>		<b>0.28</b>	<b>0.51</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:59
Silver	U		0.063	0.51	mg/Kg-dry	1	4/27/2017 23:59
<b>Zinc</b>	<b>100</b>		<b>0.081</b>	<b>1.0</b>	<b>mg/Kg-dry</b>	1	4/27/2017 23:59
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6010D</b>			Prep: USDA Method 20B / 4/26/17	Analyst: <b>CC</b>
<b>Calcium</b>	<b>390</b>		<b>0.15</b>	<b>5.0</b>	<b>mg/L</b>	10	4/27/2017 12:16
<b>Magnesium</b>	<b>98</b>		<b>0.13</b>	<b>2.0</b>	<b>mg/L</b>	10	4/27/2017 12:16
<b>Sodium</b>	<b>2,700</b>		<b>0.12</b>	<b>2.0</b>	<b>mg/L</b>	10	4/27/2017 12:16
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>			Prep: USDA Method 20B / 4/26/17	Analyst: <b>CC</b>
<b>Exchangeable Sodium Percentage</b>	<b>31</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	4/27/2017
<b>Sodium Adsorption Ratio</b>	<b>31</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	4/27/2017
<b>POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)</b>							
			Method: <b>SW8270E</b>			Prep: SW3546 / 5/1/17	Analyst: <b>RS</b>
Acenaphthene	U		0.0037	0.052	mg/Kg-dry	1	5/1/2017 20:26
Acenaphthylene	U		0.0046	0.052	mg/Kg-dry	1	5/1/2017 20:26
Anthracene	U		0.0019	0.052	mg/Kg-dry	1	5/1/2017 20:26
Benzo(a)anthracene	U		0.0032	0.052	mg/Kg-dry	1	5/1/2017 20:26
Benzo(a)pyrene	U		0.0013	0.052	mg/Kg-dry	1	5/1/2017 20:26
Benzo(b)fluoranthene	U		0.0020	0.052	mg/Kg-dry	1	5/1/2017 20:26
Benzo(g,h,i)perylene	U		0.0035	0.052	mg/Kg-dry	1	5/1/2017 20:26
Benzo(k)fluoranthene	U		0.0027	0.052	mg/Kg-dry	1	5/1/2017 20:26

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

# ALS Group, USA

Date: 24-Mar-21

**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Sample ID:** ACM 43-SS6  
**Collection Date:** 4/19/2017 01:30 PM

**Work Order:** 17041236  
**Lab ID:** 17041236-07  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chrysene	U		0.0020	0.052	mg/Kg-dry	1	5/1/2017 20:26
Dibenzo(a,h)anthracene	U		0.0017	0.052	mg/Kg-dry	1	5/1/2017 20:26
Fluoranthene	U		0.0015	0.052	mg/Kg-dry	1	5/1/2017 20:26
Fluorene	U		0.0017	0.052	mg/Kg-dry	1	5/1/2017 20:26
Indeno(1,2,3-cd)pyrene	U		0.0016	0.052	mg/Kg-dry	1	5/1/2017 20:26
Naphthalene	U		0.0098	0.052	mg/Kg-dry	1	5/1/2017 20:26
Phenanthrene	U		0.0018	0.052	mg/Kg-dry	1	5/1/2017 20:26
Pyrene	U		0.0019	0.052	mg/Kg-dry	1	5/1/2017 20:26
Surr: 2-Fluorobiphenyl	51.5			20-140	%REC	1	5/1/2017 20:26
Surr: 4-Terphenyl-d14	36.8			22-172	%REC	1	5/1/2017 20:26
Surr: Nitrobenzene-d5	63.6			8-140	%REC	1	5/1/2017 20:26
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260C</b>		Prep: SW5035 / 4/24/17		Analyst: <b>EMR</b>
Benzene	U		0.010	0.046	mg/Kg-dry	1	4/24/2017 22:36
Ethylbenzene	U		0.011	0.046	mg/Kg-dry	1	4/24/2017 22:36
m,p-Xylene	U		0.021	0.092	mg/Kg-dry	1	4/24/2017 22:36
o-Xylene	U		0.015	0.046	mg/Kg-dry	1	4/24/2017 22:36
Toluene	U		0.015	0.046	mg/Kg-dry	1	4/24/2017 22:36
Xylenes, Total	U		0.036	0.14	mg/Kg-dry	1	4/24/2017 22:36
Surr: 1,2-Dichloroethane-d4	101			70-130	%REC	1	4/24/2017 22:36
Surr: 4-Bromofluorobenzene	98.3			70-130	%REC	1	4/24/2017 22:36
Surr: Dibromofluoromethane	92.8			70-130	%REC	1	4/24/2017 22:36
Surr: Toluene-d8	105			70-130	%REC	1	4/24/2017 22:36
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 4/26/17		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	18		0.0055	0.050	mmhos/cm @25°	10	4/27/2017 09:30
<b>CHROMIUM, TRIVALENT</b>			Method: <b>CALCULATION</b>				Analyst: <b>JB</b>
Chromium, Trivalent	14		0.39	1.3	mg/Kg-dry	1	4/28/2017 17:15
<b>CHROMIUM, HEXAVALENT</b>			Method: <b>SW7196A</b>		Prep: SW3060A / 4/26/17		Analyst: <b>LW</b>
Chromium, Hexavalent	U		0.38	1.2	mg/Kg-dry	1	4/27/2017 15:30
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>EDL</b>
Moisture	21		0.025	0.050	% of sample	1	4/27/2017 14:19
<b>SOIL PH MEASURED IN WATER AT NOTED TEMP.</b>			Method: <b>SW9045D</b>		Prep: SW9045D / 4/24/17		Analyst: <b>RZM</b>
pH	8.11		0.10	0.10	s.u.	1	4/25/2017 14:25

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

# ALS Group, USA

Date: 24-Mar-21

**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Sample ID:** ACM 43-SS7  
**Collection Date:** 4/19/2017 01:40 PM

**Work Order:** 17041236  
**Lab ID:** 17041236-08  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>			Prep: SW3546 / 4/28/17	Analyst: <b>RM</b>
<b>DRO (C10-C28)</b>	<b>21</b>		<b>3.5</b>	<b>6.1</b>	<b>mg/Kg-dry</b>	1	4/29/2017 04:25
Surr: 4-Terphenyl-d14	47.5	S		50-150	%REC	1	4/29/2017 04:25
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>			Prep: SW5035 / 4/24/17	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>U</b>		<b>2.1</b>	<b>3.8</b>	<b>mg/Kg-dry</b>	1	4/25/2017 06:55
Surr: Toluene-d8	140			50-150	%REC	1	4/25/2017 06:55
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>			Prep: SW7471 / 5/1/17	Analyst: <b>JJB</b>
<b>Mercury</b>	<b>0.039</b>		<b>0.0036</b>	<b>0.022</b>	<b>mg/Kg-dry</b>	1	5/2/2017 14:25
<b>METALS ANALYSIS BY ICP</b>							
			Method: <b>SW6010D</b>			Prep: SW3050B / 4/27/17	Analyst: <b>CC</b>
<b>Arsenic</b>	<b>8.7</b>		<b>0.12</b>	<b>0.47</b>	<b>mg/Kg-dry</b>	1	4/28/2017 00:05
<b>Barium</b>	<b>100</b>		<b>0.19</b>	<b>0.47</b>	<b>mg/Kg-dry</b>	1	4/28/2017 00:05
<b>Cadmium</b>	<b>0.82</b>		<b>0.045</b>	<b>0.47</b>	<b>mg/Kg-dry</b>	1	4/28/2017 00:05
<b>Chromium</b>	<b>15</b>		<b>0.026</b>	<b>0.47</b>	<b>mg/Kg-dry</b>	1	4/28/2017 00:05
<b>Copper</b>	<b>17</b>		<b>0.20</b>	<b>0.47</b>	<b>mg/Kg-dry</b>	1	4/28/2017 00:05
<b>Lead</b>	<b>22</b>		<b>0.099</b>	<b>0.47</b>	<b>mg/Kg-dry</b>	1	4/28/2017 00:05
<b>Nickel</b>	<b>22</b>		<b>0.19</b>	<b>0.47</b>	<b>mg/Kg-dry</b>	1	4/28/2017 00:05
<b>Selenium</b>	<b>1.5</b>		<b>0.26</b>	<b>0.47</b>	<b>mg/Kg-dry</b>	1	4/28/2017 00:05
Silver	U		0.058	0.47	mg/Kg-dry	1	4/28/2017 00:05
<b>Zinc</b>	<b>110</b>		<b>0.074</b>	<b>0.93</b>	<b>mg/Kg-dry</b>	1	4/28/2017 00:05
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6010D</b>			Prep: USDA Method 20B / 4/26/17	Analyst: <b>CC</b>
<b>Calcium</b>	<b>33</b>		<b>0.15</b>	<b>5.0</b>	<b>mg/L</b>	10	4/27/2017 12:22
<b>Magnesium</b>	<b>8.5</b>		<b>0.13</b>	<b>2.0</b>	<b>mg/L</b>	10	4/27/2017 12:22
<b>Sodium</b>	<b>720</b>		<b>0.12</b>	<b>2.0</b>	<b>mg/L</b>	10	4/27/2017 12:22
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>			Prep: USDA Method 20B / 4/26/17	Analyst: <b>CC</b>
<b>Exchangeable Sodium Percentage</b>	<b>29</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	4/27/2017
<b>Sodium Adsorption Ratio</b>	<b>29</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	4/27/2017
<b>POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)</b>							
			Method: <b>SW8270E</b>			Prep: SW3546 / 5/1/17	Analyst: <b>RS</b>
Acenaphthene	U		0.0035	0.049	mg/Kg-dry	1	5/1/2017 20:51
Acenaphthylene	U		0.0043	0.049	mg/Kg-dry	1	5/1/2017 20:51
Anthracene	U		0.0018	0.049	mg/Kg-dry	1	5/1/2017 20:51
Benzo(a)anthracene	U		0.0030	0.049	mg/Kg-dry	1	5/1/2017 20:51
Benzo(a)pyrene	U		0.0012	0.049	mg/Kg-dry	1	5/1/2017 20:51
Benzo(b)fluoranthene	U		0.0019	0.049	mg/Kg-dry	1	5/1/2017 20:51
Benzo(g,h,i)perylene	U		0.0033	0.049	mg/Kg-dry	1	5/1/2017 20:51
Benzo(k)fluoranthene	U		0.0025	0.049	mg/Kg-dry	1	5/1/2017 20:51

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

# ALS Group, USA

Date: 24-Mar-21

**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Sample ID:** ACM 43-SS7  
**Collection Date:** 4/19/2017 01:40 PM

**Work Order:** 17041236  
**Lab ID:** 17041236-08  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chrysene	U		0.0019	0.049	mg/Kg-dry	1	5/1/2017 20:51
Dibenzo(a,h)anthracene	U		0.0016	0.049	mg/Kg-dry	1	5/1/2017 20:51
Fluoranthene	U		0.0014	0.049	mg/Kg-dry	1	5/1/2017 20:51
Fluorene	U		0.0016	0.049	mg/Kg-dry	1	5/1/2017 20:51
Indeno(1,2,3-cd)pyrene	U		0.0015	0.049	mg/Kg-dry	1	5/1/2017 20:51
Naphthalene	U		0.0093	0.049	mg/Kg-dry	1	5/1/2017 20:51
Phenanthrene	U		0.0017	0.049	mg/Kg-dry	1	5/1/2017 20:51
Pyrene	U		0.0018	0.049	mg/Kg-dry	1	5/1/2017 20:51
Surr: 2-Fluorobiphenyl	64.3			20-140	%REC	1	5/1/2017 20:51
Surr: 4-Terphenyl-d14	47.6			22-172	%REC	1	5/1/2017 20:51
Surr: Nitrobenzene-d5	73.7			8-140	%REC	1	5/1/2017 20:51
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260C</b>		Prep: SW5035 / 4/24/17		Analyst: <b>EMR</b>
Benzene	U		0.010	0.045	mg/Kg-dry	1	4/24/2017 22:52
Ethylbenzene	U		0.010	0.045	mg/Kg-dry	1	4/24/2017 22:52
m,p-Xylene	U		0.020	0.090	mg/Kg-dry	1	4/24/2017 22:52
o-Xylene	U		0.015	0.045	mg/Kg-dry	1	4/24/2017 22:52
Toluene	U		0.015	0.045	mg/Kg-dry	1	4/24/2017 22:52
Xylenes, Total	U		0.035	0.14	mg/Kg-dry	1	4/24/2017 22:52
Surr: 1,2-Dichloroethane-d4	103			70-130	%REC	1	4/24/2017 22:52
Surr: 4-Bromofluorobenzene	101			70-130	%REC	1	4/24/2017 22:52
Surr: Dibromofluoromethane	95.2			70-130	%REC	1	4/24/2017 22:52
Surr: Toluene-d8	104			70-130	%REC	1	4/24/2017 22:52
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 4/26/17		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	4.1		0.0055	0.050	mmhos/cm @25°	10	4/27/2017 09:30
<b>CHROMIUM, TRIVALENT</b>			Method: <b>CALCULATION</b>				Analyst: <b>JB</b>
Chromium, Trivalent	15		0.39	1.2	mg/Kg-dry	1	4/28/2017 17:15
<b>CHROMIUM, HEXAVALENT</b>			Method: <b>SW7196A</b>		Prep: SW3060A / 4/26/17		Analyst: <b>LW</b>
Chromium, Hexavalent	U		0.36	1.2	mg/Kg-dry	1	4/27/2017 15:30
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>EDL</b>
Moisture	20		0.025	0.050	% of sample	1	4/27/2017 14:19
<b>SOIL PH MEASURED IN WATER AT NOTED TEMP.</b>			Method: <b>SW9045D</b>		Prep: SW9045D / 4/24/17		Analyst: <b>RZM</b>
pH	9.07		0.10	0.10	s.u.	1	4/25/2017 14:25

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

## ALS Group, USA

Date: 24-Mar-21

**Client:** Olsson Associates  
**Project:** AC McLaughlin 43 013.3287.400.400004  
**Sample ID:** ACM 43-BG2  
**Collection Date:** 4/19/2017 01:50 PM

**Work Order:** 17041236  
**Lab ID:** 17041236-09  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS ANALYSIS BY ICP</b>							
Arsenic	10		Method: <b>SW6010D</b> 0.11	0.41	mg/Kg-dry	1	Prep: SW3050B / 4/27/17 Analyst: <b>CC</b> 4/28/2017 00:11
<b>MOISTURE</b>							
Moisture	6.6		Method: <b>SW3550C</b> 0.025	0.050	% of sample	1	Analyst: <b>EDL</b> 4/27/2017 14:19

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

Client: Olsson Associates

Work Order: 17041236

Project: AC McLaughlin 43 013.3287.400.400004

# QC BATCH REPORT

Batch ID: **100971**

Instrument ID **GC8**

Method: **SW8015D**

MBLK				Sample ID: DBLKS1-100971-100971				Units: mg/Kg		Analysis Date: 4/24/2017 11:38 PM		
Client ID:			Run ID: GC8_170424A			SeqNo: 4394349		Prep Date: 4/24/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
DRO (C10-C28)	3.717	5.0								J		
Surr: 4-Terphenyl-d14	2.933	0	3.33	0	88.1	50-150	0					

LCS				Sample ID: <b>DLCSS1-100971-100971</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/25/2017 12:07 PM</b>	
Client ID:			Run ID: <b>GC8_170424A</b>			SeqNo: <b>4394366</b>		Prep Date: <b>4/24/2017</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)	285.1	5.0	333	0	85.6	50-150	0				
<i>Surr: 4-Terphenyl-d14</i>	<i>3.05</i>	<i>0</i>	<i>3.33</i>	<i>0</i>	<i>91.6</i>	<i>50-150</i>	<i>0</i>				

MS				Sample ID: 17041215-03B MS				Units: mg/Kg		Analysis Date: 4/25/2017 12:37 PM		
Client ID:			Run ID: GC8_170424A			SeqNo: 4394367		Prep Date: 4/24/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
DRO (C10-C28)	312.4	4.9	324.2	6.041	94.5	50-150	0					
Surr: 4-Terphenyl-d14	2.807	0	3.242	0	86.6	50-150	0					

MSD				Sample ID: 17041215-03B MSD				Units: mg/Kg		Analysis Date: 4/25/2017 01:07 AM	
Client ID:			Run ID: GC8_170424A			SeqNo: 4394350		Prep Date: 4/24/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
DRO (C10-C28)	319.2	4.9	327.3	6.041	95.7	50-150	312.4	2.17	30		
Surr: 4-Terphenyl-d14	2.9	0	3.273	0	88.6	50-150	2.807	3.24	30		

The following samples were analyzed in this batch:

17041236-01A	17041236-03A	17041236-04A
17041236-05A	17041236-06A	17041236-07A

Client: Olsson Associates  
 Work Order: 17041236  
 Project: AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **101215** Instrument ID **GC8** Method: **SW8015D**

MBLK		Sample ID: DBLKS1-101215-101215				Units: mg/Kg		Analysis Date: 4/29/2017 01:27 AM		
Client ID:		Run ID: GC8_170428A			SeqNo: 4405118		Prep Date: 4/28/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	U	5.0								
Surr: 4-Terphenyl-d14	3.117	0	3.33	0	93.6	50-150	0			

LCS				Sample ID: <b>DLCSS1-101215-101215</b>				Units: <b>mg/Kg</b>			Analysis Date: <b>4/29/2017 01:56 AM</b>			
Client ID:				Run ID: <b>GC8_170428A</b>				SeqNo: <b>4405119</b>			Prep Date: <b>4/28/2017</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)		311.3	5.0	333	0	93.5	50-150	0						
Surr: 4-Terphenyl-d14		3.25	0	3.33	0	97.6	50-150	0						

MS		Sample ID: 17041536-01A MS				Units: mg/Kg		Analysis Date: 4/29/2017 02:26 AM		
Client ID:			Run ID: GC8_170428A			SeqNo: 4405120		Prep Date: 4/28/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	157.7	5.0	331.6	0	47.5	50-150	0			S
Surr: 4-Terphenyl-d14	1.809	0	3.316	0	54.6	50-150	0			

MSD		Sample ID: 17041536-01A MSD				Units: mg/Kg		Analysis Date: 4/29/2017 02:56 AM		
Client ID:		Run ID: GC8_170428A			SeqNo: 4405121		Prep Date: 4/28/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	262.1	4.8	318.3	0	82.3	50-150	157.7	49.8	30	R
Surr: 4-Terphenyl-d14	2.899	0	3.183	0	91.1	50-150	1.809	46.3	30	R

The following samples were analyzed in this batch: 17041236-08A

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

Client: Olsson Associates  
 Work Order: 17041236  
 Project: AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **100991** Instrument ID **GC9** Method: **SW8015D**

<b>MBLK</b>		Sample ID: <b>MBLK-100991-100991</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>4/24/2017 05:38 PM</b>		
Client ID:		Run ID: <b>GC9_170424A</b>				SeqNo: <b>4394527</b>		Prep Date: <b>4/24/2017</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)	U	2,500								
Surr: Toluene-d8	4620	0	5000	0	92.4	50-150	0			

<b>LCS</b>		Sample ID: <b>LCS-100991-100991</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>4/24/2017 04:47 PM</b>		
Client ID:		Run ID: <b>GC9_170424A</b>				SeqNo: <b>4394526</b>		Prep Date: <b>4/24/2017</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)	490800	2,500	500000	0	98.2	70-130	0			
Surr: Toluene-d8	4896	0	5000	0	97.9	50-150	0			

<b>MS</b>		Sample ID: <b>17041215-03A MS</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>4/24/2017 08:37 PM</b>		
Client ID:		Run ID: <b>GC9_170424A</b>				SeqNo: <b>4394534</b>		Prep Date: <b>4/24/2017</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)	703400	3,500	704800	0	99.8	70-130	0			
Surr: Toluene-d8	7118	0	7048	0	101	50-150	0			

<b>MSD</b>		Sample ID: <b>17041215-03A MSD</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>4/24/2017 09:02 PM</b>		
Client ID:		Run ID: <b>GC9_170424A</b>				SeqNo: <b>4394535</b>		Prep Date: <b>4/24/2017</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)	756800	3,500	704800	0	107	70-130	703400	7.32	30	
Surr: Toluene-d8	7286	0	7048	0	103	50-150	7118	2.33	30	

The following samples were analyzed in this batch:

17041236-01A	17041236-03A	17041236-04A
17041236-05A	17041236-06A	17041236-07A
17041236-08A		

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

Client: Olsson Associates  
 Work Order: 17041236  
 Project: AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **101302** Instrument ID **HG1** Method: **SW7471B**

<b>MBLK</b>		Sample ID: <b>MBLK-101302-101302</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>5/2/2017 12:52 PM</b>		
Client ID:		Run ID: <b>HG1_170502A</b>				SeqNo: <b>4406907</b>		Prep Date: <b>5/1/2017</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury U 0.020

<b>LCS</b>		Sample ID: <b>LCS-101302-101302</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>5/2/2017 12:55 PM</b>		
Client ID:		Run ID: <b>HG1_170502A</b>				SeqNo: <b>4406909</b>		Prep Date: <b>5/1/2017</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1908 0.020 0.1665 0 115 80-120 0

<b>MS</b>		Sample ID: <b>17041494-01BMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>5/2/2017 01:05 PM</b>		
Client ID:		Run ID: <b>HG1_170502A</b>				SeqNo: <b>4406915</b>		Prep Date: <b>5/1/2017</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1321 0.015 0.1239 0.001445 105 75-125 0

<b>MSD</b>		Sample ID: <b>17041494-01BMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>5/2/2017 01:07 PM</b>		
Client ID:		Run ID: <b>HG1_170502A</b>				SeqNo: <b>4406917</b>		Prep Date: <b>5/1/2017</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1408 0.015 0.1279 0.001445 109 75-125 0.1321 6.38 35

The following samples were analyzed in this batch:

17041236-01A	17041236-02A	17041236-03A
17041236-04A	17041236-05A	17041236-06A
17041236-07A	17041236-08A	

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

Client: Olsson Associates  
 Work Order: 17041236  
 Project: AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **101182** Instrument ID **ICP2** Method: **SW6010D**

Sample ID: <b>MBLK-101182-101182</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/27/2017 10:00 PM</b>				
Client ID:		Run ID: <b>ICP2_170427A</b>			SeqNo: <b>4401738</b>		Prep Date: <b>4/27/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	U	0.25								
Cadmium	0.1015	0.50								J
Chromium	U	0.25								
Copper	U	0.50								
Lead	U	0.25								
Nickel	U	0.25								
Selenium	U	0.50								
Silver	U	0.25								
Zinc	0.04423	0.50								J

LCS					Sample ID: LCS-101182-101182			Units: mg/Kg		Analysis Date: 4/27/2017 10:06 PM		
Client ID:			Run ID: ICP2_170427A			SeqNo: 4401739		Prep Date: 4/27/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Arsenic	5.423	0.25	5	0	108	80-120	0					
Barium	5.144	0.25	5	0	103	80-120	0					
Cadmium	5.149	0.50	5	0	103	80-120	0					
Chromium	5.764	0.25	5	0	115	80-120	0					
Copper	4.963	0.50	5	0	99.3	80-120	0					
Lead	5.234	0.25	5	0	105	80-120	0					
Nickel	5.248	0.25	5	0	105	80-120	0					
Selenium	4.493	0.50	5	0	89.9	80-120	0					
Silver	5.217	0.25	5	0	104	80-120	0					
Zinc	5.702	0.50	5	0	114	80-120	0					

MS					Sample ID: 17041236-01AMS		Units: mg/Kg		Analysis Date: 4/27/2017 10:57 PM		
Client ID: ACM 43-SS1			Run ID: ICP2_170427A			SeqNo: 4401747		Prep Date: 4/27/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	17.88	0.40	8.013	7.039	135	75-125	0			S	
Barium	169.6	0.40	8.013	140.4	364	75-125	0			SO	
Cadmium	9.963	0.80	8.013	0.87	113	75-125	0				
Chromium	20.25	0.40	8.013	11.71	107	75-125	0				
Copper	21.12	0.80	8.013	12.57	107	75-125	0				
Lead	22.97	0.40	8.013	14.18	110	75-125	0				
Nickel	23.05	0.40	8.013	14.23	110	75-125	0				
Selenium	8.811	0.80	8.013	1.375	92.8	75-125	0				
Silver	8.712	0.40	8.013	-0.2722	112	75-125	0				
Zinc	82.18	0.80	8.013	83.34	-14.5	75-125	0			SO	

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

**Client:** Olsson Associates  
**Work Order:** 17041236  
**Project:** AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **101182**      Instrument ID **ICP2**      Method: **SW6010D**

MSD		Sample ID: <b>17041236-01AMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/27/2017 11:03 PM</b>		
Client ID: <b>ACM 43-SS1</b>		Run ID: <b>ICP2_170427A</b>				SeqNo: <b>4401748</b>		Prep Date: <b>4/27/2017</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	17.98	0.40	8.052	7.039	136	75-125	17.88	0.558	20	S
Barium	157.8	0.40	8.052	140.4	216	75-125	169.6	7.21	20	SO
Cadmium	9.896	0.81	8.052	0.87	112	75-125	9.963	0.677	20	
Chromium	20.6	0.40	8.052	11.71	110	75-125	20.25	1.75	20	
Copper	21.06	0.81	8.052	12.57	105	75-125	21.12	0.266	20	
Lead	22.84	0.40	8.052	14.18	107	75-125	22.97	0.579	20	
Nickel	22.64	0.40	8.052	14.23	104	75-125	23.05	1.81	20	
Selenium	9.2	0.81	8.052	1.375	97.2	75-125	8.811	4.32	20	
Silver	8.781	0.40	8.052	-0.2722	112	75-125	8.712	0.787	20	
Zinc	82.77	0.81	8.052	83.34	-7.12	75-125	82.18	0.714	20	SO

The following samples were analyzed in this batch:

17041236-01A	17041236-02A	17041236-03A
17041236-04A	17041236-05A	17041236-06A
17041236-07A	17041236-08A	17041236-09A

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

**Client:** Olsson Associates  
**Work Order:** 17041236  
**Project:** AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **101013** Instrument ID **SAR** Method: **USDA H60 Method**

DUP				Sample ID: 17041231-02ADUP				Units: none		Analysis Date: 4/27/2017	
Client ID:			Run ID: SAR_170427A			SeqNo: 4401537		Prep Date: 4/26/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Exchangeable Sodium Percentage	0.4825	0.010	0	0	0		11.64	184	50	R	
Sodium Adsorption Ratio	1.183	0.010	0	0	0		9.784	157	50	R	

The following samples were analyzed in this batch:

17041236-01A	17041236-02A	17041236-03A
17041236-04A	17041236-05A	17041236-06A
17041236-07A	17041236-08A	

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

**Client:** Olsson Associates  
**Work Order:** 17041236  
**Project:** AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **101213**      Instrument ID **SVMS6**      Method: **SW8270E**

MBLK		Sample ID: <b>SBLKS1-101213-101213</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/28/2017 06:33 PM</b>		
Client ID:		Run ID: <b>SVMS6_170428A</b>				SeqNo: <b>4405974</b>		Prep Date: <b>4/28/2017</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	U	42								
Acenaphthylene	U	42								
Anthracene	U	42								
Benzo(a)anthracene	U	42								
Benzo(a)pyrene	U	42								
Benzo(b)fluoranthene	U	42								
Benzo(g,h,i)perylene	U	42								
Benzo(k)fluoranthene	U	42								
Chrysene	U	42								
Dibenzo(a,h)anthracene	U	42								
Fluoranthene	U	42								
Fluorene	U	42								
Indeno(1,2,3-cd)pyrene	U	42								
Naphthalene	U	42								
Phenanthrene	U	42								
Pyrene	U	42								
<i>Surr: 2-Fluorobiphenyl</i>	2599	0	3333	0	78	20-140	0			
<i>Surr: 4-Terphenyl-d14</i>	1833	0	3333	0	55	22-172	0			
<i>Surr: Nitrobenzene-d5</i>	2668	0	3333	0	80	8-140	0			

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

**Client:** Olsson Associates  
**Work Order:** 17041236  
**Project:** AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **101213**      Instrument ID **SVMS6**      Method: **SW8270E**

LCS				Sample ID: <b>SLCSS1-101213-101213</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>4/28/2017 06:58 PM</b>		
Client ID:			Run ID: <b>SVMS6_170428A</b>			SeqNo: <b>4405975</b>		Prep Date: <b>4/28/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1270	42	1333	0	95.3	60-140	0				
Acenaphthylene	1346	42	1333	0	101	60-140	0				
Anthracene	1845	42	1333	0	138	60-140	0				
Benzo(a)anthracene	1326	42	1333	0	99.4	60-140	0				
Benzo(a)pyrene	1634	42	1333	0	123	60-140	0				
Benzo(b)fluoranthene	1175	42	1333	0	88.1	60-140	0				
Benzo(g,h,i)perylene	1421	42	1333	0	107	60-140	0				
Benzo(k)fluoranthene	1498	42	1333	0	112	60-140	0				
Chrysene	1392	42	1333	0	104	60-140	0				
Dibenzo(a,h)anthracene	1420	42	1333	0	106	60-140	0				
Fluoranthene	1588	42	1333	0	119	60-140	0				
Fluorene	1513	42	1333	0	114	60-140	0				
Indeno(1,2,3-cd)pyrene	1312	42	1333	0	98.4	60-140	0				
Naphthalene	1281	42	1333	0	96.1	40-140	0				
Phenanthrene	1349	42	1333	0	101	60-140	0				
Pyrene	1391	42	1333	0	104	60-140	0				
<i>Surr: 2-Fluorobiphenyl</i>	<i>2601</i>	0	3333	0	<i>78</i>	<i>20-140</i>	0				
<i>Surr: 4-Terphenyl-d14</i>	<i>2324</i>	0	3333	0	<i>69.7</i>	<i>22-172</i>	0				
<i>Surr: Nitrobenzene-d5</i>	<i>2787</i>	0	3333	0	<i>83.6</i>	<i>8-140</i>	0				

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

**Client:** Olsson Associates  
**Work Order:** 17041236  
**Project:** AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **101213**      Instrument ID **SVMS6**      Method: **SW8270E**

MS				Sample ID: <b>17041370-07B MS</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>4/28/2017 07:23 PM</b>	
Client ID:				Run ID: <b>SVMS6_170428A</b>			SeqNo: <b>4405976</b>		Prep Date: <b>4/28/2017</b>	
									DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1029	41	1311	130.4	68.5	60-140	0			
Acenaphthylene	1340	41	1311	433.1	69.2	60-140	0			
Anthracene	1977	41	1311	2078	-7.68	60-140	0			S
Benzo(a)anthracene	3014	41	1311	3053	-2.99	60-140	0			S
Benzo(a)pyrene	2601	41	1311	2423	13.6	60-140	0			S
Benzo(b)fluoranthene	3177	41	1311	3149	2.11	60-140	0			S
Benzo(g,h,i)perylene	1347	41	1311	720.7	47.8	60-140	0			S
Benzo(k)fluoranthene	1854	41	1311	1293	42.8	60-140	0			S
Chrysene	2452	41	1311	2149	23.2	60-140	0			S
Dibenzo(a,h)anthracene	1406	41	1311	0	107	60-140	0			
Fluoranthene	5267	41	1311	8543	-250	60-140	0			SO
Fluorene	1221	41	1311	205.3	77.5	60-140	0			
Indeno(1,2,3-cd)pyrene	1478	41	1311	1288	14.5	60-140	0			S
Naphthalene	1116	41	1311	139.5	74.5	40-140	0			
Phenanthrene	2396	41	1311	3010	-46.8	60-140	0			S
Pyrene	3643	41	1311	4608	-73.6	60-140	0			S
<i>Surr: 2-Fluorobiphenyl</i>	<i>1948</i>	<i>0</i>	<i>3278</i>	<i>0</i>	<i>59.4</i>	<i>20-140</i>	<i>0</i>			
<i>Surr: 4-Terphenyl-d14</i>	<i>1188</i>	<i>0</i>	<i>3278</i>	<i>0</i>	<i>36.2</i>	<i>22-172</i>	<i>0</i>			
<i>Surr: Nitrobenzene-d5</i>	<i>2220</i>	<i>0</i>	<i>3278</i>	<i>0</i>	<i>67.7</i>	<i>8-140</i>	<i>0</i>			

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

**Client:** Olsson Associates  
**Work Order:** 17041236  
**Project:** AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **101213**      Instrument ID **SVMS6**      Method: **SW8270E**

MSD				Sample ID: <b>17041370-07B MSD</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>4/28/2017 07:47 PM</b>	
Client ID:				Run ID: <b>SVMS6_170428A</b>			SeqNo: <b>4405977</b>		Prep Date: <b>4/28/2017</b>	
									DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1086	41	1317	130.4	72.5	60-140	1029	5.39	30	
Acenaphthylene	1581	41	1317	433.1	87.1	60-140	1340	16.5	30	
Anthracene	2241	41	1317	2078	12.4	60-140	1977	12.5	30	S
Benzo(a)anthracene	3922	41	1317	3053	65.9	60-140	3014	26.2	30	
Benzo(a)pyrene	3386	41	1317	2423	73.1	60-140	2601	26.3	30	
Benzo(b)fluoranthene	4194	41	1317	3149	79.3	60-140	3177	27.6	30	
Benzo(g,h,i)perylene	1560	41	1317	720.7	63.7	60-140	1347	14.7	30	
Benzo(k)fluoranthene	2632	41	1317	1293	102	60-140	1854	34.7	30	R
Chrysene	3459	41	1317	2149	99.5	60-140	2452	34.1	30	R
Dibenzo(a,h)anthracene	1590	41	1317	0	121	60-140	1406	12.3	30	
Fluoranthene	7182	41	1317	8543	-103	60-140	5267	30.8	30	SREO
Fluorene	1254	41	1317	205.3	79.6	60-140	1221	2.67	30	
Indeno(1,2,3-cd)pyrene	1617	41	1317	1288	25	60-140	1478	9.02	30	S
Naphthalene	1194	41	1317	139.5	80.1	40-140	1116	6.75	30	
Phenanthrene	3149	41	1317	3010	10.6	60-140	2396	27.2	30	S
Pyrene	5202	41	1317	4608	45.1	60-140	3643	35.2	30	SR
<i>Surr: 2-Fluorobiphenyl</i>	2068	0	3294	0	62.8	20-140	1948	5.98	30	
<i>Surr: 4-Terphenyl-d14</i>	1244	0	3294	0	37.8	22-172	1188	4.67	30	
<i>Surr: Nitrobenzene-d5</i>	2290	0	3294	0	69.5	8-140	2220	3.09	30	

The following samples were analyzed in this batch:

17041236-01A	17041236-02A	17041236-03A
17041236-04A	17041236-05A	

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

**Client:** Olsson Associates  
**Work Order:** 17041236  
**Project:** AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **101256**      Instrument ID **SVMS6**      Method: **SW8270E**

MBLK		Sample ID: <b>SBLKS1-101256-101256</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>5/1/2017 05:58 PM</b>		
Client ID:		Run ID: <b>SVMS6_170501A</b>				SeqNo: <b>4406296</b>		Prep Date: <b>5/1/2017</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	U	42								
Acenaphthylene	U	42								
Anthracene	U	42								
Benzo(a)anthracene	U	42								
Benzo(a)pyrene	U	42								
Benzo(b)fluoranthene	U	42								
Benzo(g,h,i)perylene	U	42								
Benzo(k)fluoranthene	U	42								
Chrysene	U	42								
Dibenzo(a,h)anthracene	U	42								
Fluoranthene	U	42								
Fluorene	U	42								
Indeno(1,2,3-cd)pyrene	U	42								
Naphthalene	U	42								
Phenanthrene	U	42								
Pyrene	U	42								
<i>Surr: 2-Fluorobiphenyl</i>	2919	0	3333	0	87.6	20-140	0			
<i>Surr: 4-Terphenyl-d14</i>	2521	0	3333	0	75.6	22-172	0			
<i>Surr: Nitrobenzene-d5</i>	2788	0	3333	0	83.6	8-140	0			

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

**Client:** Olsson Associates  
**Work Order:** 17041236  
**Project:** AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **101256**      Instrument ID **SVMS6**      Method: **SW8270E**

LCS				Sample ID: <b>SLCSS1-101256-101256</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>5/1/2017 06:23 PM</b>	
Client ID:				Run ID: <b>SVMS6_170501A</b>			SeqNo: <b>4406297</b>		Prep Date: <b>5/1/2017</b>	
									DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1369	42	1333	0	103	60-140	0			
Acenaphthylene	1410	42	1333	0	106	60-140	0			
Anthracene	1717	42	1333	0	129	60-140	0			
Benzo(a)anthracene	1393	42	1333	0	105	60-140	0			
Benzo(a)pyrene	1766	42	1333	0	132	60-140	0			
Benzo(b)fluoranthene	1380	42	1333	0	104	60-140	0			
Benzo(g,h,i)perylene	1529	42	1333	0	115	60-140	0			
Benzo(k)fluoranthene	1596	42	1333	0	120	60-140	0			
Chrysene	1575	42	1333	0	118	60-140	0			
Dibenzo(a,h)anthracene	1415	42	1333	0	106	60-140	0			
Fluoranthene	1608	42	1333	0	121	60-140	0			
Fluorene	1615	42	1333	0	121	60-140	0			
Indeno(1,2,3-cd)pyrene	1341	42	1333	0	101	60-140	0			
Naphthalene	1375	42	1333	0	103	40-140	0			
Phenanthrene	1400	42	1333	0	105	60-140	0			
Pyrene	1552	42	1333	0	116	60-140	0			
<i>Surr: 2-Fluorobiphenyl</i>	2627	0	3333	0	78.8	20-140	0			
<i>Surr: 4-Terphenyl-d14</i>	2299	0	3333	0	69	22-172	0			
<i>Surr: Nitrobenzene-d5</i>	2813	0	3333	0	84.4	8-140	0			

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

**Client:** Olsson Associates  
**Work Order:** 17041236  
**Project:** AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **101256**      Instrument ID **SVMS6**      Method: **SW8270E**

MS				Sample ID: <b>17041592-02B MS</b>		Units: <b>µg/Kg</b>		Analysis Date: <b>5/1/2017 06:47 PM</b>		
Client ID:		Run ID: <b>SVMS6_170501A</b>		SeqNo: <b>4406298</b>		Prep Date: <b>5/1/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1175	41	1316	88.28	82.5	60-140	0			
Acenaphthylene	1201	41	1316	57.16	86.9	60-140	0			
Anthracene	1598	41	1316	535.4	80.7	60-140	0			
Benzo(a)anthracene	1868	41	1316	671.2	91	60-140	0			
Benzo(a)pyrene	1624	41	1316	315.3	99.4	60-140	0			
Benzo(b)fluoranthene	1616	41	1316	450.5	88.5	60-140	0			
Benzo(g,h,i)perylene	1192	41	1316	183.6	76.6	60-140	0			
Benzo(k)fluoranthene	1102	41	1316	135	73.5	60-140	0			
Chrysene	1401	41	1316	354.9	79.5	60-140	0			
Dibenzo(a,h)anthracene	1318	41	1316	0	100	60-140	0			
Fluoranthene	2904	41	1316	1949	72.5	60-140	0			
Fluorene	1434	41	1316	80.07	103	60-140	0			
Indeno(1,2,3-cd)pyrene	1441	41	1316	415.4	77.9	60-140	0			
Naphthalene	1228	41	1316	64.32	88.4	40-140	0			
Phenanthrene	2155	41	1316	950.7	91.5	60-140	0			
Pyrene	2385	41	1316	922.3	111	60-140	0			
<i>Surr: 2-Fluorobiphenyl</i>	<i>2281</i>	<i>0</i>	<i>3291</i>	<i>0</i>	<i>69.3</i>	<i>20-140</i>	<i>0</i>			
<i>Surr: 4-Terphenyl-d14</i>	<i>1668</i>	<i>0</i>	<i>3291</i>	<i>0</i>	<i>50.7</i>	<i>22-172</i>	<i>0</i>			
<i>Surr: Nitrobenzene-d5</i>	<i>2547</i>	<i>0</i>	<i>3291</i>	<i>0</i>	<i>77.4</i>	<i>8-140</i>	<i>0</i>			

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

Client: Olsson Associates  
 Work Order: 17041236  
 Project: AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **101256** Instrument ID **SVMS6** Method: **SW8270E**

MSD				Sample ID: <b>17041592-02B MSD</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>5/1/2017 07:12 PM</b>	
Client ID:				Run ID: <b>SVMS6_170501A</b>			SeqNo: <b>4406299</b>		Prep Date: <b>5/1/2017</b>	
									DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1204	41	1297	88.28	86.1	60-140	1175	2.49	30	
Acenaphthylene	1235	41	1297	57.16	90.8	60-140	1201	2.81	30	
Anthracene	1628	41	1297	535.4	84.2	60-140	1598	1.83	30	
Benzo(a)anthracene	2044	41	1297	671.2	106	60-140	1868	8.96	30	
Benzo(a)pyrene	1691	41	1297	315.3	106	60-140	1624	4.07	30	
Benzo(b)fluoranthene	1712	41	1297	450.5	97.3	60-140	1616	5.81	30	
Benzo(g,h,i)perylene	1158	41	1297	183.6	75.1	60-140	1192	2.88	30	
Benzo(k)fluoranthene	1098	41	1297	135	74.3	60-140	1102	0.357	30	
Chrysene	1370	41	1297	354.9	78.3	60-140	1401	2.19	30	
Dibenzo(a,h)anthracene	1269	41	1297	0	97.9	60-140	1318	3.75	30	
Fluoranthene	3212	41	1297	1949	97.3	60-140	2904	10.1	30	
Fluorene	1453	41	1297	80.07	106	60-140	1434	1.33	30	
Indeno(1,2,3-cd)pyrene	1410	41	1297	415.4	76.7	60-140	1441	2.22	30	
Naphthalene	1275	41	1297	64.32	93.3	40-140	1228	3.74	30	
Phenanthrene	2549	41	1297	950.7	123	60-140	2155	16.7	30	
Pyrene	2626	41	1297	922.3	131	60-140	2385	9.59	30	
Surr: 2-Fluorobiphenyl	2309	0	3243	0	71.2	20-140	2281	1.23	30	
Surr: 4-Terphenyl-d14	1578	0	3243	0	48.7	22-172	1668	5.54	30	
Surr: Nitrobenzene-d5	2594	0	3243	0	80	8-140	2547	1.81	30	

The following samples were analyzed in this batch:

17041236-06A 17041236-07A 17041236-08A

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

Client: Olsson Associates  
 Work Order: 17041236  
 Project: AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **100940** Instrument ID **VMS8** Method: **SW8260C**

Sample ID: <b>MBLK-100940-100940</b>				Units: <b>µg/Kg-dry</b>			Analysis Date: <b>4/24/2017 11:26 AM</b>			
Client ID:		Run ID: <b>VMS8_170424A</b>			SeqNo: <b>4394698</b>		Prep Date: <b>4/24/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	U	30								
Ethylbenzene	U	30								
m,p-Xylene	U	60								
o-Xylene	U	30								
Toluene	U	30								
Xylenes, Total	U	90								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1008</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>983.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.4</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>966.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>96.6</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>1026</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>103</i>	<i>70-130</i>	<i>0</i>			

LCS				Sample ID: LCS-100940-100940			Units: µg/Kg-dry		Analysis Date: 4/24/2017 10:38 AM		
Client ID:		Run ID: VMS8_170424A			SeqNo: 4394697		Prep Date: 4/24/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1076	30	1000	0	108	75-125	0				
Ethylbenzene	1030	30	1000	0	103	75-125	0				
m,p-Xylene	2088	60	2000	0	104	80-125	0				
o-Xylene	1054	30	1000	0	105	75-125	0				
Toluene	1062	30	1000	0	106	70-125	0				
Xylenes, Total	3142	90	3000	0	105	75-125	0				
Surr: 1,2-Dichloroethane-d4	997	0	1000	0	99.7	70-130	0				
Surr: 4-Bromofluorobenzene	1002	0	1000	0	100	70-130	0				
Surr: Dibromofluoromethane	1024	0	1000	0	102	70-130	0				
Surr: Toluene-d8	1030	0	1000	0	103	70-130	0				

MS				Sample ID: 17041215-03A MS		Units: µg/Kg-dry		Analysis Date: 4/24/2017 06:19 PM		
Client ID:			Run ID: VMS8_170424A			SeqNo: 4394703		Prep Date: 4/24/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1138	30	1000	0	114	75-125	0			
Ethylbenzene	1080	30	1000	0	108	75-125	0			
m,p-Xylene	2220	60	2000	0	111	80-125	0			
o-Xylene	1081	30	1000	0	108	75-125	0			
Toluene	1099	30	1000	0	110	70-125	0			
Xylenes, Total	3301	90	3000	0	110	75-125	0			
Surr: 1,2-Dichloroethane-d4	1050	0	1000	0	105	70-130	0			
Surr: 4-Bromofluorobenzene	1033	0	1000	0	103	70-130	0			
Surr: Dibromofluoromethane	1042	0	1000	0	104	70-130	0			
Surr: Toluene-d8	1044	0	1000	0	104	70-130	0			

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

**Client:** Olsson Associates  
**Work Order:** 17041236  
**Project:** AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **100940**      Instrument ID **VMS8**      Method: **SW8260C**

MSD				Sample ID: <b>17041215-03A MSD</b>			Units: <b>µg/Kg-dry</b>		Analysis Date: <b>4/24/2017 06:35 PM</b>	
Client ID:		Run ID: <b>VMS8_170424A</b>			SeqNo: <b>4394704</b>		Prep Date: <b>4/24/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1148	30	1000	0	115	75-125	1138	0.787	30	
Ethylbenzene	1117	30	1000	0	112	75-125	1080	3.41	30	
m,p-Xylene	2228	60	2000	0	111	80-125	2220	0.36	30	
o-Xylene	1125	30	1000	0	112	75-125	1081	3.99	30	
Toluene	1120	30	1000	0	112	70-125	1099	1.94	30	
Xylenes, Total	3353	90	3000	0	112	75-125	3301	1.56	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1060</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>106</i>	<i>70-130</i>	<i>1050</i>	<i>0.948</i>	<i>30</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>1043</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>104</i>	<i>70-130</i>	<i>1033</i>	<i>0.963</i>	<i>30</i>	
<i>Surr: Dibromofluoromethane</i>	<i>1031</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>103</i>	<i>70-130</i>	<i>1042</i>	<i>1.01</i>	<i>30</i>	
<i>Surr: Toluene-d8</i>	<i>1030</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>103</i>	<i>70-130</i>	<i>1044</i>	<i>1.3</i>	<i>30</i>	

The following samples were analyzed in this batch:

17041236-01A	17041236-03A	17041236-04A
17041236-05A	17041236-06A	17041236-07A
17041236-08A		

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

Client: Olsson Associates  
 Work Order: 17041236  
 Project: AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **101005** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-101005-101005					Units: s.u.		Analysis Date: 4/25/2017 02:25 PM		
Client ID:			Run ID: WETCHEM_170425G			SeqNo: 4395252		Prep Date: 4/24/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH 3.95 0.10 4 0 98.8 90-110 0

DUP				Sample ID: 17041231-03A DUP				Units: s.u.		Analysis Date: 4/25/2017 02:25 PM			
Client ID:				Run ID: WETCHEM_170425G				SeqNo: 4395256		Prep Date: 4/24/2017		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		

pH 8.17 0.10 0 0 0 0-0 8.18 0.122 20

DUP				Sample ID: 17041236-01A DUP				Units: s.u.		Analysis Date: 4/25/2017 02:25 PM			
Client ID: ACM 43-SS1				Run ID: WETCHEM_170425G				SeqNo: 4395258		Prep Date: 4/24/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			

pH 7.63 0.10 0 0 0 0-0 7.21 5.66 20

The following samples were analyzed in this batch:

17041236-01A	17041236-02A	17041236-03A
17041236-04A	17041236-05A	17041236-06A
17041236-07A	17041236-08A	

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

**Client:** Olsson Associates  
**Work Order:** 17041236  
**Project:** AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **101013** Instrument ID **WETCHEM** Method: **USDA H60 Method**

<b>DUP</b>		Sample ID: <b>17041231-02A DUP</b>				Units: <b>mmhos/cm @25°</b>		Analysis Date: <b>4/27/2017 09:30 AM</b>		
Client ID:		Run ID: <b>WETCHEM_170427D</b>				SeqNo: <b>4399443</b>		Prep Date: <b>4/26/2017</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	25.9	0.050	0	0	0		26	0.385	50	

The following samples were analyzed in this batch:

17041236-01A	17041236-02A	17041236-03A
17041236-04A	17041236-05A	17041236-06A
17041236-07A	17041236-08A	

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

Client: Olsson Associates  
 Work Order: 17041236  
 Project: AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **101172** Instrument ID **WETCHEM** Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-101172-101172</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/27/2017 03:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_170427U</b>				SeqNo: <b>4400542</b>		Prep Date: <b>4/26/2017</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 U 1.0

<b>LCS</b>		Sample ID: <b>LCS-101172-101172</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/27/2017 03:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_170427U</b>				SeqNo: <b>4400543</b>		Prep Date: <b>4/26/2017</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 4.43 1.0 5 0 88.6 80-120 0

<b>MS</b>		Sample ID: <b>17041236-02A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/27/2017 03:30 PM</b>		
Client ID: <b>ACM 43-BG1</b>		Run ID: <b>WETCHEM_170427U</b>				SeqNo: <b>4400547</b>		Prep Date: <b>4/26/2017</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 3.8 1.0 5 0.02885 75.4 75-125 0

<b>MS</b>		Sample ID: <b>17041236-02A MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/27/2017 03:30 PM</b>		
Client ID: <b>ACM 43-BG1</b>		Run ID: <b>WETCHEM_170427U</b>				SeqNo: <b>4400549</b>		Prep Date: <b>4/26/2017</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 2968 99 2469 0.02885 120 75-125 0

<b>MSD</b>		Sample ID: <b>17041236-02A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/27/2017 03:30 PM</b>		
Client ID: <b>ACM 43-BG1</b>		Run ID: <b>WETCHEM_170427U</b>				SeqNo: <b>4400548</b>		Prep Date: <b>4/26/2017</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 3.8 1.0 5 0.02885 75.4 75-125 3.8 0 20

The following samples were analyzed in this batch:

17041236-01A	17041236-02A	17041236-03A
17041236-04A	17041236-05A	17041236-06A
17041236-07A	17041236-08A	

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

Client: Olsson Associates  
 Work Order: 17041236  
 Project: AC McLaughlin 43 013.3287.400.400004

## QC BATCH REPORT

Batch ID: **R210751** Instrument ID **MOIST** Method: **SW3550C**

<b>MBLK</b>		Sample ID: <b>WBLKS-R210751</b>				Units: % of sample		Analysis Date: <b>4/27/2017 02:19 PM</b>		
Client ID:		Run ID: <b>MOIST_170427C</b>				SeqNo: <b>4401370</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	0.04	0.050								J

<b>LCS</b>		Sample ID: <b>LCS-R210751</b>				Units: % of sample		Analysis Date: <b>4/27/2017 02:19 PM</b>		
Client ID:		Run ID: <b>MOIST_170427C</b>				SeqNo: <b>4401369</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>17041476-02B DUP</b>				Units: % of sample		Analysis Date: <b>4/27/2017 02:19 PM</b>		
Client ID:		Run ID: <b>MOIST_170427C</b>				SeqNo: <b>4401361</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	17.07	0.050	0	0	0		16.67	2.37	5	

<b>DUP</b>		Sample ID: <b>17041476-04B DUP</b>				Units: % of sample		Analysis Date: <b>4/27/2017 02:19 PM</b>		
Client ID:		Run ID: <b>MOIST_170427C</b>				SeqNo: <b>4401364</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	17.94	0.050	0	0	0		18.38	2.42	5	

The following samples were analyzed in this batch:

17041236-01A	17041236-02A	17041236-03A
17041236-04A	17041236-05A	17041236-06A
17041236-07A	17041236-08A	17041236-09A

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 5335

☐ 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	AC McLaughlin 43	A TPH (GRO & DRO)															
Work Order		Project Number	013.3287.400.400004	B BTEX															
Company Name	Oleason Associates	Bill To Company	Oleason Associates	C PAH (See Attached List) CO Table 810															
Send Report To	Tim Dobransky	Invoice Attn	Tim Dobransky	D Electrical Conductivity															
Address	780 Horizon Drive, Ste. 102	Address	780 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 810															
Fax	970.263.7456	Fax	970.263.7456	H Arsenic Only															
e-Mail Address	tdobransky@oleaconsulting.com	e-Mail Address		I															
				J															
No.	Sample Description	Date	Time	Matrix	Pres.	A Batches	A	B	C	D	E	F	G	H	I	J	Hold		
1	ACM 43 - SS1	04/19/17	1130	Soil	8	2	X	X	X	X	X	X	X						
2	ACM 43 - BG1	04/19/17	1150	Soil	8	2				X	X	X	X						
3	ACM 43 - SS2	04/19/17	1210	Soil	8	2	X	X	X	X	X	X	X						
4	ACM 43 - SS3	04/19/17	1220	Soil	8	2	X	X	X	X	X	X	X						
5	ACM 43 - SS4	04/19/17	1300	Soil	8	2	X	X	X	X	X	X	X						
6	ACM 43 - SS5	04/19/17	1315	Soil	8	2	X	X	X	X	X	X	X						
7	ACM 43 - SS6	04/19/17	1330	Soil	8	2	X	X	X	X	X	X	X						
8	ACM 43 - SS7	04/19/17	1340	Soil	8	2	X	X	X	X	X	X	X						
9	ACM 43 - BG2	04/19/17	1350	Soil	8	2								X					
10																			
11																			
12																			
13																			
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time:		Other		Results Due Date:											
Jason McLarty		FedEx		STD 10 Wk Days		5 Wk Days		2 Wk Days		24 Hour									
Relinquished by:	Date:	Time:	Received by:	Notes: Chevron Pricing Applies - Per Bruce Schlatter															
	4/20/17	1200																	
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler Temp.	QC Package: (Check Box Below)														
	4-20-17	1700	U/M Beckett	4.0	x Level II: Standard QC														
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	4.0	Level III: Std QC + Raw Data														
MB	4/21/17	1530	SL	5R2	Level IV: SW846 CLP-Like														
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035				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-Apr-17 09:30**

Work Order: **17041236**

Received by: **MBB**

Checklist completed by **Meghan Broadbent**

21-Apr-17

Reviewed by: **Alex J. Csaszar**

21-Apr-17

eSignature

Date

eSignature

Date

Matrices: **soil**

Carrier name: **FedEx**

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

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

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

Chain of custody present? Yes ☒ No ☐

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

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

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

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

Sample(s) received on ice? Yes ☒ No ☐

Temperature(s)/Thermometer(s): **4.0/4.0** **SR2**

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: **4/21/2017 3:45:25 PM**

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

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

pH adjusted? Yes ☐ No ☐ N/A ☒

pH adjusted by: -

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction: