

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



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**Legend**

- Spill Origin
- Other Soil Sample Location
- Spill Path

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Project Number: 013-3287	<b>Fee 73X Spill Response</b> Chevron USA, Inc Rio Blanco County, Colorado NENW S28, SSE S21, SWSW S22 T2N R102W	 <b>OLSSON</b> ASSOCIATES	760 Horizon Drive, Suite 102 Grand Junction, CO 81506 P: 970.263.7800 F: 970.263.7456	Figure
Drawn By: SBS				1
Revision Date: 10/13/2016				

Table 1  
Fee 73X  
Soil Data Summary

SAMPLE SUMMARY	
Location Description	Fee 73X Spill
Sample Type	Soil

LABORATORY DATA SUMMARY																
Sample ID	Fee 73X-SS1	Fee 73X-SS2	Fee 73X-SS3	Fee 73X-SS4	Fee 73X-SS5	Fee 73X-SS6	Fee 73X-SS7	Fee 73X-SS8	Fee 73X-SS9	Fee 73X-SS10	Fee 73X-SS11	Fee 73X-BG1	Fee 73X-BG2	Fee 73X-BG3	COGCC TABLE 910-1 CONCENTRATION LEVELS	UNITS
Depth	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"		
Sample Date	10/4/2016	10/4/2016	10/4/2016	10/4/2016	10/4/2016	10/4/2016	10/4/2016	10/4/2016	10/4/2016	10/4/2016	10/4/2016	10/4/2016	10/4/2016	10/4/2016		
Analytical Parameters																
TPH																
TPH Gasoline Range Organics	<3.6	<3.8	<3.6	<3.8	<3.8	<3.6	<3.8	<3.5	<3.6	<3.6	<3.8	NT	NT	NT	500	mg/kg
TPH Diesel Range Organics	60	110	27	50	28	27	31	31	46	32	33	NT	NT	NT		
BTEX																
Benzene	<0.043	<0.045	<0.043	<0.046	<0.045	<0.043	<0.045	<0.041	<0.043	<0.043	<0.046	NT	NT	NT	0.17	mg/kg
Toluene	<0.050	<0.045	<0.043	<0.046	<0.045	<0.043	<0.045	<0.041	<0.043	<0.043	<0.046	NT	NT	NT	85	mg/kg
Ethylbenzene	<0.050	<0.045	<0.043	<0.046	<0.045	<0.043	<0.045	<0.041	<0.043	<0.043	<0.046	NT	NT	NT	100	mg/kg
Total Xylene	<0.13	<0.14	<0.13	<0.14	<0.14	<0.13	<0.014	<0.12	<0.013	<0.13	<0.14	NT	NT	NT	175	mg/kg
Metals																
Arsenic	11	11	10	9.6	10.0	10	9.4	9	10	9.9	9.1	10	9.1	11	0.39	mg/kg
Barium	150	130	120	260	100	140	570	180	160	140	120	130	NT	NT	15,000	mg/kg
Cadmium	<0.49	<0.44	<0.44	<0.48	<0.50	<0.46	<0.49	<0.47	<0.43	<0.48	<0.52	<0.46	NT	NT	70	mg/kg
Chromium	14	12	12	14.0	13	12	13	11	11	13	14	14	NT	NT	NA	mg/kg
Copper	15	16	17	17	16	16	16	14	16	15	17	16	NT	NT	3,100	mg/kg
Lead	17	17	19	23	19	18	19	16	18	18	19	18	NT	NT	400	mg/kg
Mercury	0.020	0.023	0.028	0.025	0.025	0.019	0.021	0.02	0.016	0.018	0.029	0.021	NT	NT	23	mg/kg
Nickel	20	20	21	20	19	20	20	18	18	19	23	20	NT	NT	1,600	mg/kg
Selenium	<0.98	<0.89	<0.89	<0.97	<1.0	<0.92	<0.98	<0.95	<2.1	<0.95	<1.0	<0.92	NT	NT	390	mg/kg
Silver	<0.49	<0.44	<0.44	<0.48	<0.50	<0.46	<0.49	<0.47	<0.43	<0.48	<0.52	<0.46	NT	NT	390	mg/kg
Zinc	85	86	92	96	85	91	91	86	89	91	93	88	NT	NT	23,000	mg/kg
SAR Metals Analysis																
Calcium	360	320	150	100	72	150	290	70	160	170	190	87	NT	NT	NA	mg/L
Magnesium	100	64	26	20	17	39	50	15	32	31	45	20	NT	NT	NA	mg/L
Sodium	620	230	180	81	120	200	85	270	790	550	390	350	NT	NT	NA	mg/L
Sodium Adsorption Ratio	7.4	3.1	3.6	1.9	3.4	3.7	1.2	7.6	5.9	10.0	6.6	8.8	NT	NT	<12	ratio
Polynuclear Aromatic Hydrocarbons																
Acenaphthene	<0.0080	<0.0081	<0.0077	<0.0084	<0.081	<0.079	<0.082	<0.0079	<0.0081	<0.0080	<0.083	NT	NT	NT	1,000	mg/kg
Anthracene	<0.0080	<0.0081	<0.0077	<0.0084	<0.081	<0.079	<0.082	<0.0079	<0.0081	<0.0080	<0.083	NT	NT	NT	1,000	mg/kg
Benzo(a)anthracene	<0.0080	<0.0081	<0.0077	<0.0084	<0.081	<0.079	<0.082	<0.0079	<0.0081	<0.0080	<0.083	NT	NT	NT	0.22	mg/kg
Benzo(a)pyrene	<0.0080	<0.0081	<0.0077	<0.0084	<0.081	<0.079	<0.082	<0.0079	<0.0081	<0.0080	<0.083	NT	NT	NT	0.022	mg/kg
Benzo(b)fluoranthene	<0.0080	<0.0081	<0.0077	<0.0084	<0.081	<0.079	<0.082	<0.0079	<0.0081	<0.0080	<0.083	NT	NT	NT	0.22	mg/kg
Benzo(k)fluoranthene	<0.0080	<0.0081	<0.0077	<0.0084	<0.081	<0.079	<0.082	<0.0079	<0.0081	<0.0080	<0.083	NT	NT	NT	2.2	mg/kg
Chrysene	<0.0080	<0.0081	<0.0077	<0.0084	<0.081	<0.079	<0.082	<0.0079	<0.0081	<0.0080	<0.083	NT	NT	NT	22	mg/kg
Dibenzo(a,h)anthracene	<0.0080	<0.0081	<0.0077	<0.0084	<0.081	<0.079	<0.082	<0.0079	<0.0081	<0.0080	<0.083	NT	NT	NT	0.022	mg/kg
Fluoranthene	<0.0080	<0.0081	<0.0077	<0.0084	<0.081	<0.079	<0.082	<0.0079	<0.0081	<0.0080	<0.083	NT	NT	NT	1,000	mg/kg
Fluorene	<0.0080	<0.0081	<0.0077	<0.0084	<0.081	<0.079	<0.082	<0.0079	<0.0081	<0.0080	<0.083	NT	NT	NT	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	<0.0080	<0.0081	<0.0077	<0.0084	<0.081	<0.079	<0.082	<0.0079	<0.0081	<0.0080	<0.083	NT	NT	NT	0.22	mg/kg
Napthalene	<0.0080	<0.0081	<0.0077	<0.0084	<0.081	<0.079	<0.082	<0.0079	<0.0081	<0.0080	<0.083	NT	NT	NT	23	mg/kg
Pyrene	<0.0080	<0.0081	<0.0077	<0.0084	<0.081	<0.079	<0.082	<0.0079	<0.0081	<0.0080	<0.083	NT	NT	NT	1,000	mg/kg
General Chemistry																
Chromium, Hexavalent	<1.2	<1.2	<1.2	<1.2	<1.2	<1.1	<1.2	<1.1	<1.2	<1.2	<1.2	<1.2	NT	NT	23	mg/kg
Chromium, Trivalent	14	12	12	13	13	12	13	11	11	13	14	14	NT	NT	120,000	mg/kg
Specific Conductivity	8.7	5.1	3.3	1.9	2.5	3.0	2.6	2.6	3.1	5.4	4.8	2.9	NT	NT	<4 or 2 x the background	mmhos/cm
pH	8.3	8.0	8.1	7.8	8.3	8.6	8.1	9.5	8.7	8.6	8.40	9.20	NT	NT	6-9	su

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

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



24-Oct-2016

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

Re: **Fee 73X Spill**

Work Order: **1610429**

Dear Tim,

ALS Environmental received 14 samples on 07-Oct-2016 09:00 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 53.

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

Sincerely,

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

Electronically approved by: Chad Whelton

Chad Whelton  
Project Manager



Certificate No: MN 998501

## Report of Laboratory Analysis

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

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

Environmental A small icon of a tree or plant.

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RIGHT SOLUTIONS RIGHT PARTNER

**Client:** Olsson Associates  
**Project:** Fee 73X Spill  
**Work Order:** 1610429

**Work Order Sample Summary**

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1610429-01	FEE 73X - SS1	Soil		10/4/2016 11:30	10/7/2016 09:00	<input type="checkbox"/>
1610429-02	FEE 73X - SS2	Soil		10/4/2016 11:50	10/7/2016 09:00	<input type="checkbox"/>
1610429-03	FEE 73X - BG1	Soil		10/4/2016 12:00	10/7/2016 09:00	<input type="checkbox"/>
1610429-04	FEE 73X - SS3	Soil		10/4/2016 12:30	10/7/2016 09:00	<input type="checkbox"/>
1610429-05	FEE 73X - SS4	Soil		10/4/2016 12:45	10/7/2016 09:00	<input type="checkbox"/>
1610429-06	FEE 73X - SS5	Soil		10/4/2016 13:00	10/7/2016 09:00	<input type="checkbox"/>
1610429-07	FEE 73X - SS6	Soil		10/4/2016 13:15	10/7/2016 09:00	<input type="checkbox"/>
1610429-08	FEE 73X - BG2	Soil		10/4/2016 13:55	10/7/2016 09:00	<input type="checkbox"/>
1610429-09	FEE 73X - SS7	Soil		10/4/2016 14:00	10/7/2016 09:00	<input type="checkbox"/>
1610429-10	FEE 73X - SS8	Soil		10/4/2016 14:15	10/7/2016 09:00	<input type="checkbox"/>
1610429-11	FEE 73X - SS9	Soil		10/4/2016 14:40	10/7/2016 09:00	<input type="checkbox"/>
1610429-12	FEE 73X - SS10	Soil		10/4/2016 14:45	10/7/2016 09:00	<input type="checkbox"/>
1610429-13	FEE 73X - BG3	Soil		10/4/2016 14:55	10/7/2016 09:00	<input type="checkbox"/>
1610429-14	FEE 73X - SS11	Soil		10/4/2016 15:05	10/7/2016 09:00	<input type="checkbox"/>

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**Client:** Olsson Associates**Project:** Fee 73X Spill**Work Order:** 1610429**Case Narrative**

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Batch 92601, Method CR6\_7196\_S, Sample 1610429-01A MS/MSD: The MS and MSD recovery was below the lower control limit for Hexavalent Chromium. The corresponding result in the parent sample may be biased low.

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

Date: 24-Oct-16

**Client:** Olsson Associates  
**Project:** Fee 73X Spill  
**Sample ID:** FEE 73X - SS1  
**Collection Date:** 10/4/2016 11:30 AM

**Work Order:** 1610429  
**Lab ID:** 1610429-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep: SW3546 / 10/13/16	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>60</b>		<b>6.0</b>	<b>mg/Kg-dry</b>	1	10/13/2016 07:05 PM
Surr: 4-Terphenyl-d14	59.8		39-133	%REC	1	10/13/2016 07:05 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015D</b>		Prep: SW5035 / 10/12/16	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>3.6</b>	<b>mg/Kg-dry</b>	1	10/12/2016 03:12 PM
Surr: Toluene-d8	101		50-150	%REC	1	10/12/2016 03:12 PM
<b>MERCURY BY CVAA</b>						
			<b>SW7471B</b>		Prep: SW7471 / 10/19/16	Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.020</b>		<b>0.016</b>	<b>mg/Kg-dry</b>	1	10/19/2016 07:28 PM
<b>METALS ANALYSIS BY ICP</b>						
			<b>SW846 6010C</b>		Prep: SW3050B / 10/17/16	Analyst: <b>RH</b>
<b>Arsenic</b>	<b>11</b>		<b>0.49</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:36 PM
<b>Barium</b>	<b>150</b>		<b>0.49</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:36 PM
Cadmium	ND		0.49	mg/Kg-dry	1	10/19/2016 03:36 PM
<b>Chromium</b>	<b>14</b>		<b>0.49</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:36 PM
<b>Copper</b>	<b>15</b>		<b>0.49</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:36 PM
<b>Lead</b>	<b>17</b>		<b>0.49</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:36 PM
<b>Nickel</b>	<b>20</b>		<b>0.49</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:36 PM
Selenium	ND		0.98	mg/Kg-dry	1	10/19/2016 03:36 PM
Silver	ND		0.49	mg/Kg-dry	1	10/19/2016 03:36 PM
<b>Zinc</b>	<b>85</b>		<b>0.98</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:36 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Calcium</b>	<b>360</b>		<b>5.0</b>	<b>mg/L</b>	10	10/21/2016 02:05 AM
<b>Magnesium</b>	<b>100</b>		<b>2.0</b>	<b>mg/L</b>	10	10/21/2016 02:05 AM
<b>Sodium</b>	<b>620</b>		<b>2.0</b>	<b>mg/L</b>	10	10/21/2016 02:05 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Sodium Adsorption Ratio</b>	<b>7.4</b>		<b>0.010</b>	<b>none</b>	1	10/20/2016
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3546 / 10/13/16	Analyst: <b>JF</b>
Acenaphthene	ND		0.0080	mg/Kg-dry	1	10/15/2016 12:19 PM
Anthracene	ND		0.0080	mg/Kg-dry	1	10/15/2016 12:19 PM
Benzo(a)anthracene	ND		0.0080	mg/Kg-dry	1	10/15/2016 12:19 PM
Benzo(a)pyrene	ND		0.0080	mg/Kg-dry	1	10/15/2016 12:19 PM
Benzo(b)fluoranthene	ND		0.0080	mg/Kg-dry	1	10/15/2016 12:19 PM
Benzo(k)fluoranthene	ND		0.0080	mg/Kg-dry	1	10/15/2016 12:19 PM
Chrysene	ND		0.0080	mg/Kg-dry	1	10/15/2016 12:19 PM
Dibenzo(a,h)anthracene	ND		0.0080	mg/Kg-dry	1	10/15/2016 12:19 PM
Fluoranthene	ND		0.0080	mg/Kg-dry	1	10/15/2016 12:19 PM

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

# ALS Group USA, Corp

Date: 24-Oct-16

**Client:** Olsson Associates  
**Project:** Fee 73X Spill  
**Sample ID:** FEE 73X - SS1  
**Collection Date:** 10/4/2016 11:30 AM

**Work Order:** 1610429  
**Lab ID:** 1610429-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0080	mg/Kg-dry	1	10/15/2016 12:19 PM
Indeno(1,2,3-cd)pyrene	ND		0.0080	mg/Kg-dry	1	10/15/2016 12:19 PM
Naphthalene	ND		0.0080	mg/Kg-dry	1	10/15/2016 12:19 PM
Pyrene	ND		0.0080	mg/Kg-dry	1	10/15/2016 12:19 PM
Surr: 2-Fluorobiphenyl	76.4		12-100	%REC	1	10/15/2016 12:19 PM
Surr: 4-Terphenyl-d14	79.7		25-137	%REC	1	10/15/2016 12:19 PM
Surr: Nitrobenzene-d5	75.9		37-107	%REC	1	10/15/2016 12:19 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 10/12/16		Analyst: <b>AK</b>
Benzene	ND		0.043	mg/Kg-dry	1	10/15/2016 09:43 AM
Ethylbenzene	ND		0.043	mg/Kg-dry	1	10/15/2016 09:43 AM
m,p-Xylene	ND		0.086	mg/Kg-dry	1	10/15/2016 09:43 AM
o-Xylene	ND		0.043	mg/Kg-dry	1	10/15/2016 09:43 AM
Toluene	ND		0.043	mg/Kg-dry	1	10/15/2016 09:43 AM
Xylenes, Total	ND		0.13	mg/Kg-dry	1	10/15/2016 09:43 AM
Surr: 1,2-Dichloroethane-d4	105		70-130	%REC	1	10/15/2016 09:43 AM
Surr: 4-Bromofluorobenzene	100		70-130	%REC	1	10/15/2016 09:43 AM
Surr: Dibromofluoromethane	90.8		70-130	%REC	1	10/15/2016 09:43 AM
Surr: Toluene-d8	101		70-130	%REC	1	10/15/2016 09:43 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 10/19/16		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	8.7		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>MB</b>
Chromium, Trivalent	14		0.61	mg/Kg-dry	1	10/20/2016 10:00 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 10/9/16		Analyst: <b>MB</b>
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	10/11/2016 11:00 AM
<b>MOISTURE</b>			<b>SW3550C</b>			Analyst: <b>EDL</b>
Moisture	18		0.050	% of sample	1	10/14/2016 11:17 AM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 10/10/16		Analyst: <b>LW</b>
pH	8.3			s.u.	1	10/10/2016 02:00 PM

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

# ALS Group USA, Corp

Date: 24-Oct-16

**Client:** Olsson Associates  
**Project:** Fee 73X Spill  
**Sample ID:** FEE 73X - SS2  
**Collection Date:** 10/4/2016 11:50 AM

**Work Order:** 1610429  
**Lab ID:** 1610429-02  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep: SW3546 / 10/13/16	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>110</b>		<b>6.1</b>	<b>mg/Kg-dry</b>	1	10/13/2016 07:34 PM
<i>Surr: 4-Terphenyl-d14</i>	<i>56.1</i>		<i>39-133</i>	<i>%REC</i>	1	10/13/2016 07:34 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015D</b>		Prep: SW5035 / 10/12/16	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>3.8</b>	<b>mg/Kg-dry</b>	1	10/12/2016 03:38 PM
<i>Surr: Toluene-d8</i>	<i>100</i>		<i>50-150</i>	<i>%REC</i>	1	10/12/2016 03:38 PM
<b>MERCURY BY CVAA</b>						
			<b>SW7471B</b>		Prep: SW7471 / 10/19/16	Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.023</b>		<b>0.016</b>	<b>mg/Kg-dry</b>	1	10/19/2016 07:30 PM
<b>METALS ANALYSIS BY ICP</b>						
			<b>SW846 6010C</b>		Prep: SW3050B / 10/17/16	Analyst: <b>RH</b>
<b>Arsenic</b>	<b>11</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:42 PM
<b>Barium</b>	<b>130</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:42 PM
<b>Cadmium</b>	<b>ND</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:42 PM
<b>Chromium</b>	<b>12</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:42 PM
<b>Copper</b>	<b>16</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:42 PM
<b>Lead</b>	<b>17</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:42 PM
<b>Nickel</b>	<b>20</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:42 PM
<b>Selenium</b>	<b>ND</b>		<b>0.89</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:42 PM
<b>Silver</b>	<b>ND</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:42 PM
<b>Zinc</b>	<b>86</b>		<b>0.89</b>	<b>mg/Kg-dry</b>	1	10/19/2016 03:42 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Calcium</b>	<b>320</b>		<b>5.0</b>	<b>mg/L</b>	10	10/21/2016 02:11 AM
<b>Magnesium</b>	<b>64</b>		<b>2.0</b>	<b>mg/L</b>	10	10/21/2016 02:11 AM
<b>Sodium</b>	<b>230</b>		<b>2.0</b>	<b>mg/L</b>	10	10/21/2016 02:11 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Sodium Adsorption Ratio</b>	<b>3.1</b>		<b>0.010</b>	<b>none</b>	1	10/20/2016
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3546 / 10/13/16	Analyst: <b>JF</b>
<b>Acenaphthene</b>	<b>ND</b>		<b>0.0081</b>	<b>mg/Kg-dry</b>	1	10/15/2016 12:42 PM
<b>Anthracene</b>	<b>ND</b>		<b>0.0081</b>	<b>mg/Kg-dry</b>	1	10/15/2016 12:42 PM
<b>Benzo(a)anthracene</b>	<b>ND</b>		<b>0.0081</b>	<b>mg/Kg-dry</b>	1	10/15/2016 12:42 PM
<b>Benzo(a)pyrene</b>	<b>ND</b>		<b>0.0081</b>	<b>mg/Kg-dry</b>	1	10/15/2016 12:42 PM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		<b>0.0081</b>	<b>mg/Kg-dry</b>	1	10/15/2016 12:42 PM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		<b>0.0081</b>	<b>mg/Kg-dry</b>	1	10/15/2016 12:42 PM
<b>Chrysene</b>	<b>ND</b>		<b>0.0081</b>	<b>mg/Kg-dry</b>	1	10/15/2016 12:42 PM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		<b>0.0081</b>	<b>mg/Kg-dry</b>	1	10/15/2016 12:42 PM
<b>Fluoranthene</b>	<b>ND</b>		<b>0.0081</b>	<b>mg/Kg-dry</b>	1	10/15/2016 12:42 PM

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

# ALS Group USA, Corp

Date: 24-Oct-16

**Client:** Olsson Associates  
**Project:** Fee 73X Spill  
**Sample ID:** FEE 73X - SS2  
**Collection Date:** 10/4/2016 11:50 AM

**Work Order:** 1610429  
**Lab ID:** 1610429-02  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0081	mg/Kg-dry	1	10/15/2016 12:42 PM
Indeno(1,2,3-cd)pyrene	ND		0.0081	mg/Kg-dry	1	10/15/2016 12:42 PM
Naphthalene	ND		0.0081	mg/Kg-dry	1	10/15/2016 12:42 PM
Pyrene	ND		0.0081	mg/Kg-dry	1	10/15/2016 12:42 PM
Surr: 2-Fluorobiphenyl	76.5		12-100	%REC	1	10/15/2016 12:42 PM
Surr: 4-Terphenyl-d14	83.4		25-137	%REC	1	10/15/2016 12:42 PM
Surr: Nitrobenzene-d5	73.7		37-107	%REC	1	10/15/2016 12:42 PM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 10/12/16		Analyst: <b>AK</b>
Benzene	ND		0.045	mg/Kg-dry	1	10/15/2016 10:09 AM
Ethylbenzene	ND		0.045	mg/Kg-dry	1	10/15/2016 10:09 AM
m,p-Xylene	ND		0.090	mg/Kg-dry	1	10/15/2016 10:09 AM
o-Xylene	ND		0.045	mg/Kg-dry	1	10/15/2016 10:09 AM
Toluene	ND		0.045	mg/Kg-dry	1	10/15/2016 10:09 AM
Xylenes, Total	ND		0.14	mg/Kg-dry	1	10/15/2016 10:09 AM
Surr: 1,2-Dichloroethane-d4	106		70-130	%REC	1	10/15/2016 10:09 AM
Surr: 4-Bromofluorobenzene	100		70-130	%REC	1	10/15/2016 10:09 AM
Surr: Dibromofluoromethane	92.9		70-130	%REC	1	10/15/2016 10:09 AM
Surr: Toluene-d8	100		70-130	%REC	1	10/15/2016 10:09 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 10/19/16		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	5.1		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>MB</b>
Chromium, Trivalent	12		0.62	mg/Kg-dry	1	10/20/2016 10:00 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 10/9/16		Analyst: <b>MB</b>
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	10/11/2016 11:00 AM
<b>MOISTURE</b>			<b>SW3550C</b>			Analyst: <b>EDL</b>
Moisture	20		0.050	% of sample	1	10/14/2016 12:24 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 10/10/16		Analyst: <b>LW</b>
pH	8.0			s.u.	1	10/10/2016 02:00 PM

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

# ALS Group USA, Corp

Date: 24-Oct-16

**Client:** Olsson Associates  
**Project:** Fee 73X Spill  
**Sample ID:** FEE 73X - BG1  
**Collection Date:** 10/4/2016 12:00 PM

**Work Order:** 1610429  
**Lab ID:** 1610429-03  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MERCURY BY CVAA</b>						
Mercury	0.021		SW7471B 0.016	mg/Kg-dry	Prep: SW7471 / 10/19/16 1	Analyst: LR 10/19/2016 07:41 PM
<b>METALS ANALYSIS BY ICP</b>						
Arsenic	10		SW846 6010C 0.46	mg/Kg-dry	Prep: SW3050B / 10/17/16 1	Analyst: RH 10/19/2016 03:48 PM
Barium	130		0.46	mg/Kg-dry	1	10/19/2016 03:48 PM
Cadmium	ND		0.46	mg/Kg-dry	1	10/19/2016 03:48 PM
Chromium	14		0.46	mg/Kg-dry	1	10/19/2016 03:48 PM
Copper	16		0.46	mg/Kg-dry	1	10/19/2016 03:48 PM
Lead	18		0.46	mg/Kg-dry	1	10/19/2016 03:48 PM
Nickel	20		0.46	mg/Kg-dry	1	10/19/2016 03:48 PM
Selenium	ND		0.92	mg/Kg-dry	1	10/19/2016 03:48 PM
Silver	ND		0.46	mg/Kg-dry	1	10/19/2016 03:48 PM
Zinc	88		0.92	mg/Kg-dry	1	10/19/2016 03:48 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
Calcium	87		SW846 6010C 5.0	mg/L	Prep: USDA Method 20B / 10/19/16 10	Analyst: RH 10/21/2016 02:33 AM
Magnesium	20		2.0	mg/L	10	10/21/2016 02:33 AM
Sodium	350		2.0	mg/L	10	10/21/2016 02:33 AM
<b>SODIUM ADSORPTION RATIO</b>						
Sodium Adsorption Ratio	8.8		USDA H60 METHO 0.010	none	Prep: USDA Method 20B / 10/19/16 1	Analyst: RH 10/20/2016
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>						
Electrical Conductivity @ Saturation	2.9		USDA H60 METHO 0.25	mmhos/cm @2	Prep: USDA Method 20B / 10/19/16 50	Analyst: JB 10/19/2016 11:00 PM
<b>CHROMIUM, TRIVALENT</b>						
Chromium, Trivalent	14		CALCULATION 0.60	mg/Kg-dry	1	Analyst: MB 10/20/2016 10:00 AM
<b>CHROMIUM, HEXAVALENT</b>						
Chromium, Hexavalent	ND		SW7196A 1.2	mg/Kg-dry	Prep: SW3060A / 10/9/16 1	Analyst: MB 10/11/2016 11:00 AM
<b>MOISTURE</b>						
Moisture	17		SW3550C 0.050	% of sample	1	Analyst: EDL 10/14/2016 12:24 PM
<b>PH</b>						
pH	9.2		SW9045D	s.u.	Prep: EXTRACT / 10/10/16 1	Analyst: LW 10/10/2016 02:00 PM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Sample ID: FEE 73X - SS3

Collection Date: 10/4/2016 12:30 PM

Work Order: 1610429

Lab ID: 1610429-04

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>27</b>		<b>5.8</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/13/2016 06:35 PM</b>
Surr: 4-Terphenyl-d14	50.8		39-133	%REC	1	10/13/2016 06:35 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>3.6</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/12/2016 04:03 PM</b>
Surr: Toluene-d8	102		50-150	%REC	1	10/12/2016 04:03 PM
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>0.028</b>		<b>0.016</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 07:43 PM</b>
<b>METALS ANALYSIS BY ICP</b>						
<b>Arsenic</b>	<b>10</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 03:53 PM</b>
<b>Barium</b>	<b>120</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 03:53 PM</b>
Cadmium	ND		0.44	mg/Kg-dry	1	10/19/2016 03:53 PM
<b>Chromium</b>	<b>12</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 03:53 PM</b>
<b>Copper</b>	<b>17</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 03:53 PM</b>
<b>Lead</b>	<b>19</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 03:53 PM</b>
<b>Nickel</b>	<b>21</b>		<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 03:53 PM</b>
Selenium	ND		0.89	mg/Kg-dry	1	10/19/2016 03:53 PM
Silver	ND		0.44	mg/Kg-dry	1	10/19/2016 03:53 PM
<b>Zinc</b>	<b>92</b>		<b>0.89</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 03:53 PM</b>
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 10/19/16	Analyst: RH
<b>Calcium</b>	<b>150</b>		<b>5.0</b>	<b>mg/L</b>	<b>10</b>	<b>10/21/2016 02:38 AM</b>
<b>Magnesium</b>	<b>26</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	<b>10/21/2016 02:38 AM</b>
<b>Sodium</b>	<b>180</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	<b>10/21/2016 02:38 AM</b>
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/19/16	Analyst: RH
<b>Sodium Adsorption Ratio</b>	<b>3.6</b>		<b>0.010</b>	<b>none</b>	<b>1</b>	<b>10/20/2016</b>
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3546 / 10/13/16	Analyst: JF
Acenaphthene	ND		0.0077	mg/Kg-dry	1	10/15/2016 01:04 AM
Anthracene	ND		0.0077	mg/Kg-dry	1	10/15/2016 01:04 AM
Benzo(a)anthracene	ND		0.0077	mg/Kg-dry	1	10/15/2016 01:04 AM
Benzo(a)pyrene	ND		0.0077	mg/Kg-dry	1	10/15/2016 01:04 AM
Benzo(b)fluoranthene	ND		0.0077	mg/Kg-dry	1	10/15/2016 01:04 AM
Benzo(k)fluoranthene	ND		0.0077	mg/Kg-dry	1	10/15/2016 01:04 AM
Chrysene	ND		0.0077	mg/Kg-dry	1	10/15/2016 01:04 AM
Dibenzo(a,h)anthracene	ND		0.0077	mg/Kg-dry	1	10/15/2016 01:04 AM
Fluoranthene	ND		0.0077	mg/Kg-dry	1	10/15/2016 01:04 AM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Work Order: 1610429

Sample ID: FEE 73X - SS3

Lab ID: 1610429-04

Collection Date: 10/4/2016 12:30 PM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0077	mg/Kg-dry	1	10/15/2016 01:04 AM
Indeno(1,2,3-cd)pyrene	ND		0.0077	mg/Kg-dry	1	10/15/2016 01:04 AM
Naphthalene	ND		0.0077	mg/Kg-dry	1	10/15/2016 01:04 AM
Pyrene	ND		0.0077	mg/Kg-dry	1	10/15/2016 01:04 AM
Surr: 2-Fluorobiphenyl	71.2		12-100	%REC	1	10/15/2016 01:04 AM
Surr: 4-Terphenyl-d14	78.9		25-137	%REC	1	10/15/2016 01:04 AM
Surr: Nitrobenzene-d5	72.3		37-107	%REC	1	10/15/2016 01:04 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 10/12/16		Analyst: <b>AK</b>
Benzene	ND		0.043	mg/Kg-dry	1	10/15/2016 10:35 AM
Ethylbenzene	ND		0.043	mg/Kg-dry	1	10/15/2016 10:35 AM
m,p-Xylene	ND		0.086	mg/Kg-dry	1	10/15/2016 10:35 AM
o-Xylene	ND		0.043	mg/Kg-dry	1	10/15/2016 10:35 AM
Toluene	ND		0.043	mg/Kg-dry	1	10/15/2016 10:35 AM
Xylenes, Total	ND		0.13	mg/Kg-dry	1	10/15/2016 10:35 AM
Surr: 1,2-Dichloroethane-d4	107		70-130	%REC	1	10/15/2016 10:35 AM
Surr: 4-Bromofluorobenzene	101		70-130	%REC	1	10/15/2016 10:35 AM
Surr: Dibromofluoromethane	93.1		70-130	%REC	1	10/15/2016 10:35 AM
Surr: Toluene-d8	102		70-130	%REC	1	10/15/2016 10:35 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 10/19/16		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	3.3		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>MB</b>
Chromium, Trivalent	12		0.61	mg/Kg-dry	1	10/20/2016 10:00 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 10/9/16		Analyst: <b>MB</b>
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	10/11/2016 11:00 AM
<b>MOISTURE</b>			<b>SW3550C</b>			Analyst: <b>EDL</b>
Moisture	18		0.050	% of sample	1	10/14/2016 12:24 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 10/10/16		Analyst: <b>LW</b>
pH	8.1			s.u.	1	10/10/2016 02:00 PM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Sample ID: FEE 73X - SS4

Collection Date: 10/4/2016 12:45 PM

Work Order: 1610429

Lab ID: 1610429-05

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>50</b>		<b>SW8015M</b>		Prep: SW3546 / 10/13/16	Analyst: <b>IT</b>
<i>Surr: 4-Terphenyl-d14</i>	63.6		6.3	mg/Kg-dry	1	10/13/2016 08:04 PM
			39-133	%REC	1	10/13/2016 08:04 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015D</b>		Prep: SW5035 / 10/12/16	Analyst: <b>IT</b>
<i>Surr: Toluene-d8</i>	96.2		3.8	mg/Kg-dry	1	10/12/2016 05:42 PM
			50-150	%REC	1	10/12/2016 05:42 PM
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>0.025</b>		<b>SW7471B</b>		Prep: SW7471 / 10/19/16	Analyst: <b>LR</b>
			0.016	mg/Kg-dry	1	10/19/2016 07:46 PM
<b>METALS ANALYSIS BY ICP</b>						
<b>Arsenic</b>	<b>9.6</b>		<b>SW846 6010C</b>		Prep: SW3050B / 10/17/16	Analyst: <b>RH</b>
<b>Barium</b>	<b>260</b>		0.48	mg/Kg-dry	1	10/19/2016 03:59 PM
<b>Cadmium</b>	<b>ND</b>		0.48	mg/Kg-dry	1	10/19/2016 03:59 PM
<b>Chromium</b>	<b>14</b>		0.48	mg/Kg-dry	1	10/19/2016 03:59 PM
<b>Copper</b>	<b>17</b>		0.48	mg/Kg-dry	1	10/19/2016 03:59 PM
<b>Lead</b>	<b>23</b>		0.48	mg/Kg-dry	1	10/19/2016 03:59 PM
<b>Nickel</b>	<b>20</b>		0.48	mg/Kg-dry	1	10/19/2016 03:59 PM
<b>Selenium</b>	<b>ND</b>		0.97	mg/Kg-dry	1	10/19/2016 03:59 PM
<b>Silver</b>	<b>ND</b>		0.48	mg/Kg-dry	1	10/19/2016 03:59 PM
<b>Zinc</b>	<b>96</b>		0.97	mg/Kg-dry	1	10/19/2016 03:59 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Calcium</b>	<b>100</b>		5.0	mg/L	10	10/21/2016 02:44 AM
<b>Magnesium</b>	<b>20</b>		2.0	mg/L	10	10/21/2016 02:44 AM
<b>Sodium</b>	<b>81</b>		2.0	mg/L	10	10/21/2016 02:44 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Sodium Adsorption Ratio</b>	<b>1.9</b>		0.010	none	1	10/20/2016
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3546 / 10/13/16	Analyst: <b>JF</b>
<b>Acenaphthene</b>	<b>ND</b>		0.0084	mg/Kg-dry	1	10/15/2016 01:26 AM
<b>Anthracene</b>	<b>ND</b>		0.0084	mg/Kg-dry	1	10/15/2016 01:26 AM
<b>Benzo(a)anthracene</b>	<b>ND</b>		0.0084	mg/Kg-dry	1	10/15/2016 01:26 AM
<b>Benzo(a)pyrene</b>	<b>ND</b>		0.0084	mg/Kg-dry	1	10/15/2016 01:26 AM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		0.0084	mg/Kg-dry	1	10/15/2016 01:26 AM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		0.0084	mg/Kg-dry	1	10/15/2016 01:26 AM
<b>Chrysene</b>	<b>ND</b>		0.0084	mg/Kg-dry	1	10/15/2016 01:26 AM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		0.0084	mg/Kg-dry	1	10/15/2016 01:26 AM
<b>Fluoranthene</b>	<b>ND</b>		0.0084	mg/Kg-dry	1	10/15/2016 01:26 AM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Sample ID: FEE 73X - SS4

Collection Date: 10/4/2016 12:45 PM

Work Order: 1610429

Lab ID: 1610429-05

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0084	mg/Kg-dry	1	10/15/2016 01:26 AM
Indeno(1,2,3-cd)pyrene	ND		0.0084	mg/Kg-dry	1	10/15/2016 01:26 AM
Naphthalene	ND		0.0084	mg/Kg-dry	1	10/15/2016 01:26 AM
Pyrene	ND		0.0084	mg/Kg-dry	1	10/15/2016 01:26 AM
Surr: 2-Fluorobiphenyl	70.9		12-100	%REC	1	10/15/2016 01:26 AM
Surr: 4-Terphenyl-d14	77.2		25-137	%REC	1	10/15/2016 01:26 AM
Surr: Nitrobenzene-d5	70.3		37-107	%REC	1	10/15/2016 01:26 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 10/12/16	Analyst: <b>AK</b>	
Benzene	ND		0.046	mg/Kg-dry	1	10/15/2016 11:02 AM
Ethylbenzene	ND		0.046	mg/Kg-dry	1	10/15/2016 11:02 AM
m,p-Xylene	ND		0.092	mg/Kg-dry	1	10/15/2016 11:02 AM
o-Xylene	ND		0.046	mg/Kg-dry	1	10/15/2016 11:02 AM
Toluene	ND		0.046	mg/Kg-dry	1	10/15/2016 11:02 AM
Xylenes, Total	ND		0.14	mg/Kg-dry	1	10/15/2016 11:02 AM
Surr: 1,2-Dichloroethane-d4	106		70-130	%REC	1	10/15/2016 11:02 AM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	10/15/2016 11:02 AM
Surr: Dibromofluoromethane	89.9		70-130	%REC	1	10/15/2016 11:02 AM
Surr: Toluene-d8	101		70-130	%REC	1	10/15/2016 11:02 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 10/19/16	Analyst: <b>JB</b>	
Electrical Conductivity @ Saturation	1.9		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>	Analyst: <b>MB</b>		
Chromium, Trivalent	13		0.63	mg/Kg-dry	1	10/20/2016 10:00 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 10/9/16	Analyst: <b>MB</b>	
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	10/11/2016 11:00 AM
<b>MOISTURE</b>			<b>SW3550C</b>	Analyst: <b>EDL</b>		
Moisture	21		0.050	% of sample	1	10/14/2016 12:24 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 10/10/16	Analyst: <b>LW</b>	
pH	7.8			s.u.	1	10/10/2016 02:00 PM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Sample ID: FEE 73X - SS5

Collection Date: 10/4/2016 01:00 PM

Work Order: 1610429

Lab ID: 1610429-06

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015M</b>		Prep: SW3546 / 10/13/16	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>28</b>		<b>6.1</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2016 08:34 PM
Surr: 4-Terphenyl-d14	54.2		39-133	%REC	1	10/13/2016 08:34 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
			<b>SW8015D</b>		Prep: SW5035 / 10/12/16	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>3.8</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/12/2016 06:07 PM
Surr: Toluene-d8	95.2		50-150	%REC	1	10/12/2016 06:07 PM
<b>MERCURY BY CVAA</b>						
			<b>SW7471B</b>		Prep: SW7471 / 10/19/16	Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.025</b>		<b>0.016</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 07:48 PM
<b>METALS ANALYSIS BY ICP</b>						
			<b>SW846 6010C</b>		Prep: SW3050B / 10/17/16	Analyst: <b>RH</b>
<b>Arsenic</b>	<b>10</b>		<b>0.50</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:04 PM
<b>Barium</b>	<b>100</b>		<b>0.50</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:04 PM
Cadmium	ND		0.50	mg/Kg-dry	1	10/19/2016 04:04 PM
<b>Chromium</b>	<b>13</b>		<b>0.50</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:04 PM
<b>Copper</b>	<b>16</b>		<b>0.50</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:04 PM
<b>Lead</b>	<b>19</b>		<b>0.50</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:04 PM
<b>Nickel</b>	<b>19</b>		<b>0.50</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:04 PM
Selenium	ND		1.0	mg/Kg-dry	1	10/19/2016 04:04 PM
Silver	ND		0.50	mg/Kg-dry	1	10/19/2016 04:04 PM
<b>Zinc</b>	<b>85</b>		<b>1.0</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:04 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Calcium</b>	<b>72</b>		<b>5.0</b>	<b>mg/L</b>	<b>10</b>	10/21/2016 02:49 AM
<b>Magnesium</b>	<b>17</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	10/21/2016 02:49 AM
<b>Sodium</b>	<b>120</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	10/21/2016 02:49 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Sodium Adsorption Ratio</b>	<b>3.4</b>		<b>0.010</b>	<b>none</b>	<b>1</b>	10/20/2016
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3546 / 10/13/16	Analyst: <b>JF</b>
Acenaphthene	ND		0.0081	mg/Kg-dry	1	10/15/2016 01:49 AM
Anthracene	ND		0.0081	mg/Kg-dry	1	10/15/2016 01:49 AM
Benzo(a)anthracene	ND		0.0081	mg/Kg-dry	1	10/15/2016 01:49 AM
Benzo(a)pyrene	ND		0.0081	mg/Kg-dry	1	10/15/2016 01:49 AM
Benzo(b)fluoranthene	ND		0.0081	mg/Kg-dry	1	10/15/2016 01:49 AM
Benzo(k)fluoranthene	ND		0.0081	mg/Kg-dry	1	10/15/2016 01:49 AM
Chrysene	ND		0.0081	mg/Kg-dry	1	10/15/2016 01:49 AM
Dibenzo(a,h)anthracene	ND		0.0081	mg/Kg-dry	1	10/15/2016 01:49 AM
Fluoranthene	ND		0.0081	mg/Kg-dry	1	10/15/2016 01:49 AM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Work Order: 1610429

Sample ID: FEE 73X - SS5

Lab ID: 1610429-06

Collection Date: 10/4/2016 01:00 PM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0081	mg/Kg-dry	1	10/15/2016 01:49 AM
Indeno(1,2,3-cd)pyrene	ND		0.0081	mg/Kg-dry	1	10/15/2016 01:49 AM
Naphthalene	ND		0.0081	mg/Kg-dry	1	10/15/2016 01:49 AM
Pyrene	ND		0.0081	mg/Kg-dry	1	10/15/2016 01:49 AM
Surr: 2-Fluorobiphenyl	68.8		12-100	%REC	1	10/15/2016 01:49 AM
Surr: 4-Terphenyl-d14	70.6		25-137	%REC	1	10/15/2016 01:49 AM
Surr: Nitrobenzene-d5	68.8		37-107	%REC	1	10/15/2016 01:49 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 10/12/16		Analyst: <b>AK</b>
Benzene	ND		0.045	mg/Kg-dry	1	10/15/2016 11:28 AM
Ethylbenzene	ND		0.045	mg/Kg-dry	1	10/15/2016 11:28 AM
m,p-Xylene	ND		0.090	mg/Kg-dry	1	10/15/2016 11:28 AM
o-Xylene	ND		0.045	mg/Kg-dry	1	10/15/2016 11:28 AM
Toluene	ND		0.045	mg/Kg-dry	1	10/15/2016 11:28 AM
Xylenes, Total	ND		0.14	mg/Kg-dry	1	10/15/2016 11:28 AM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	10/15/2016 11:28 AM
Surr: 4-Bromofluorobenzene	99.6		70-130	%REC	1	10/15/2016 11:28 AM
Surr: Dibromofluoromethane	89.6		70-130	%REC	1	10/15/2016 11:28 AM
Surr: Toluene-d8	99.6		70-130	%REC	1	10/15/2016 11:28 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 10/19/16		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	2.5		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>MB</b>
Chromium, Trivalent	13		0.63	mg/Kg-dry	1	10/20/2016 10:00 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 10/9/16		Analyst: <b>MB</b>
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	10/11/2016 11:00 AM
<b>MOISTURE</b>			<b>SW3550C</b>			Analyst: <b>EDL</b>
Moisture	20		0.050	% of sample	1	10/14/2016 12:24 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 10/10/16		Analyst: <b>LW</b>
pH	8.3			s.u.	1	10/10/2016 02:00 PM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Sample ID: FEE 73X - SS6

Collection Date: 10/4/2016 01:15 PM

Work Order: 1610429

Lab ID: 1610429-07

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>27</b>		<b>SW8015M</b>		Prep: SW3546 / 10/17/16	Analyst: <b>IT</b>
<i>Surr: 4-Terphenyl-d14</i>	83.0		5.9	mg/Kg-dry	1	10/17/2016 11:11 PM
			39-133	%REC	1	10/17/2016 11:11 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015D</b>		Prep: SW5035 / 10/12/16	Analyst: <b>IT</b>
<i>Surr: Toluene-d8</i>	102		3.6	mg/Kg-dry	1	10/12/2016 06:32 PM
			50-150	%REC	1	10/12/2016 06:32 PM
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>0.019</b>		<b>SW7471B</b>		Prep: SW7471 / 10/19/16	Analyst: <b>LR</b>
			0.016	mg/Kg-dry	1	10/19/2016 07:51 PM
<b>METALS ANALYSIS BY ICP</b>						
<b>Arsenic</b>	<b>10</b>		<b>SW846 6010C</b>		Prep: SW3050B / 10/17/16	Analyst: <b>RH</b>
<b>Barium</b>	<b>140</b>		0.46	mg/Kg-dry	1	10/19/2016 04:09 PM
<b>Cadmium</b>	<b>ND</b>		0.46	mg/Kg-dry	1	10/19/2016 04:09 PM
<b>Chromium</b>	<b>12</b>		0.46	mg/Kg-dry	1	10/19/2016 04:09 PM
<b>Copper</b>	<b>16</b>		0.46	mg/Kg-dry	1	10/19/2016 04:09 PM
<b>Lead</b>	<b>18</b>		0.46	mg/Kg-dry	1	10/19/2016 04:09 PM
<b>Nickel</b>	<b>20</b>		0.46	mg/Kg-dry	1	10/19/2016 04:09 PM
<b>Selenium</b>	<b>ND</b>		0.92	mg/Kg-dry	1	10/19/2016 04:09 PM
<b>Silver</b>	<b>ND</b>		0.46	mg/Kg-dry	1	10/19/2016 04:09 PM
<b>Zinc</b>	<b>91</b>		0.92	mg/Kg-dry	1	10/19/2016 04:09 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Calcium</b>	<b>150</b>		5.0	mg/L	10	10/21/2016 02:55 AM
<b>Magnesium</b>	<b>39</b>		2.0	mg/L	10	10/21/2016 02:55 AM
<b>Sodium</b>	<b>200</b>		2.0	mg/L	10	10/21/2016 02:55 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Sodium Adsorption Ratio</b>	<b>3.7</b>		0.010	none	1	10/20/2016
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3546 / 10/17/16	Analyst: <b>RM</b>
<b>Acenaphthene</b>	<b>ND</b>		0.0079	mg/Kg-dry	1	10/18/2016 05:38 AM
<b>Anthracene</b>	<b>ND</b>		0.0079	mg/Kg-dry	1	10/18/2016 05:38 AM
<b>Benzo(a)anthracene</b>	<b>ND</b>		0.0079	mg/Kg-dry	1	10/18/2016 05:38 AM
<b>Benzo(a)pyrene</b>	<b>ND</b>		0.0079	mg/Kg-dry	1	10/18/2016 05:38 AM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		0.0079	mg/Kg-dry	1	10/18/2016 05:38 AM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		0.0079	mg/Kg-dry	1	10/18/2016 05:38 AM
<b>Chrysene</b>	<b>ND</b>		0.0079	mg/Kg-dry	1	10/18/2016 05:38 AM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		0.0079	mg/Kg-dry	1	10/18/2016 05:38 AM
<b>Fluoranthene</b>	<b>ND</b>		0.0079	mg/Kg-dry	1	10/18/2016 05:38 AM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Work Order: 1610429

Sample ID: FEE 73X - SS6

Lab ID: 1610429-07

Collection Date: 10/4/2016 01:15 PM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0079	mg/Kg-dry	1	10/18/2016 05:38 AM
Indeno(1,2,3-cd)pyrene	ND		0.0079	mg/Kg-dry	1	10/18/2016 05:38 AM
Naphthalene	ND		0.0079	mg/Kg-dry	1	10/18/2016 05:38 AM
Pyrene	ND		0.0079	mg/Kg-dry	1	10/18/2016 05:38 AM
Surr: 2-Fluorobiphenyl	74.2		12-100	%REC	1	10/18/2016 05:38 AM
Surr: 4-Terphenyl-d14	83.1		25-137	%REC	1	10/18/2016 05:38 AM
Surr: Nitrobenzene-d5	59.1		37-107	%REC	1	10/18/2016 05:38 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 10/12/16	Analyst: <b>AK</b>	
Benzene	ND		0.043	mg/Kg-dry	1	10/15/2016 11:54 AM
Ethylbenzene	ND		0.043	mg/Kg-dry	1	10/15/2016 11:54 AM
m,p-Xylene	ND		0.086	mg/Kg-dry	1	10/15/2016 11:54 AM
o-Xylene	ND		0.043	mg/Kg-dry	1	10/15/2016 11:54 AM
Toluene	ND		0.043	mg/Kg-dry	1	10/15/2016 11:54 AM
Xylenes, Total	ND		0.13	mg/Kg-dry	1	10/15/2016 11:54 AM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	10/15/2016 11:54 AM
Surr: 4-Bromofluorobenzene	99.9		70-130	%REC	1	10/15/2016 11:54 AM
Surr: Dibromofluoromethane	89.0		70-130	%REC	1	10/15/2016 11:54 AM
Surr: Toluene-d8	101		70-130	%REC	1	10/15/2016 11:54 AM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 10/19/16	Analyst: <b>JB</b>	
Electrical Conductivity @ Saturation	3.0		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>	Analyst: <b>MB</b>		
Chromium, Trivalent	12		0.61	mg/Kg-dry	1	10/20/2016 10:00 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 10/13/16	Analyst: <b>MB</b>	
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	10/14/2016 04:30 PM
<b>MOISTURE</b>			<b>SW3550C</b>	Analyst: <b>EDL</b>		
Moisture	18		0.050	% of sample	1	10/14/2016 12:24 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 10/10/16	Analyst: <b>LW</b>	
pH	8.6			s.u.	1	10/10/2016 02:00 PM

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

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

**Client:** Olsson Associates  
**Project:** Fee 73X Spill  
**Sample ID:** FEE 73X - BG2  
**Collection Date:** 10/4/2016 01:55 PM

**Work Order:** 1610429  
**Lab ID:** 1610429-08  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
<b>METALS ANALYSIS BY ICP</b>			<b>SW846 6010C</b>		Prep: SW3050B / 10/17/16	Analyst: <b>RH</b>
Arsenic	9.1		0.44	mg/Kg-dry	1	10/19/2016 04:32 PM
<b>MOISTURE</b>			<b>SW3550C</b>			Analyst: <b>EDL</b>
Moisture	27		0.050	% of sample	1	10/14/2016 12:24 PM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Sample ID: FEE 73X - SS7

Collection Date: 10/4/2016 02:00 PM

Work Order: 1610429

Lab ID: 1610429-09

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>31</b>		<b>SW8015M</b>		Prep: SW3546 / 10/17/16	Analyst: <b>IT</b>
<i>Surr: 4-Terphenyl-d14</i>	<i>70.8</i>		<i>6.2</i>	<i>mg/Kg-dry</i>	<i>1</i>	10/17/2016 11:41 PM
			<i>39-133</i>	<i>%REC</i>	<i>1</i>	10/17/2016 11:41 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015D</b>		Prep: SW5035 / 10/12/16	Analyst: <b>IT</b>
<i>Surr: Toluene-d8</i>	<i>99.2</i>		<i>3.8</i>	<i>mg/Kg-dry</i>	<i>1</i>	10/12/2016 06:57 PM
			<i>50-150</i>	<i>%REC</i>	<i>1</i>	10/12/2016 06:57 PM
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>0.021</b>		<b>SW7471B</b>		Prep: SW7471 / 10/19/16	Analyst: <b>LR</b>
			<b>0.016</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 07:53 PM
<b>METALS ANALYSIS BY ICP</b>						
<b>Arsenic</b>	<b>9.4</b>		<b>SW846 6010C</b>		Prep: SW3050B / 10/17/16	Analyst: <b>RH</b>
<b>Barium</b>	<b>570</b>		<b>0.49</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:37 PM
<b>Cadmium</b>	<b>ND</b>		<b>0.49</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:37 PM
<b>Chromium</b>	<b>13</b>		<b>0.49</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:37 PM
<b>Copper</b>	<b>16</b>		<b>0.49</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:37 PM
<b>Lead</b>	<b>19</b>		<b>0.49</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:37 PM
<b>Nickel</b>	<b>20</b>		<b>0.49</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:37 PM
<b>Selenium</b>	<b>ND</b>		<b>0.98</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:37 PM
<b>Silver</b>	<b>ND</b>		<b>0.49</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:37 PM
<b>Zinc</b>	<b>91</b>		<b>0.98</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:37 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Calcium</b>	<b>290</b>		<b>5.0</b>	<b>mg/L</b>	<b>10</b>	10/21/2016 03:00 AM
<b>Magnesium</b>	<b>50</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	10/21/2016 03:00 AM
<b>Sodium</b>	<b>85</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	10/21/2016 03:00 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Sodium Adsorption Ratio</b>	<b>1.2</b>		<b>0.010</b>	<b>none</b>	<b>1</b>	10/20/2016
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3546 / 10/17/16	Analyst: <b>RM</b>
<b>Acenaphthene</b>	<b>ND</b>		<b>0.0082</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:23 AM
<b>Anthracene</b>	<b>ND</b>		<b>0.0082</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:23 AM
<b>Benzo(a)anthracene</b>	<b>ND</b>		<b>0.0082</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:23 AM
<b>Benzo(a)pyrene</b>	<b>ND</b>		<b>0.0082</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:23 AM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		<b>0.0082</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:23 AM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		<b>0.0082</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:23 AM
<b>Chrysene</b>	<b>ND</b>		<b>0.0082</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:23 AM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		<b>0.0082</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:23 AM
<b>Fluoranthene</b>	<b>ND</b>		<b>0.0082</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:23 AM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Sample ID: FEE 73X - SS7

Collection Date: 10/4/2016 02:00 PM

Work Order: 1610429

Lab ID: 1610429-09

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0082	mg/Kg-dry	1	10/18/2016 07:23 AM
Indeno(1,2,3-cd)pyrene	ND		0.0082	mg/Kg-dry	1	10/18/2016 07:23 AM
Naphthalene	ND		0.0082	mg/Kg-dry	1	10/18/2016 07:23 AM
Pyrene	ND		0.0082	mg/Kg-dry	1	10/18/2016 07:23 AM
Surr: 2-Fluorobiphenyl	71.1		12-100	%REC	1	10/18/2016 07:23 AM
Surr: 4-Terphenyl-d14	77.6		25-137	%REC	1	10/18/2016 07:23 AM
Surr: Nitrobenzene-d5	59.3		37-107	%REC	1	10/18/2016 07:23 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 10/12/16		Analyst: <b>LSY</b>
Benzene	ND		0.045	mg/Kg-dry	1	10/16/2016 06:50 PM
Ethylbenzene	ND		0.045	mg/Kg-dry	1	10/16/2016 06:50 PM
m,p-Xylene	ND		0.090	mg/Kg-dry	1	10/16/2016 06:50 PM
o-Xylene	ND		0.045	mg/Kg-dry	1	10/16/2016 06:50 PM
Toluene	ND		0.045	mg/Kg-dry	1	10/16/2016 06:50 PM
Xylenes, Total	ND		0.14	mg/Kg-dry	1	10/16/2016 06:50 PM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	10/16/2016 06:50 PM
Surr: 4-Bromofluorobenzene	90.7		70-130	%REC	1	10/16/2016 06:50 PM
Surr: Dibromofluoromethane	95.0		70-130	%REC	1	10/16/2016 06:50 PM
Surr: Toluene-d8	99.0		70-130	%REC	1	10/16/2016 06:50 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 10/19/16		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	2.6		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>MB</b>
Chromium, Trivalent	13		0.62	mg/Kg-dry	1	10/20/2016 10:00 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 10/13/16		Analyst: <b>MB</b>
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	10/14/2016 04:30 PM
<b>MOISTURE</b>			<b>SW3550C</b>			Analyst: <b>EDL</b>
Moisture	20		0.050	% of sample	1	10/14/2016 12:24 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 10/10/16		Analyst: <b>LW</b>
pH	8.1			s.u.	1	10/10/2016 02:00 PM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Sample ID: FEE 73X - SS8

Collection Date: 10/4/2016 02:15 PM

Work Order: 1610429

Lab ID: 1610429-10

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>			<b>SW8015M</b>		Prep: SW3546 / 10/17/16	Analyst: <b>IT</b>
<b>DRO (C10-C28)</b>	<b>31</b>		<b>5.9</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 12:11 PM
<i>Surr: 4-Terphenyl-d14</i>	<i>60.8</i>		<i>39-133</i>	<i>%REC</i>	<i>1</i>	10/18/2016 12:11 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>			<b>SW8015D</b>		Prep: SW5035 / 10/12/16	Analyst: <b>IT</b>
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>3.5</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/12/2016 07:22 PM
<i>Surr: Toluene-d8</i>	<i>102</i>		<i>50-150</i>	<i>%REC</i>	<i>1</i>	10/12/2016 07:22 PM
<b>MERCURY BY CVAA</b>			<b>SW7471B</b>		Prep: SW7471 / 10/19/16	Analyst: <b>LR</b>
<b>Mercury</b>	<b>0.020</b>		<b>0.016</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 08:01 PM
<b>METALS ANALYSIS BY ICP</b>			<b>SW846 6010C</b>		Prep: SW3050B / 10/17/16	Analyst: <b>RH</b>
<b>Arsenic</b>	<b>9.0</b>		<b>0.47</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:43 PM
<b>Barium</b>	<b>180</b>		<b>0.47</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:43 PM
<b>Cadmium</b>	<b>ND</b>		<b>0.47</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:43 PM
<b>Chromium</b>	<b>11</b>		<b>0.47</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:43 PM
<b>Copper</b>	<b>14</b>		<b>0.47</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:43 PM
<b>Lead</b>	<b>16</b>		<b>0.47</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:43 PM
<b>Nickel</b>	<b>18</b>		<b>0.47</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:43 PM
<b>Selenium</b>	<b>ND</b>		<b>0.95</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:43 PM
<b>Silver</b>	<b>ND</b>		<b>0.47</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:43 PM
<b>Zinc</b>	<b>86</b>		<b>0.95</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 04:43 PM
<b>SOLUBLE CATIONS FOR SAR</b>			<b>SW846 6010C</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Calcium</b>	<b>70</b>		<b>5.0</b>	<b>mg/L</b>	<b>10</b>	10/21/2016 03:06 AM
<b>Magnesium</b>	<b>15</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	10/21/2016 03:06 AM
<b>Sodium</b>	<b>270</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	10/21/2016 03:06 AM
<b>SODIUM ADSORPTION RATIO</b>			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Sodium Adsorption Ratio</b>	<b>7.6</b>		<b>0.010</b>	<b>none</b>	<b>1</b>	10/20/2016
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>			<b>SW846 8270D</b>		Prep: SW3546 / 10/17/16	Analyst: <b>RM</b>
<b>Acenaphthene</b>	<b>ND</b>		<b>0.0079</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:44 AM
<b>Anthracene</b>	<b>ND</b>		<b>0.0079</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:44 AM
<b>Benzo(a)anthracene</b>	<b>ND</b>		<b>0.0079</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:44 AM
<b>Benzo(a)pyrene</b>	<b>ND</b>		<b>0.0079</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:44 AM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		<b>0.0079</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:44 AM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		<b>0.0079</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:44 AM
<b>Chrysene</b>	<b>ND</b>		<b>0.0079</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:44 AM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		<b>0.0079</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:44 AM
<b>Fluoranthene</b>	<b>ND</b>		<b>0.0079</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 07:44 AM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Sample ID: FEE 73X - SS8

Collection Date: 10/4/2016 02:15 PM

Work Order: 1610429

Lab ID: 1610429-10

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0079	mg/Kg-dry	1	10/18/2016 07:44 AM
Indeno(1,2,3-cd)pyrene	ND		0.0079	mg/Kg-dry	1	10/18/2016 07:44 AM
Naphthalene	ND		0.0079	mg/Kg-dry	1	10/18/2016 07:44 AM
Pyrene	ND		0.0079	mg/Kg-dry	1	10/18/2016 07:44 AM
Surr: 2-Fluorobiphenyl	65.6		12-100	%REC	1	10/18/2016 07:44 AM
Surr: 4-Terphenyl-d14	71.2		25-137	%REC	1	10/18/2016 07:44 AM
Surr: Nitrobenzene-d5	54.2		37-107	%REC	1	10/18/2016 07:44 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 10/12/16	Analyst: <b>LSY</b>	
Benzene	ND		0.041	mg/Kg-dry	1	10/16/2016 07:14 PM
Ethylbenzene	ND		0.041	mg/Kg-dry	1	10/16/2016 07:14 PM
m,p-Xylene	ND		0.083	mg/Kg-dry	1	10/16/2016 07:14 PM
o-Xylene	ND		0.041	mg/Kg-dry	1	10/16/2016 07:14 PM
Toluene	ND		0.041	mg/Kg-dry	1	10/16/2016 07:14 PM
Xylenes, Total	ND		0.12	mg/Kg-dry	1	10/16/2016 07:14 PM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	10/16/2016 07:14 PM
Surr: 4-Bromofluorobenzene	88.8		70-130	%REC	1	10/16/2016 07:14 PM
Surr: Dibromofluoromethane	95.2		70-130	%REC	1	10/16/2016 07:14 PM
Surr: Toluene-d8	98.6		70-130	%REC	1	10/16/2016 07:14 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 10/19/16	Analyst: <b>JB</b>	
Electrical Conductivity @ Saturation	2.6		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>	Analyst: <b>MB</b>		
Chromium, Trivalent	11		0.60	mg/Kg-dry	1	10/20/2016 10:00 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 10/13/16	Analyst: <b>MB</b>	
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	10/14/2016 04:30 PM
<b>MOISTURE</b>			<b>SW3550C</b>	Analyst: <b>EDL</b>		
Moisture	16		0.050	% of sample	1	10/14/2016 12:24 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 10/10/16	Analyst: <b>LW</b>	
pH	9.5			s.u.	1	10/10/2016 02:00 PM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Sample ID: FEE 73X - SS9

Collection Date: 10/4/2016 02:40 PM

Work Order: 1610429

Lab ID: 1610429-11

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>46</b>		<b>SW8015M</b>		Prep: SW3546 / 10/17/16	Analyst: <b>IT</b>
<i>Surr: 4-Terphenyl-d14</i>	<i>68.1</i>		<i>39-133</i>	<i>%REC</i>	<i>1</i>	<i>10/18/2016 12:41 PM</i>
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015D</b>		Prep: SW5035 / 10/12/16	Analyst: <b>IT</b>
<i>Surr: Toluene-d8</i>	<i>102</i>		<i>50-150</i>	<i>%REC</i>	<i>1</i>	<i>10/12/2016 07:47 PM</i>
<b>MERCURY BY CVAA</b>						
Mercury	ND		<b>SW7471B</b>		Prep: SW7471 / 10/19/16	Analyst: <b>LR</b>
<b>METALS ANALYSIS BY ICP</b>						
<b>Arsenic</b>	<b>10</b>		<b>SW846 6010C</b>		Prep: SW3050B / 10/17/16	Analyst: <b>RH</b>
<b>Barium</b>	<b>160</b>		<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 04:48 PM</b>
Cadmium	ND		<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 04:48 PM</b>
<b>Chromium</b>	<b>11</b>		<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 04:48 PM</b>
<b>Copper</b>	<b>16</b>		<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 04:48 PM</b>
<b>Lead</b>	<b>18</b>		<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 04:48 PM</b>
<b>Nickel</b>	<b>18</b>		<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 04:48 PM</b>
Selenium	ND		<b>0.86</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 04:48 PM</b>
Silver	ND		<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 04:48 PM</b>
<b>Zinc</b>	<b>89</b>		<b>0.86</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/19/2016 04:48 PM</b>
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Calcium</b>	<b>160</b>		<b>5.0</b>	<b>mg/L</b>	<b>10</b>	<b>10/21/2016 03:11 AM</b>
<b>Magnesium</b>	<b>32</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	<b>10/21/2016 03:11 AM</b>
<b>Sodium</b>	<b>310</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	<b>10/21/2016 03:11 AM</b>
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Sodium Adsorption Ratio</b>	<b>5.9</b>		<b>0.010</b>	<b>none</b>	<b>1</b>	<b>10/20/2016</b>
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3546 / 10/17/16	Analyst: <b>RM</b>
Acenaphthene	ND		<b>0.0081</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/18/2016 08:05 AM</b>
Anthracene	ND		<b>0.0081</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/18/2016 08:05 AM</b>
Benzo(a)anthracene	ND		<b>0.0081</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/18/2016 08:05 AM</b>
Benzo(a)pyrene	ND		<b>0.0081</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/18/2016 08:05 AM</b>
Benzo(b)fluoranthene	ND		<b>0.0081</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/18/2016 08:05 AM</b>
Benzo(k)fluoranthene	ND		<b>0.0081</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/18/2016 08:05 AM</b>
Chrysene	ND		<b>0.0081</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/18/2016 08:05 AM</b>
Dibenzo(a,h)anthracene	ND		<b>0.0081</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/18/2016 08:05 AM</b>
Fluoranthene	ND		<b>0.0081</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>10/18/2016 08:05 AM</b>

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Work Order: 1610429

Sample ID: FEE 73X - SS9

Lab ID: 1610429-11

Collection Date: 10/4/2016 02:40 PM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0081	mg/Kg-dry	1	10/18/2016 08:05 AM
Indeno(1,2,3-cd)pyrene	ND		0.0081	mg/Kg-dry	1	10/18/2016 08:05 AM
Naphthalene	ND		0.0081	mg/Kg-dry	1	10/18/2016 08:05 AM
Pyrene	ND		0.0081	mg/Kg-dry	1	10/18/2016 08:05 AM
Surr: 2-Fluorobiphenyl	78.9		12-100	%REC	1	10/18/2016 08:05 AM
Surr: 4-Terphenyl-d14	82.8		25-137	%REC	1	10/18/2016 08:05 AM
Surr: Nitrobenzene-d5	62.0		37-107	%REC	1	10/18/2016 08:05 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 10/12/16	Analyst: <b>LSY</b>	
Benzene	ND		0.043	mg/Kg-dry	1	10/16/2016 07:37 PM
Ethylbenzene	ND		0.043	mg/Kg-dry	1	10/16/2016 07:37 PM
m,p-Xylene	ND		0.086	mg/Kg-dry	1	10/16/2016 07:37 PM
o-Xylene	ND		0.043	mg/Kg-dry	1	10/16/2016 07:37 PM
Toluene	ND		0.043	mg/Kg-dry	1	10/16/2016 07:37 PM
Xylenes, Total	ND		0.13	mg/Kg-dry	1	10/16/2016 07:37 PM
Surr: 1,2-Dichloroethane-d4	106		70-130	%REC	1	10/16/2016 07:37 PM
Surr: 4-Bromofluorobenzene	88.4		70-130	%REC	1	10/16/2016 07:37 PM
Surr: Dibromofluoromethane	96.5		70-130	%REC	1	10/16/2016 07:37 PM
Surr: Toluene-d8	100		70-130	%REC	1	10/16/2016 07:37 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 10/19/16	Analyst: <b>JB</b>	
Electrical Conductivity @ Saturation	3.1		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>	Analyst: <b>MB</b>		
Chromium, Trivalent	11		0.61	mg/Kg-dry	1	10/20/2016 10:00 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 10/13/16	Analyst: <b>MB</b>	
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	10/14/2016 04:30 PM
<b>MOISTURE</b>			<b>SW3550C</b>	Analyst: <b>EDL</b>		
Moisture	18		0.050	% of sample	1	10/14/2016 12:24 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 10/10/16	Analyst: <b>LW</b>	
pH	8.7			s.u.	1	10/10/2016 02:00 PM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Sample ID: FEE 73X - SS10

Collection Date: 10/4/2016 02:45 PM

Work Order: 1610429

Lab ID: 1610429-12

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>32</b>		<b>SW8015M</b>		Prep: SW3546 / 10/17/16	Analyst: <b>IT</b>
<i>Surr: 4-Terphenyl-d14</i>	70.9		6.0	mg/Kg-dry	1	10/17/2016 06:43 PM
			39-133	%REC	1	10/17/2016 06:43 PM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015D</b>		Prep: SW5035 / 10/12/16	Analyst: <b>IT</b>
<i>Surr: Toluene-d8</i>	98.4		3.6	mg/Kg-dry	1	10/12/2016 08:12 PM
			50-150	%REC	1	10/12/2016 08:12 PM
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>0.018</b>		<b>SW7471B</b>		Prep: SW7471 / 10/19/16	Analyst: <b>LR</b>
			0.016	mg/Kg-dry	1	10/19/2016 08:14 PM
<b>METALS ANALYSIS BY ICP</b>						
<b>Arsenic</b>	<b>9.9</b>		<b>SW846 6010C</b>		Prep: SW3050B / 10/17/16	Analyst: <b>RH</b>
<b>Barium</b>	<b>140</b>		0.48	mg/Kg-dry	1	10/19/2016 04:54 PM
<b>Cadmium</b>	<b>ND</b>		0.48	mg/Kg-dry	1	10/19/2016 04:54 PM
<b>Chromium</b>	<b>13</b>		0.48	mg/Kg-dry	1	10/19/2016 04:54 PM
<b>Copper</b>	<b>15</b>		0.48	mg/Kg-dry	1	10/19/2016 04:54 PM
<b>Lead</b>	<b>18</b>		0.48	mg/Kg-dry	1	10/19/2016 04:54 PM
<b>Nickel</b>	<b>19</b>		0.48	mg/Kg-dry	1	10/19/2016 04:54 PM
<b>Selenium</b>	<b>ND</b>		0.95	mg/Kg-dry	1	10/19/2016 04:54 PM
<b>Silver</b>	<b>ND</b>		0.48	mg/Kg-dry	1	10/19/2016 04:54 PM
<b>Zinc</b>	<b>91</b>		0.95	mg/Kg-dry	1	10/19/2016 04:54 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Calcium</b>	<b>170</b>		5.0	mg/L	10	10/21/2016 03:33 AM
<b>Magnesium</b>	<b>31</b>		2.0	mg/L	10	10/21/2016 03:33 AM
<b>Sodium</b>	<b>550</b>		2.0	mg/L	10	10/21/2016 03:33 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Sodium Adsorption Ratio</b>	<b>10</b>		0.010	none	1	10/20/2016
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3546 / 10/17/16	Analyst: <b>RM</b>
<b>Acenaphthene</b>	<b>ND</b>		0.0080	mg/Kg-dry	1	10/18/2016 05:59 AM
<b>Anthracene</b>	<b>ND</b>		0.0080	mg/Kg-dry	1	10/18/2016 05:59 AM
<b>Benzo(a)anthracene</b>	<b>ND</b>		0.0080	mg/Kg-dry	1	10/18/2016 05:59 AM
<b>Benzo(a)pyrene</b>	<b>ND</b>		0.0080	mg/Kg-dry	1	10/18/2016 05:59 AM
<b>Benzo(b)fluoranthene</b>	<b>ND</b>		0.0080	mg/Kg-dry	1	10/18/2016 05:59 AM
<b>Benzo(k)fluoranthene</b>	<b>ND</b>		0.0080	mg/Kg-dry	1	10/18/2016 05:59 AM
<b>Chrysene</b>	<b>ND</b>		0.0080	mg/Kg-dry	1	10/18/2016 05:59 AM
<b>Dibenzo(a,h)anthracene</b>	<b>ND</b>		0.0080	mg/Kg-dry	1	10/18/2016 05:59 AM
<b>Fluoranthene</b>	<b>ND</b>		0.0080	mg/Kg-dry	1	10/18/2016 05:59 AM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Work Order: 1610429

Sample ID: FEE 73X - SS10

Lab ID: 1610429-12

Collection Date: 10/4/2016 02:45 PM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0080	mg/Kg-dry	1	10/18/2016 05:59 AM
Indeno(1,2,3-cd)pyrene	ND		0.0080	mg/Kg-dry	1	10/18/2016 05:59 AM
Naphthalene	ND		0.0080	mg/Kg-dry	1	10/18/2016 05:59 AM
Pyrene	ND		0.0080	mg/Kg-dry	1	10/18/2016 05:59 AM
Surr: 2-Fluorobiphenyl	70.7		12-100	%REC	1	10/18/2016 05:59 AM
Surr: 4-Terphenyl-d14	72.2		25-137	%REC	1	10/18/2016 05:59 AM
Surr: Nitrobenzene-d5	58.8		37-107	%REC	1	10/18/2016 05:59 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 10/12/16		Analyst: <b>LSY</b>
Benzene	ND		0.043	mg/Kg-dry	1	10/16/2016 08:01 PM
Ethylbenzene	ND		0.043	mg/Kg-dry	1	10/16/2016 08:01 PM
m,p-Xylene	ND		0.086	mg/Kg-dry	1	10/16/2016 08:01 PM
o-Xylene	ND		0.043	mg/Kg-dry	1	10/16/2016 08:01 PM
Toluene	ND		0.043	mg/Kg-dry	1	10/16/2016 08:01 PM
Xylenes, Total	ND		0.13	mg/Kg-dry	1	10/16/2016 08:01 PM
Surr: 1,2-Dichloroethane-d4	104		70-130	%REC	1	10/16/2016 08:01 PM
Surr: 4-Bromofluorobenzene	88.6		70-130	%REC	1	10/16/2016 08:01 PM
Surr: Dibromofluoromethane	97.7		70-130	%REC	1	10/16/2016 08:01 PM
Surr: Toluene-d8	99.2		70-130	%REC	1	10/16/2016 08:01 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 10/19/16		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	5.4		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>MB</b>
Chromium, Trivalent	13		0.61	mg/Kg-dry	1	10/20/2016 10:00 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 10/13/16		Analyst: <b>MB</b>
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	10/14/2016 04:30 PM
<b>MOISTURE</b>			<b>SW3550C</b>			Analyst: <b>EDL</b>
Moisture	18		0.050	% of sample	1	10/14/2016 12:24 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 10/10/16		Analyst: <b>LW</b>
pH	8.6			s.u.	1	10/10/2016 02:00 PM

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

**ALS Group USA, Corp****Date:** 24-Oct-16**Client:** Olsson Associates**Project:** Fee 73X Spill**Work Order:** 1610429**Sample ID:** FEE 73X - BG3**Lab ID:** 1610429-13**Collection Date:** 10/4/2016 02:55 PM**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS ANALYSIS BY ICP</b>						
Arsenic	11		<b>SW846 6010C</b> 0.43	mg/Kg-dry	1	Prep: SW3050B / 10/17/16 Analyst: RH 10/19/2016 05:00 PM
<b>MOISTURE</b>						
Moisture	12		<b>SW3550C</b> 0.050	% of sample	1	Analyst: EDL 10/14/2016 12:24 PM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Sample ID: FEE 73X - SS11

Collection Date: 10/4/2016 03:05 PM

Work Order: 1610429

Lab ID: 1610429-14

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>						
<b>DRO (C10-C28)</b>	<b>33</b>		<b>SW8015M</b>		Prep: SW3546 / 10/17/16	Analyst: <b>IT</b>
			<b>6.2</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/18/2016 01:11 AM
Surr: 4-Terphenyl-d14	59.8		39-133	%REC	1	10/18/2016 01:11 AM
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>						
<b>GRO (C6-C10)</b>	<b>ND</b>		<b>SW8015D</b>		Prep: SW5035 / 10/12/16	Analyst: <b>IT</b>
			<b>3.8</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/12/2016 08:37 PM
Surr: Toluene-d8	101		50-150	%REC	1	10/12/2016 08:37 PM
<b>MERCURY BY CVAA</b>						
<b>Mercury</b>	<b>0.029</b>		<b>SW7471B</b>		Prep: SW7471 / 10/19/16	Analyst: <b>LR</b>
			<b>0.018</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 08:16 PM
<b>METALS ANALYSIS BY ICP</b>						
<b>Arsenic</b>	<b>9.1</b>		<b>SW846 6010C</b>		Prep: SW3050B / 10/17/16	Analyst: <b>RH</b>
			<b>0.52</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 05:06 PM
<b>Barium</b>	<b>120</b>		<b>0.52</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 05:06 PM
Cadmium	ND		0.52	mg/Kg-dry	1	10/19/2016 05:06 PM
<b>Chromium</b>	<b>14</b>		<b>0.52</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 05:06 PM
<b>Copper</b>	<b>17</b>		<b>0.52</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 05:06 PM
<b>Lead</b>	<b>19</b>		<b>0.52</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 05:06 PM
<b>Nickel</b>	<b>23</b>		<b>0.52</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 05:06 PM
Selenium	ND		1.0	mg/Kg-dry	1	10/19/2016 05:06 PM
Silver	ND		0.52	mg/Kg-dry	1	10/19/2016 05:06 PM
<b>Zinc</b>	<b>93</b>		<b>1.0</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/19/2016 05:06 PM
<b>SOLUBLE CATIONS FOR SAR</b>						
			<b>SW846 6010C</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Calcium</b>	<b>190</b>		<b>5.0</b>	<b>mg/L</b>	<b>10</b>	10/21/2016 03:38 AM
<b>Magnesium</b>	<b>45</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	10/21/2016 03:38 AM
<b>Sodium</b>	<b>390</b>		<b>2.0</b>	<b>mg/L</b>	<b>10</b>	10/21/2016 03:38 AM
<b>SODIUM ADSORPTION RATIO</b>						
			<b>USDA H60 METHO</b>		Prep: USDA Method 20B / 10/19/16	Analyst: <b>RH</b>
<b>Sodium Adsorption Ratio</b>	<b>6.6</b>		<b>0.010</b>	<b>none</b>	<b>1</b>	10/20/2016
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>						
			<b>SW846 8270D</b>		Prep: SW3546 / 10/17/16	Analyst: <b>RM</b>
Acenaphthene	ND		0.0083	mg/Kg-dry	1	10/18/2016 06:20 AM
Anthracene	ND		0.0083	mg/Kg-dry	1	10/18/2016 06:20 AM
Benzo(a)anthracene	ND		0.0083	mg/Kg-dry	1	10/18/2016 06:20 AM
Benzo(a)pyrene	ND		0.0083	mg/Kg-dry	1	10/18/2016 06:20 AM
Benzo(b)fluoranthene	ND		0.0083	mg/Kg-dry	1	10/18/2016 06:20 AM
Benzo(k)fluoranthene	ND		0.0083	mg/Kg-dry	1	10/18/2016 06:20 AM
Chrysene	ND		0.0083	mg/Kg-dry	1	10/18/2016 06:20 AM
Dibenzo(a,h)anthracene	ND		0.0083	mg/Kg-dry	1	10/18/2016 06:20 AM
Fluoranthene	ND		0.0083	mg/Kg-dry	1	10/18/2016 06:20 AM

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

# ALS Group USA, Corp

Date: 24-Oct-16

Client: Olsson Associates

Project: Fee 73X Spill

Sample ID: FEE 73X - SS11

Collection Date: 10/4/2016 03:05 PM

Work Order: 1610429

Lab ID: 1610429-14

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0083	mg/Kg-dry	1	10/18/2016 06:20 AM
Indeno(1,2,3-cd)pyrene	ND		0.0083	mg/Kg-dry	1	10/18/2016 06:20 AM
Naphthalene	ND		0.0083	mg/Kg-dry	1	10/18/2016 06:20 AM
Pyrene	ND		0.0083	mg/Kg-dry	1	10/18/2016 06:20 AM
Surr: 2-Fluorobiphenyl	68.4		12-100	%REC	1	10/18/2016 06:20 AM
Surr: 4-Terphenyl-d14	71.0		25-137	%REC	1	10/18/2016 06:20 AM
Surr: Nitrobenzene-d5	59.4		37-107	%REC	1	10/18/2016 06:20 AM
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>SW8260B</b>	Prep: SW5035 / 10/12/16		Analyst: <b>LSY</b>
Benzene	ND		0.046	mg/Kg-dry	1	10/16/2016 08:24 PM
Ethylbenzene	ND		0.046	mg/Kg-dry	1	10/16/2016 08:24 PM
m,p-Xylene	ND		0.092	mg/Kg-dry	1	10/16/2016 08:24 PM
o-Xylene	ND		0.046	mg/Kg-dry	1	10/16/2016 08:24 PM
Toluene	ND		0.046	mg/Kg-dry	1	10/16/2016 08:24 PM
Xylenes, Total	ND		0.14	mg/Kg-dry	1	10/16/2016 08:24 PM
Surr: 1,2-Dichloroethane-d4	106		70-130	%REC	1	10/16/2016 08:24 PM
Surr: 4-Bromofluorobenzene	88.8		70-130	%REC	1	10/16/2016 08:24 PM
Surr: Dibromofluoromethane	96.2		70-130	%REC	1	10/16/2016 08:24 PM
Surr: Toluene-d8	97.3		70-130	%REC	1	10/16/2016 08:24 PM
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>USDA H60 METHO</b>	Prep: USDA Method 20B / 10/19/16		Analyst: <b>JB</b>
Electrical Conductivity @ Saturation	4.8		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
<b>CHROMIUM, TRIVALENT</b>			<b>CALCULATION</b>			Analyst: <b>MB</b>
Chromium, Trivalent	14		0.63	mg/Kg-dry	1	10/20/2016 10:00 AM
<b>CHROMIUM, HEXAVALENT</b>			<b>SW7196A</b>	Prep: SW3060A / 10/13/16		Analyst: <b>MB</b>
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	10/14/2016 04:30 PM
<b>MOISTURE</b>			<b>SW3550C</b>			Analyst: <b>EDL</b>
Moisture	21		0.050	% of sample	1	10/14/2016 12:24 PM
<b>PH</b>			<b>SW9045D</b>	Prep: EXTRACT / 10/10/16		Analyst: <b>LW</b>
pH	8.4			s.u.	1	10/10/2016 02:00 PM

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

**Client:** Olsson Associates  
**Work Order:** 1610429  
**Project:** Fee 73X Spill

## QC BATCH REPORT

Batch ID: **92862** Instrument ID **GC8** Method: **SW8015M**

<b>MBLK</b>		Sample ID: <b>DBLKS1-92862-92862</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/13/2016 04:36 PM</b>		
Client ID:		Run ID: <b>GC8_161013B</b>				SeqNo: <b>4091240</b>		Prep Date: <b>10/13/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28)	ND	5.0								
<i>Surr: 4-Terphenyl-d14</i>	2.407	0	3.33	0	72.3	39-133	0			

<b>LCS</b>		Sample ID: <b>DLCSS1-92862-92862</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/13/2016 05:06 PM</b>		
Client ID:		Run ID: <b>GC8_161013B</b>				SeqNo: <b>4091241</b>		Prep Date: <b>10/13/2016</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)	285.4	5.0	333	0	85.7	61-109	0			
<i>Surr: 4-Terphenyl-d14</i>	2.129	0	3.33	0	63.9	39-133	0			

<b>MS</b>		Sample ID: <b>1610429-04A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/13/2016 05:36 PM</b>		
Client ID: <b>FEE 73X - SS3</b>		Run ID: <b>GC8_161013B</b>				SeqNo: <b>4091242</b>		Prep Date: <b>10/13/2016</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)	252.4	4.8	320.9	21.78	71.9	48-110	0			
<i>Surr: 4-Terphenyl-d14</i>	1.742	0	3.209	0	54.3	39-133	0			

<b>MSD</b>		Sample ID: <b>1610429-04A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/13/2016 06:05 PM</b>		
Client ID: <b>FEE 73X - SS3</b>		Run ID: <b>GC8_161013B</b>				SeqNo: <b>4091243</b>		Prep Date: <b>10/13/2016</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)	233.3	4.7	312.5	21.78	67.7	48-110	252.4	7.86	30	
<i>Surr: 4-Terphenyl-d14</i>	1.585	0	3.125	0	50.7	39-133	1.742	9.45	30	

The following samples were analyzed in this batch:	1610429-01A	1610429-02A	1610429-04A
	1610429-05A	1610429-06A	

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

**Client:** Olsson Associates  
**Work Order:** 1610429  
**Project:** Fee 73X Spill

## QC BATCH REPORT

Batch ID: **93000** Instrument ID **GC8** Method: **SW8015M**

<b>MBLK</b>		Sample ID: <b>DBLKS1-93000-93000</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/17/2016 04:36 PM</b>		
Client ID:		Run ID: <b>GC8_161017A</b>				SeqNo: <b>4094272</b>		Prep Date: <b>10/17/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) ND 5.0  
*Surr: 4-Terphenyl-d14* 2.201 0 3.33 0 66.1 39-133 0

<b>LCS</b>		Sample ID: <b>DLCSS1-93000-93000</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/17/2016 05:14 PM</b>		
Client ID:		Run ID: <b>GC8_161017A</b>				SeqNo: <b>4094273</b>		Prep Date: <b>10/17/2016</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) 285.5 5.0 333 0 85.7 61-109 0  
*Surr: 4-Terphenyl-d14* 2.043 0 3.33 0 61.3 39-133 0

<b>MS</b>		Sample ID: <b>1610429-12A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/17/2016 05:44 PM</b>		
Client ID: <b>FEE 73X - SS10</b>		Run ID: <b>GC8_161017A</b>				SeqNo: <b>4094274</b>		Prep Date: <b>10/17/2016</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) 251.1 4.9 324.1 26.11 69.4 48-110 0  
*Surr: 4-Terphenyl-d14* 1.663 0 3.241 0 51.3 39-133 0

<b>MSD</b>		Sample ID: <b>1610429-12A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/17/2016 06:14 PM</b>		
Client ID: <b>FEE 73X - SS10</b>		Run ID: <b>GC8_161017A</b>				SeqNo: <b>4094275</b>		Prep Date: <b>10/17/2016</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) 279 4.8 318.8 26.11 79.3 48-110 251.1 10.5 30  
*Surr: 4-Terphenyl-d14* 2.021 0 3.188 0 63.4 39-133 1.663 19.4 30

The following samples were analyzed in this batch:

1610429-07A	1610429-09A	1610429-10A
1610429-11A	1610429-12A	1610429-14A

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

**Client:** Olsson Associates  
**Work Order:** 1610429  
**Project:** Fee 73X Spill

## QC BATCH REPORT

Batch ID: **92771** Instrument ID **GC9** Method: **SW8015D**

<b>MBLK</b>		Sample ID: <b>MBLK-92771-92771</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/12/2016 01:32 PM</b>		
Client ID:		Run ID: <b>GC9_161012A</b>				SeqNo: <b>4083758</b>		Prep Date: <b>10/12/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10)	ND	2,500								
Surr: Toluene-d8	4628	0	5000	0	92.6	50-150	0			

<b>LCS</b>		Sample ID: <b>LCS-92771-92771</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/12/2016 01:08 PM</b>		
Client ID:		Run ID: <b>GC9_161012A</b>				SeqNo: <b>4083757</b>		Prep Date: <b>10/12/2016</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)	490900	2,500	500000	0	98.2	70-130	0			
Surr: Toluene-d8	5410	0	5000	0	108	50-150	0			

<b>MS</b>		Sample ID: <b>1610626-01A MS</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/12/2016 04:28 PM</b>		
Client ID:		Run ID: <b>GC9_161012A</b>				SeqNo: <b>4083765</b>		Prep Date: <b>10/12/2016</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)	507700	2,800	552600	0	91.9	70-130	0			
Surr: Toluene-d8	6243	0	5526	0	113	50-150	0			

<b>MSD</b>		Sample ID: <b>1610626-01A MSD</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/12/2016 04:53 PM</b>		
Client ID:		Run ID: <b>GC9_161012A</b>				SeqNo: <b>4083766</b>		Prep Date: <b>10/12/2016</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)	548600	2,800	552600	0	99.3	70-130	507700	7.74	30	
Surr: Toluene-d8	6141	0	5526	0	111	50-150	6243	1.64	30	

The following samples were analyzed in this batch:

1610429-01A	1610429-02A	1610429-04A
1610429-05A	1610429-06A	1610429-07A
1610429-09A	1610429-10A	1610429-11A
1610429-12A	1610429-14A	

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

Client: Olsson Associates  
 Work Order: 1610429  
 Project: Fee 73X Spill

## QC BATCH REPORT

Batch ID: **93110** Instrument ID **HG1** Method: **SW7471B**

MBLK		Sample ID: MBLK-93110-93110				Units: mg/Kg		Analysis Date: 10/19/2016 02:55 PM			
Client ID:		Run ID: HG1_161019A				SeqNo: 4097301		Prep Date: 10/19/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury ND 0.020

LCS				Sample ID: LCS-93110-93110				Units: mg/Kg			Analysis Date: 10/19/2016 02:57 PM			
Client ID:				Run ID: HG1_161019A				SeqNo: 4097302			Prep Date: 10/19/2016		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.1817 0.020 0.1665 0 109 80-120 0

MS		Sample ID: 1610391-06AMS					Units: mg/Kg		Analysis Date: 10/19/2016 03:05 PM		
Client ID:			Run ID: HG1_161019A			SeqNo: 4097313		Prep Date: 10/19/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.1374 0.013 0.1089 0.01551 112 75-125 0

<b>MSD</b>				Sample ID: <b>1610391-06AMSD</b>				Units: <b>mg/Kg</b>			Analysis Date: <b>10/19/2016 03:08 PM</b>			
Client ID:				Run ID: <b>HG1_161019A</b>				SeqNo: <b>4097314</b>			Prep Date: <b>10/19/2016</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Mercury 0.136 0.013 0.1095 0.01551 110 75-125 0.1374 1.05 35

The following samples were analyzed in this batch:

1610429-01A	1610429-02A	1610429-03A
1610429-04A	1610429-05A	1610429-06A
1610429-07A	1610429-09A	

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

**Client:** Olsson Associates  
**Work Order:** 1610429  
**Project:** Fee 73X Spill

## QC BATCH REPORT

Batch ID: **93111** Instrument ID **HG1** Method: **SW7471B**

MBLK		Sample ID: MBLK-93111-93111				Units: mg/Kg		Analysis Date: 10/19/2016 07:56 PM			
Client ID:		Run ID: HG1_161019A				SeqNo: 4098328		Prep Date: 10/19/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury ND 0.020

LCS		Sample ID: LCS-93111-93111				Units: mg/Kg		Analysis Date: 10/19/2016 07:58 PM		
Client ID:		Run ID: HG1_161019A				SeqNo: 4098333		Prep Date: 10/19/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.175 0.020 0.1665 0 105 80-120 0

<b>MS</b>		Sample ID: <b>1610803-06BMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/19/2016 08:34 PM</b>		
Client ID:		Run ID: <b>HG1_161019A</b>			SeqNo: <b>4098347</b>		Prep Date: <b>10/19/2016</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1212 0.013 0.1072 0.0007338 112 75-125 0

MSD		Sample ID: 1610803-06BMSD				Units: mg/Kg		Analysis Date: 10/19/2016 08:37 PM		
Client ID:		Run ID: HG1_161019A			SeqNo: 4098348		Prep Date: 10/19/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1207 0.013 0.1053 0.0007338 114 75-125 0.1212 0.489 35

The following samples were analyzed in this batch:

1610429-10A	1610429-11A	1610429-12A
1610429-14A		

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

Client: Olsson Associates  
 Work Order: 1610429  
 Project: Fee 73X Spill

## QC BATCH REPORT

Batch ID: 93020

Instrument ID ICP2

Method: SW846 6010C

Sample ID: MBLK-93020-93020				Units: mg/Kg			Analysis Date: 10/19/2016 03:19 PM				
Client ID:			Run ID: ICP2_161019C			SeqNo: 4098153		Prep Date: 10/17/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	ND	0.25									
Barium	ND	0.25									
Cadmium	ND	0.50									
Chromium	0.02199	0.25								J	
Copper	ND	0.50									
Lead	ND	0.25									
Nickel	ND	0.25									
Selenium	ND	0.50									
Silver	ND	0.25									
Zinc	0.1005	0.50								J	

LCS				Sample ID: LCS-93020-93020			Units: mg/Kg		Analysis Date: 10/19/2016 03:25 PM		
Client ID:			Run ID: ICP2_161019C			SeqNo: 4098154		Prep Date: 10/17/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	5.348	0.25	5	0	107	80-120	0				
Barium	5.283	0.25	5	0	106	80-120	0				
Cadmium	5.387	0.50	5	0	108	80-120	0				
Chromium	5.74	0.25	5	0	115	80-120	0				
Copper	5.348	0.50	5	0	107	80-120	0				
Lead	5.3	0.25	5	0	106	80-120	0				
Nickel	5.339	0.25	5	0	107	80-120	0				
Selenium	4.922	0.50	5	0	98.4	80-120	0				
Silver	5.047	0.25	5	0	101	80-120	0				
Zinc	5.429	0.50	5	0	109	80-120	0				

MS				Sample ID: 1610803-03BMS			Units: mg/Kg		Analysis Date: 10/19/2016 05:55 PM		
Client ID:			Run ID: ICP2_161019C			SeqNo: 4098181		Prep Date: 10/17/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	7.316	0.32	6.394	1.831	85.8	75-125	0				
Barium	26.07	0.32	6.394	24.99	16.9	75-125	0			S	
Cadmium	5.777	0.64	6.394	-0.04272	91	75-125	0				
Chromium	14.63	0.32	6.394	11.05	55.9	75-125	0			S	
Copper	10.69	0.64	6.394	6.195	70.2	75-125	0			S	
Lead	6.726	0.32	6.394	1.603	80.1	75-125	0				
Nickel	13.84	0.32	6.394	9.869	62.2	75-125	0			S	
Selenium	5.11	0.64	6.394	-0.2392	83.7	75-125	0				
Silver	5.411	0.32	6.394	-0.04211	85.3	75-125	0				
Zinc	15.37	0.64	6.394	8.958	100	75-125	0				

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

**Client:** Olsson Associates  
**Work Order:** 1610429  
**Project:** Fee 73X Spill

## QC BATCH REPORT

Batch ID: **93020**

Instrument ID **ICP2**

Method: **SW846 6010C**

MSD		Sample ID: <b>1610803-03BMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/19/2016 06:00 PM</b>		
Client ID:		Run ID: <b>ICP2_161019C</b>				SeqNo: <b>4098182</b>		Prep Date: <b>10/17/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.507	0.32	6.345	1.831	105	75-125	7.316	15.1	20	
Barium	30.22	0.32	6.345	24.99	82.5	75-125	26.07	14.7	20	
Cadmium	6.787	0.63	6.345	-0.04272	108	75-125	5.777	16.1	20	
Chromium	16.24	0.32	6.345	11.05	81.7	75-125	14.63	10.4	20	
Copper	12.65	0.63	6.345	6.195	102	75-125	10.69	16.9	20	
Lead	7.89	0.32	6.345	1.603	99.1	75-125	6.726	15.9	20	
Nickel	16.13	0.32	6.345	9.869	98.6	75-125	13.84	15.2	20	
Selenium	5.957	0.63	6.345	-0.2392	97.7	75-125	5.11	15.3	20	
Silver	6.272	0.32	6.345	-0.04211	99.5	75-125	5.411	14.7	20	
Zinc	16.94	0.63	6.345	8.958	126	75-125	15.37	9.73	20	S

The following samples were analyzed in this batch:

1610429-01A	1610429-02A	1610429-03A
1610429-04A	1610429-05A	1610429-06A
1610429-07A	1610429-08A	1610429-09A
1610429-10A	1610429-11A	1610429-12A
1610429-13A	1610429-14A	

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

Client: Olsson Associates  
Work Order: 1610429  
Project: Fee 73X Spill

QC BATCH REPORT

Batch ID: 93038      Instrument ID SAR      Method: USDA H60 Metho

DUP		Sample ID: 1610391-09BDUP				Units: none		Analysis Date: 10/20/2016		
Client ID:		Run ID: SAR_161020A		SeqNo: 4103215		Prep Date: 10/19/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	4.76	0.010	0	0	0		4.81	1.04	50	

The following samples were analyzed in this batch:

1610429-01B	1610429-02B	1610429-03B
1610429-04B	1610429-05B	1610429-06B
1610429-07B	1610429-09B	1610429-10B
1610429-11B	1610429-12B	1610429-14B

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

Client: Olsson Associates  
 Work Order: 1610429  
 Project: Fee 73X Spill

## QC BATCH REPORT

Batch ID: 92861 Instrument ID SVMS5 Method: SW846 8270D

MBLK		Sample ID: SBLKS1-92861-92861				Units: µg/Kg		Analysis Date: 10/13/2016 05:53 PM		
Client ID:		Run ID: SVMS5_161013A				SeqNo: 4086864		Prep Date: 10/13/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
Surr: 2-Fluorobiphenyl	2403	0	3333	0	72.1	12-100	0			
Surr: 4-Terphenyl-d14	3019	0	3333	0	90.6	25-137	0			
Surr: Nitrobenzene-d5	2212	0	3333	0	66.4	37-107	0			

LCS		Sample ID: SLCSS1-92861-92861				Units: µg/Kg		Analysis Date: 10/13/2016 06:16 PM		
Client ID:		Run ID: SVMS5_161013A				SeqNo: 4086865		Prep Date: 10/13/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1143	6.7	1333	0	85.7	45-110	0			
Anthracene	1254	6.7	1333	0	94.1	55-105	0			
Benzo(a)anthracene	1195	6.7	1333	0	89.7	50-110	0			
Benzo(a)pyrene	1161	6.7	1333	0	87.1	50-110	0			
Benzo(b)fluoranthene	1147	6.7	1333	0	86.1	45-115	0			
Benzo(k)fluoranthene	1186	6.7	1333	0	89	45-115	0			
Chrysene	1229	6.7	1333	0	92.2	55-110	0			
Dibenzo(a,h)anthracene	1181	6.7	1333	0	88.6	40-125	0			
Fluoranthene	1340	6.7	1333	0	101	55-115	0			
Fluorene	1151	6.7	1333	0	86.3	50-110	0			
Indeno(1,2,3-cd)pyrene	1097	6.7	1333	0	82.3	40-120	0			
Naphthalene	872	6.7	1333	0	65.4	40-105	0			
Pyrene	1123	6.7	1333	0	84.3	45-125	0			
Surr: 2-Fluorobiphenyl	2873	0	3333	0	86.2	12-100	0			
Surr: 4-Terphenyl-d14	2729	0	3333	0	81.9	25-137	0			
Surr: Nitrobenzene-d5	2619	0	3333	0	78.6	37-107	0			

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

Client: Olsson Associates  
 Work Order: 1610429  
 Project: Fee 73X Spill

# QC BATCH REPORT

Batch ID: 92861 Instrument ID SVMS5 Method: SW846 8270D

MS				Sample ID: 1610595-01A MS			Units: µg/Kg		Analysis Date: 10/13/2016 09:49 PM		
Client ID:			Run ID: SVMS5_161013A			SeqNo: 4086868		Prep Date: 10/13/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	997.8	6.6	1327	0	75.2	45-110	0				
Anthracene	1156	6.6	1327	0	87.1	55-105	0				
Benzo(a)anthracene	1134	6.6	1327	67.39	80.4	50-110	0				
Benzo(a)pyrene	1166	6.6	1327	196.9	73	50-110	0				
Benzo(b)fluoranthene	1187	6.6	1327	216	73.2	45-115	0				
Benzo(k)fluoranthene	1048	6.6	1327	72.67	73.5	45-115	0				
Chrysene	1121	6.6	1327	106.4	76.5	55-110	0				
Dibenzo(a,h)anthracene	983.2	6.6	1327	91.83	67.2	40-125	0				
Fluoranthene	1236	6.6	1327	58.14	88.8	55-115	0				
Fluorene	1063	6.6	1327	0	80.1	50-110	0				
Indeno(1,2,3-cd)pyrene	1105	6.6	1327	196.2	68.5	40-120	0				
Naphthalene	949.4	6.6	1327	280.1	50.5	40-105	0				
Pyrene	1110	6.6	1327	79.28	77.7	45-125	0				
Surr: 2-Fluorobiphenyl	2374	0	3317	0	71.6	12-100	0				
Surr: 4-Terphenyl-d14	2457	0	3317	0	74.1	25-137	0				
Surr: Nitrobenzene-d5	2118	0	3317	0	63.8	37-107	0				

MSD				Sample ID: 1610595-01A MSD			Units: µg/Kg		Analysis Date: 10/13/2016 10:11 PM		
Client ID:			Run ID: SVMS5_161013A			SeqNo: 4086869		Prep Date: 10/13/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	972.5	6.6	1314	0	74	45-110	997.8	2.57	30		
Anthracene	1178	6.6	1314	0	89.7	55-105	1156	1.92	30		
Benzo(a)anthracene	1124	6.6	1314	67.39	80.4	50-110	1134	0.847	30		
Benzo(a)pyrene	1124	6.6	1314	196.9	70.6	50-110	1166	3.62	30		
Benzo(b)fluoranthene	1200	6.6	1314	216	74.9	45-115	1187	1.14	30		
Benzo(k)fluoranthene	1011	6.6	1314	72.67	71.4	45-115	1048	3.59	30		
Chrysene	1120	6.6	1314	106.4	77.1	55-110	1121	0.0798	30		
Dibenzo(a,h)anthracene	966.6	6.6	1314	91.83	66.6	40-125	983.2	1.71	30		
Fluoranthene	1256	6.6	1314	58.14	91.2	55-115	1236	1.63	30		
Fluorene	1098	6.6	1314	0	83.6	50-110	1063	3.25	30		
Indeno(1,2,3-cd)pyrene	1057	6.6	1314	196.2	65.5	40-120	1105	4.38	30		
Naphthalene	1337	6.6	1314	280.1	80.5	40-105	949.4	33.9	30	R	
Pyrene	1149	6.6	1314	79.28	81.4	45-125	1110	3.42	30		
Surr: 2-Fluorobiphenyl	2296	0	3285	0	69.9	12-100	2374	3.34	40		
Surr: 4-Terphenyl-d14	2494	0	3285	0	75.9	25-137	2457	1.46	40		
Surr: Nitrobenzene-d5	2157	0	3285	0	65.6	37-107	2118	1.82	40		

The following samples were analyzed in this batch:

1610429-01A	1610429-02A	1610429-04A
1610429-05A	1610429-06A	

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

Client: Olsson Associates  
 Work Order: 1610429  
 Project: Fee 73X Spill

## QC BATCH REPORT

Batch ID: 92999 Instrument ID SVMS5 Method: SW846 8270D

MBLK		Sample ID: SBLKS1-92999-92999				Units: µg/Kg		Analysis Date: 10/17/2016 06:04 PM		
Client ID:		Run ID: SVMS5_161017A				SeqNo: 4093243		Prep Date: 10/17/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
Surr: 2-Fluorobiphenyl	2455	0	3333	0	73.7	12-100	0			
Surr: 4-Terphenyl-d14	2553	0	3333	0	76.6	25-137	0			
Surr: Nitrobenzene-d5	2199	0	3333	0	66	37-107	0			

LCS		Sample ID: SLCSS1-92999-92999				Units: µg/Kg		Analysis Date: 10/17/2016 06:28 PM		
Client ID:		Run ID: SVMS5_161017A				SeqNo: 4093244		Prep Date: 10/17/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1147	6.7	1333	0	86.1	45-110	0			
Anthracene	1274	6.7	1333	0	95.6	55-105	0			
Benzo(a)anthracene	1197	6.7	1333	0	89.8	50-110	0			
Benzo(a)pyrene	1215	6.7	1333	0	91.1	50-110	0			
Benzo(b)fluoranthene	1161	6.7	1333	0	87.1	45-115	0			
Benzo(k)fluoranthene	1181	6.7	1333	0	88.6	45-115	0			
Chrysene	1252	6.7	1333	0	93.9	55-110	0			
Dibenzo(a,h)anthracene	1243	6.7	1333	0	93.2	40-125	0			
Fluoranthene	1319	6.7	1333	0	99	55-115	0			
Fluorene	1159	6.7	1333	0	87	50-110	0			
Indeno(1,2,3-cd)pyrene	1164	6.7	1333	0	87.3	40-120	0			
Naphthalene	886.7	6.7	1333	0	66.5	40-105	0			
Pyrene	1132	6.7	1333	0	84.9	45-125	0			
Surr: 2-Fluorobiphenyl	2666	0	3333	0	80	12-100	0			
Surr: 4-Terphenyl-d14	2557	0	3333	0	76.7	25-137	0			
Surr: Nitrobenzene-d5	2349	0	3333	0	70.5	37-107	0			

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

Client: Olsson Associates  
 Work Order: 1610429  
 Project: Fee 73X Spill

## QC BATCH REPORT

Batch ID: 92999 Instrument ID SVMS5 Method: SW846 8270D

MS				Sample ID: 1610803-04B MS				Units: µg/Kg		Analysis Date: 10/17/2016 07:26 PM	
Client ID:			Run ID: SVMS5_161017A			SeqNo: 4093843		Prep Date: 10/17/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1001	6.5	1305	0	76.7	45-110	0				
Anthracene	1110	6.5	1305	0	85.1	55-105	0				
Benzo(a)anthracene	1029	6.5	1305	0	78.9	50-110	0				
Benzo(a)pyrene	1046	6.5	1305	0	80.1	50-110	0				
Benzo(b)fluoranthene	997.3	6.5	1305	0	76.4	45-115	0				
Benzo(k)fluoranthene	1015	6.5	1305	0	77.8	45-115	0				
Chrysene	1073	6.5	1305	0	82.2	55-110	0				
Dibenzo(a,h)anthracene	1054	6.5	1305	0	80.8	40-125	0				
Fluoranthene	1147	6.5	1305	0	87.9	55-115	0				
Fluorene	997.9	6.5	1305	0	76.5	50-110	0				
Indeno(1,2,3-cd)pyrene	996.6	6.5	1305	0	76.4	40-120	0				
Naphthalene	778	6.5	1305	0	59.6	40-105	0				
Pyrene	958.1	6.5	1305	0	73.4	45-125	0				
Surr: 2-Fluorobiphenyl	2552	0	3263	0	78.2	12-100	0				
Surr: 4-Terphenyl-d14	2333	0	3263	0	71.5	25-137	0				
Surr: Nitrobenzene-d5	2245	0	3263	0	68.8	37-107	0				

MSD				Sample ID: 1610803-04B MSD				Units: µg/Kg		Analysis Date: 10/17/2016 07:50 PM	
Client ID:			Run ID: SVMS5_161017A			SeqNo: 4093844		Prep Date: 10/17/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1066	6.6	1323	0	80.6	45-110	1001	6.32	30		
Anthracene	1178	6.6	1323	0	89	55-105	1110	5.9	30		
Benzo(a)anthracene	1090	6.6	1323	0	82.4	50-110	1029	5.76	30		
Benzo(a)pyrene	1105	6.6	1323	0	83.5	50-110	1046	5.52	30		
Benzo(b)fluoranthene	1087	6.6	1323	0	82.2	45-115	997.3	8.61	30		
Benzo(k)fluoranthene	1078	6.6	1323	0	81.5	45-115	1015	6.01	30		
Chrysene	1139	6.6	1323	0	86.1	55-110	1073	5.99	30		
Dibenzo(a,h)anthracene	1114	6.6	1323	0	84.2	40-125	1054	5.54	30		
Fluoranthene	1228	6.6	1323	0	92.8	55-115	1147	6.78	30		
Fluorene	1090	6.6	1323	0	82.4	50-110	997.9	8.85	30		
Indeno(1,2,3-cd)pyrene	1090	6.6	1323	0	82.4	40-120	996.6	8.92	30		
Naphthalene	821.7	6.6	1323	0	62.1	40-105	778	5.47	30		
Pyrene	1110	6.6	1323	0	83.9	45-125	958.1	14.7	30		
Surr: 2-Fluorobiphenyl	2661	0	3308	0	80.4	12-100	2552	4.18	40		
Surr: 4-Terphenyl-d14	2743	0	3308	0	82.9	25-137	2333	16.1	40		
Surr: Nitrobenzene-d5	2337	0	3308	0	70.7	37-107	2245	4.03	40		

The following samples were analyzed in this batch:

1610429-07A	1610429-09A	1610429-10A
1610429-11A	1610429-12A	1610429-14A

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

Client: Olsson Associates  
 Work Order: 1610429  
 Project: Fee 73X Spill

## QC BATCH REPORT

Batch ID: **92769** Instrument ID **VMS7** Method: **SW8260B**

MBLK Sample ID: <b>MBLK-92769-92769</b>				Units: <b>µg/Kg-dry</b>			Analysis Date: <b>10/12/2016 01:12 PM</b>			
Client ID:		Run ID: <b>VMS7_161012A</b>		SeqNo: <b>4082874</b>		Prep Date: <b>10/12/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	968.5	0	1000	0	96.8	70-130	0			
Surr: 4-Bromofluorobenzene	985	0	1000	0	98.5	70-130	0			
Surr: Dibromofluoromethane	990.5	0	1000	0	99	70-130	0			
Surr: Toluene-d8	957	0	1000	0	95.7	70-130	0			

LCS Sample ID: <b>LCS-92769-92769</b>				Units: <b>µg/Kg-dry</b>			Analysis Date: <b>10/12/2016 12:04 PM</b>			
Client ID:		Run ID: <b>VMS7_161012A</b>		SeqNo: <b>4082873</b>		Prep Date: <b>10/12/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1050	30	1000	0	105	75-125	0			
Ethylbenzene	1106	30	1000	0	111	75-125	0			
m,p-Xylene	2166	60	2000	0	108	80-125	0			
o-Xylene	1092	30	1000	0	109	75-125	0			
Toluene	1094	30	1000	0	109	70-125	0			
Xylenes, Total	3258	90	3000	0	109	75-125	0			
Surr: 1,2-Dichloroethane-d4	944	0	1000	0	94.4	70-130	0			
Surr: 4-Bromofluorobenzene	975.5	0	1000	0	97.6	70-130	0			
Surr: Dibromofluoromethane	1010	0	1000	0	101	70-130	0			
Surr: Toluene-d8	958.5	0	1000	0	95.8	70-130	0			

MS Sample ID: <b>1610626-01A MS</b>				Units: <b>µg/Kg-dry</b>			Analysis Date: <b>10/14/2016 06:25 A</b>			
Client ID:		Run ID: <b>VMS9_161013A</b>		SeqNo: <b>4086989</b>		Prep Date: <b>10/12/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1062	33	1105	0	96.1	75-125	0			
Ethylbenzene	1080	33	1105	0	97.8	75-125	0			
m,p-Xylene	2160	66	2211	0	97.7	80-125	0			
o-Xylene	1028	33	1105	0	93	75-125	0			
Toluene	1005	33	1105	0	91	70-125	0			
Xylenes, Total	3189	99	3316	0	96.2	75-125	0			
Surr: 1,2-Dichloroethane-d4	1072	0	1105	0	97	70-130	0			
Surr: 4-Bromofluorobenzene	1154	0	1105	0	104	70-130	0			
Surr: Dibromofluoromethane	1119	0	1105	0	101	70-130	0			
Surr: Toluene-d8	1091	0	1105	0	98.7	70-130	0			

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

Client: Olsson Associates  
 Work Order: 1610429  
 Project: Fee 73X Spill

## QC BATCH REPORT

Batch ID: 92769 Instrument ID VMS7 Method: SW8260B

MSD				Sample ID: 1610626-01A MSD			Units: µg/Kg-dry		Analysis Date: 10/14/2016 06:49 A		
Client ID:			Run ID: VMS9_161013A			SeqNo: 4086990		Prep Date: 10/12/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1066	33	1105	0	96.4	75-125	1062	0.364	30		
Ethylbenzene	1110	33	1105	0	100	75-125	1080	2.72	30		
m,p-Xylene	2188	66	2211	0	99	80-125	2160	1.27	30		
o-Xylene	1042	33	1105	0	94.2	75-125	1028	1.28	30		
Toluene	1023	33	1105	0	92.6	70-125	1005	1.8	30		
Xylenes, Total	3230	99	3316	0	97.4	75-125	3189	1.27	30		
Surr: 1,2-Dichloroethane-d4	1082	0	1105	0	97.9	70-130	1072	0.975	30		
Surr: 4-Bromofluorobenzene	1131	0	1105	0	102	70-130	1154	2.03	30		
Surr: Dibromofluoromethane	1121	0	1105	0	101	70-130	1119	0.197	30		
Surr: Toluene-d8	1086	0	1105	0	98.2	70-130	1091	0.457	30		

The following samples were analyzed in this batch:

1610429-01A	1610429-02A	1610429-04A
1610429-05A	1610429-06A	1610429-07A
1610429-09A	1610429-10A	1610429-11A
1610429-12A	1610429-14A	

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

Client: Olsson Associates  
 Work Order: 1610429  
 Project: Fee 73X Spill

## QC BATCH REPORT

Batch ID: **92601** Instrument ID **WETCHEM** Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-92601-92601</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/11/2016 11:00 A</b>		
Client ID:		Run ID: <b>WETCHEM_161011J</b>		SeqNo: <b>4078131</b>		Prep Date: <b>10/9/2016</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 1.0

<b>LCS</b>		Sample ID: <b>LCS-92601-92601</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/11/2016 11:00 A</b>		
Client ID:		Run ID: <b>WETCHEM_161011J</b>		SeqNo: <b>4078130</b>		Prep Date: <b>10/9/2016</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 4.45 1.0 5 0 89 80-120 0

<b>MS</b>		Sample ID: <b>1610429-01A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/11/2016 11:00 A</b>		
Client ID: <b>FEE 73X - SS1</b>		Run ID: <b>WETCHEM_161011J</b>		SeqNo: <b>4078122</b>		Prep Date: <b>10/9/2016</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 3.416 0.99 4.95 0 69 75-125 0 S

<b>MS</b>		Sample ID: <b>1610429-01A MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/11/2016 11:00 A</b>		
Client ID: <b>FEE 73X - SS1</b>		Run ID: <b>WETCHEM_161011J</b>		SeqNo: <b>4078166</b>		Prep Date: <b>10/9/2016</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 1862 100 1947 0 95.6 75-125 0

<b>MSD</b>		Sample ID: <b>1610429-01A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/11/2016 11:00 A</b>		
Client ID: <b>FEE 73X - SS1</b>		Run ID: <b>WETCHEM_161011J</b>		SeqNo: <b>4078123</b>		Prep Date: <b>10/9/2016</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 3.545 0.99 4.95 0 71.6 75-125 3.416 3.7 20 S

The following samples were analyzed in this batch:

1610429-01A	1610429-02A	1610429-03A
1610429-04A	1610429-05A	1610429-06A

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

**Client:** Olsson Associates  
**Work Order:** 1610429  
**Project:** Fee 73X Spill

## QC BATCH REPORT

Batch ID: **92649** Instrument ID **WETCHEM** Method: **SW9045D**

LCS				Sample ID: LCS-92649-92649				Units: s.u.			Analysis Date: 10/10/2016 02:00 PM		
Client ID:				Run ID: WETCHEM_161010M				SeqNo: 4076159		Prep Date: 10/10/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
pH	3.99	0	4	0	99.8	90-110	0						

DUP				Sample ID: 1610198-01A DUP				Units: s.u.			Analysis Date: 10/10/2016 02:00 PM			
Client ID:				Run ID: WETCHEM_161010M				SeqNo: 4076162			Prep Date: 10/10/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
pH	10.56	0	0	0	0	0-0	10.64	0.755	20					

DUP				Sample ID: 1610429-02A DUP				Units: s.u.		Analysis Date: 10/10/2016 02:00 PM			
Client ID: FEE 73X - SS2				Run ID: WETCHEM_161010M				SeqNo: 4076168		Prep Date: 10/10/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
pH	7.83	0	0	0	0	0-0	7.96	1.65	20				

The following samples were analyzed in this batch:

1610429-01A	1610429-02A	1610429-03A
1610429-04A	1610429-05A	1610429-06A
1610429-07A	1610429-09A	1610429-10A
1610429-11A	1610429-12A	1610429-14A

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

Client: Olsson Associates  
 Work Order: 1610429  
 Project: Fee 73X Spill

## QC BATCH REPORT

Batch ID: **92935** Instrument ID **WETCHEM** Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-92935-92935</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/14/2016 04:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_161014N</b>				SeqNo: <b>4087380</b>		Prep Date: <b>10/13/2016</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 1.0

<b>LCS</b>		Sample ID: <b>LCS-92935-92935</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/14/2016 04:30 PM</b>		
Client ID:		Run ID: <b>WETCHEM_161014N</b>				SeqNo: <b>4087379</b>		Prep Date: <b>10/13/2016</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 4.32 1.0 5 0 86.4 80-120 0

<b>MS</b>		Sample ID: <b>1610429-07A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/14/2016 04:30 PM</b>		
Client ID: <b>FEE 73X - SS6</b>		Run ID: <b>WETCHEM_161014N</b>				SeqNo: <b>4087368</b>		Prep Date: <b>10/13/2016</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 3.95 1.0 5 0.08491 77.3 75-125 0

<b>MS</b>		Sample ID: <b>1610429-07A MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/14/2016 04:30 PM</b>		
Client ID: <b>FEE 73X - SS6</b>		Run ID: <b>WETCHEM_161014N</b>				SeqNo: <b>4087370</b>		Prep Date: <b>10/13/2016</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 1671 99 1657 0.08491 101 75-125 0

<b>MSD</b>		Sample ID: <b>1610429-07A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/14/2016 04:30 PM</b>		
Client ID: <b>FEE 73X - SS6</b>		Run ID: <b>WETCHEM_161014N</b>				SeqNo: <b>4087369</b>		Prep Date: <b>10/13/2016</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 4.07 1.0 5 0.08491 79.7 75-125 3.95 2.99 20

The following samples were analyzed in this batch:

1610429-07A	1610429-09A	1610429-10A
1610429-11A	1610429-12A	1610429-14A

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

Client: Olsson Associates  
Work Order: 1610429  
Project: Fee 73X Spill

QC BATCH REPORT

Batch ID: 93038 Instrument ID WETCHEM Method: USDA H60 Metho

DUP		Sample ID: 1610391-09B DUP				Units: mmhos/cm @25°		Analysis Date: 10/19/2016 11:00 PM		
Client ID:		Run ID: WETCHEM_161019[				SeqNo: 4098128		Prep Date: 10/19/2016		DF: 50
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	7.755	0.25	0	0	0		8.195	5.52	50	

The following samples were analyzed in this batch:

1610429-01B	1610429-02B	1610429-03B
1610429-04B	1610429-05B	1610429-06B
1610429-07B	1610429-09B	1610429-10B
1610429-11B	1610429-12B	1610429-14B

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

Client: Olsson Associates  
 Work Order: 1610429  
 Project: Fee 73X Spill

## QC BATCH REPORT

Batch ID: **R198174** Instrument ID **MOIST** Method: **SW3550C**

<b>MBLK</b>		Sample ID: <b>WBLKS-R198174</b>				Units: % of sample		Analysis Date: <b>10/14/2016 11:17 A</b>		
Client ID:		Run ID: <b>MOIST_161014A</b>				SeqNo: <b>4087457</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture ND 0.050

<b>LCS</b>		Sample ID: <b>LCS-R198174</b>				Units: % of sample		Analysis Date: <b>10/14/2016 11:17 A</b>		
Client ID:		Run ID: <b>MOIST_161014A</b>				SeqNo: <b>4087456</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>1610429-01A DUP</b>				Units: % of sample		Analysis Date: <b>10/14/2016 11:17 A</b>		
Client ID: <b>FEE 73X - SS1</b>		Run ID: <b>MOIST_161014A</b>				SeqNo: <b>4087435</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 18.4 0.050 0 0 0 18.21 1.04 20

<b>DUP</b>		Sample ID: <b>1610759-05A DUP</b>				Units: % of sample		Analysis Date: <b>10/14/2016 11:17 A</b>		
Client ID:		Run ID: <b>MOIST_161014A</b>				SeqNo: <b>4087449</b>		Prep Date:		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 10.17 0.050 0 0 0 10.41 2.33 20

The following samples were analyzed in this batch:

1610429-01A

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

Client: Olsson Associates  
 Work Order: 1610429  
 Project: Fee 73X Spill

## QC BATCH REPORT

Batch ID: **R198175** Instrument ID **MOIST** Method: **SW3550C**

<b>MBLK</b>		Sample ID: <b>WBLKS-R198175</b>				Units: % of sample		Analysis Date: <b>10/14/2016 12:24 PM</b>		
Client ID:		Run ID: <b>MOIST_161014B</b>				SeqNo: <b>4087481</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	0.03	0.050								J

<b>LCS</b>		Sample ID: <b>LCS-R198175</b>				Units: % of sample		Analysis Date: <b>10/14/2016 12:24 PM</b>		
Client ID:		Run ID: <b>MOIST_161014B</b>				SeqNo: <b>4087480</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>1610429-05A DUP</b>				Units: % of sample		Analysis Date: <b>10/14/2016 12:24 PM</b>		
Client ID: <b>FEE 73X - SS4</b>		Run ID: <b>MOIST_161014B</b>				SeqNo: <b>4087469</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	19.73	0.050	0	0	0		20.93	5.9	20	

<b>DUP</b>		Sample ID: <b>1610429-06A DUP</b>				Units: % of sample		Analysis Date: <b>10/14/2016 12:24 PM</b>		
Client ID: <b>FEE 73X - SS5</b>		Run ID: <b>MOIST_161014B</b>				SeqNo: <b>4087471</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	21.56	0.050	0	0	0		20.23	6.37	20	

The following samples were analyzed in this batch:

1610429-02A	1610429-03A	1610429-04A
1610429-05A	1610429-06A	1610429-07A
1610429-08A	1610429-09A	1610429-10A
1610429-11A	1610429-12A	1610429-13A
1610429-14A		

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



## Page 1 of 2

**COC ID: 123456**

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Cincinnati, OH<br>+1 513 733 5336   | <input type="checkbox"/> Holland, MI<br>+1 616 399 6070    | <input type="checkbox"/> Salt Lake City, UT<br>+1 801 266 7700 |
| <input type="checkbox"/> Everett, WA<br>+1 425 356 2600      | <input type="checkbox"/> Houston, TX<br>+1 281 530 3656    | <input type="checkbox"/> Spring City, PA<br>+1 610 948 4903    |
| <input type="checkbox"/> Fort Collins, CO<br>+1 970 490 1511 | <input type="checkbox"/> Middletown, PA<br>+1 717 944 5541 | <input type="checkbox"/> York, PA<br>+1 717 505 5280           |

Customer Information		Project Information		Parameter/Method Request for Analysis													
Purchase Order		Project Name	Fee 73X Spill	A TPH (GRO & DRO)													
Work Order		Project Number	013.3287.100.100004	B BTEX													
Company Name	Olsson Associates	B2B To Company	Olsson Associates	C PAH (See Attached List) CO Table 910													
Send Report To	Tim Dobransky	Invoice Attn	Tim Dobransky	D Electrical Conductivity													
Address	780 Horizon Drive, Ste. 102	Address	780 Horizon Drive, Ste. 102	E Sodium Adsorption Ratio													
				F pH													
City/State/Zip	Grand Junction, CO 81506	City/State/Zip	Grand Junction, CO 81506	G Metals (See Attached List) CO Table 910													
Phone	970.263.7800	Phone	970.263.7800	H Arsenic Only													
Fax	970.263.7456	Fax	970.263.7456	I													
e-Mail Address	tdobransky@oacconsulting.com	e-Mail Address		J													
No.	Sample Description	Date	Time	Matrix	Progs.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	FEE 73X - SS1	10/04/16	1130	Soil	8	2	X	X	X	X	X	X	X				
2	FEE 73X - SS2	10/04/16	1150	Soil	8	2	X	X	X	X	X	X	X				
3	FEE 73X - BG1	10/04/16	1200	Soil	8	2				X	X	X	X				
4	FEE 73X - SS3	10/04/16	1230	Soil	8	2	X	X	X	X	X	X	X				
5	FEE 73X - SS4	10/04/16	1245	Soil	8	2	X	X	X	X	X	X	X				
6	FEE 73X - SS5	10/04/16	1300	Soil	8	2	X	X	X	X	X	X	X				
7	FEE 73X - SS6	10/04/16	1315	Soil	8	2	X	X	X	X	X	X	X				
8	FEE 73X - BG2	10/04/16	1355	Soil	8	2								X			
9	FEE 73X - SS7	10/04/16	1400	Soil	8	2	X	X	X	X	X	X	X				
10	FEE 73X - SS8	10/04/16	1415	Soil	8	2	X	X	X	X	X	X	X				
11	FEE 73X - SS9	10/04/16	1440	Soil	8	2	X	X	X	X	X	X	X				
12	FEE 73X - SS10	10/04/16	1445	Soil	8	2	X	X	X	X	X	X	X				
13	FEE 73X - BG3	10/04/16	1455	Soil	8	2								X			
Sample(s): Please Print & Sign Jason McLarty		Shipment Method: FedEx		Required Turnaround Time: RSTD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour		Other: _____		Results Due Date: _____									
Relinquished by: <i>[Signature]</i>		Date: 10/5/16    Time: 1100		Received by: <i>[Signature]</i>		Notes: Chevron Pricing Applies - Per Bruce Schlatter											
Relinquished by: <i>[Signature]</i>		Date: 10/5/16    Time: 1700		Received by (Laboratory): <i>[Signature]</i>		Cooler Temp.: 5.6°C		QC Package: (Check Box Below) <input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Std QC + Raw Data <input type="checkbox"/> Level IV: SW846 CLP-Like									
Logged by (Laboratory): DJS		Date: 10/7/16    Time: 1345		Checked by (Laboratory): <i>[Signature]</i>		Other: _____											
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5025																	

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

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# Chain of Custody Form

Page 2 of 2

COC ID: 123456

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Cincinnati, OH<br>+1 513 733 5336   | <input type="checkbox"/> Holland, MI<br>+1 616 399 6070    | <input type="checkbox"/> Salt Lake City, UT<br>+1 801 266 7700 |
| <input type="checkbox"/> Everett, WA<br>+1 425 356 2600      | <input type="checkbox"/> Houston, TX<br>+1 281 330 5656    | <input type="checkbox"/> Spring City, PA<br>+1 610 948 4903    |
| <input type="checkbox"/> Fort Collins, CO<br>+1 970 490 1511 | <input type="checkbox"/> Middletown, PA<br>+1 717 944 5541 | <input type="checkbox"/> York, PA<br>+1 717 305 5280           |

Customer Information		Project Information		Parameter/Method Request for Analysis															
Purchase Order		Project Name	Fee 73X Spill	A TPH (GRO & DRO)															
Work Order		Project Number	013.3287.100.100004	B BTEX															
Company Name	Olsson Associates	Bill To Company	Olsson Associates	C PAH (See Attached List) CO Table 910															
Send Report To	Tim Dobransky	Invoice Attn	Tim Dobransky	D Electrical Conductivity															
Address	760 Horizon Drive, Ste. 102	Address	760 Horizon Drive, Ste. 102	E Sodium Adsorption Ratio															
City/State/Zip	Grand Junction, CO 81508	City/State/Zip	Grand Junction, CO 81508	F pH															
Phone	970.263.7800	Phone	970.263.7800	G Metals (See Attached List) CO Table 910															
Fax	970.263.7456	Fax	970.263.7456	H Arsenic Only															
e-Mail Address	tdobransky@olssonconsulting.com	e-Mail Address		I															
				J															
No.	Sample Description	Date	Time	Matrix	Pages	# Batches	A	B	C	D	E	F	G	H	I	J	Hold		
1	FEF 73X - SS11	10/04/16	1505	Soil	8	2	X	X	X	X	X	X	X						
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			

Sampler(s): Please Print & Sign Jason McLarty		Shipment Method: FedEx	Required Turnaround Time: <input type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour	Other: _____	Receive Date:
Relinquished by: <i>[Signature]</i>	Date: 10/5/16	Time: 1100	Received by: <i>[Signature]</i>	Notes: Chevron Pricing Applies - Per Bruce Schlatter	
Relinquished by: <i>[Signature]</i>	Date: 10-5-16	Time:	Received by (Laboratory): <i>[Signature]</i> 10/7/16 0900	Cooler Temp. 5.6 °C	QC Package: (Check Box Below)
Logged by (Laboratory): DGS	Date: 10/7/16	Time: 1345	Checked by (Laboratory): <i>[Signature]</i>	<input checked="" type="checkbox"/> Level II: Standard QC	
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5075				<input type="checkbox"/> Level III: Std QC + Raw Data	
				<input type="checkbox"/> Level IV: SW846 CLP-Like	
				Other: _____	

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

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ORIGIN ID: RILA (816) 298-1033  
 NICK MARTINEZ  
 ALS ENVIRONMENTAL PARACHUTE  
 PARACHUTE SERVICE CENTER  
 127 EAST 1ST ST  
 PARACHUTE, CO 81635  
 UNITED STATES US

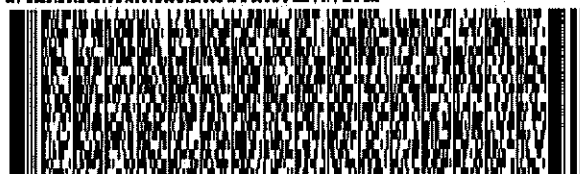
SHIP DATE: 05OCT16  
 ACTWGT: 75.00 LB  
 CAD: 22048401NE13790  
 DIMS: 14x26x15 IN  
 BILL SENDER

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

544J1E52E14EB

**HOLLAND MI 49424**

(816) 399-6070 REF: 100516-1  
 RV: PO: PARACHUTE DEPT:



**FedEx**  
 Express



REL#  
 3785346

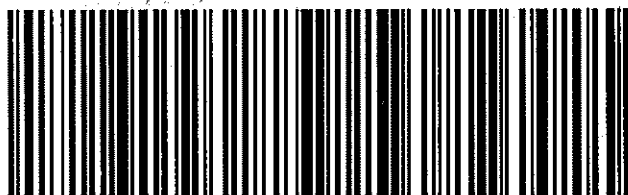
1 of 2

**THU - 06 OCT 10:30A**  
**PRIORITY OVERNIGHT**

TRK#  
 0201 **7774 0353 6483**  
 ## MASTER ##

**XX HLMA**

**49424**  
**GRR**  
 MI-US



**After printing this label:**

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

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

Sample Receipt Checklist

Client Name: **OLSSON**

Date/Time Received: **07-Oct-16 09:00**

Work Order: **1610429**

Received by: **DS**

Checklist completed by Diane Shaw  
eSignature

07-Oct-16  
Date

Reviewed by: Chad Whelton  
eSignature

09-Oct-16  
Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>5.6/5.6 c</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>10/7/2016 2:05:32 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u>-</u>		

Login Notes:

-----

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction: