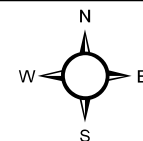


### Legend

- Spill Origin
- Soil Sample Location

0 75 150 300 Feet

1 inch = 119 feet



PROJECT NO:	009-0082	<p>FEE 29 SPILL RESPONSE CHEVRON USA, INC RIO BLANCO COUNTY, COLORADO NWNE S19 T2N R102W</p>	 <p>826 21-1/2 ROAD GRAND JUNCTION, CO 81505 TEL 970.263.7800 FAX 970.263.7456</p>	FIGURE
DRAWN BY:	SBS			1
DATE:	6/11/2012			

Table 1  
FEE 29 Spill Response  
Soil Data Summary

SAMPLE SUMMARY								
Location Description	FEE 29 Spill							
Sample Type	Soil							

LABORATORY DATA SUMMARY								
Sample ID	FEE 29-SS1	FEE 29-SS2	FEE 29-SS3	FEE 29-BG1	FEE 29-BG2	FEE 29-BG3	ALLOWABLE LIMITS	UNITS
Depth	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"		
Sample Date	4/18/2012	4/18/2012	4/18/2012	4/18/2012	4/18/212	4/18/2012		
Analytical Parameters								
TPH								
TPH Gasoline Range Organics	0.046 J	0.61 J	<0.050	NT	NT	NT	500	mg/kg
TPH Diesel Range Organics	15	<0.050	3.4	NT	NT	NT		
BTEX								
Benzene	<0.0050	<0.0050	<0.0050	NT	NT	NT	0.17	mg/kg
Toluene	<0.0050	<0.0050	<0.0050	NT	NT	NT	85	mg/kg
Ethylbenzene	<0.0050	<0.0050	<0.0050	NT	NT	NT	100	mg/kg
Total Xylene	<0.015	<0.015	<0.015	NT	NT	NT	175	mg/kg
Metals								
Arsenic	7.48	6.25	6.01	5.96	7.41	6.01	0.39	mg/kg
Barium	97.8	97.9	175	166	NT	NT	15,000	mg/kg
Cadmium	1.15	0.714	0.446	0.847	NT	NT	70	mg/kg
Chromium	11.0	10.3	10.2	12.1	NT	NT	NA	mg/kg
Copper	17.2	15.8	14.8	17.4	NT	NT	3,100	mg/kg
Lead	17.5	17.1	19.4	17.4	NT	NT	400	mg/kg
Mercury	0.0299	0.0312	0.0293	0.0202	NT	NT	23	mg/kg
Nickel	22.4	19.4	17.9	20.8	NT	NT	1,600	mg/kg
Selenium	3.13	2.87	3.16	2.73	NT	NT	390	mg/kg
Silver	0.226	0.144	0.133	0.146 J	NT	NT	390	mg/kg
Zinc	84.5	76.9	68.9	80.9	NT	NT	23,000	mg/kg
SAR Metals Analysis								
Sodium Adsorption Ratio	6.72	5.77	4.72	1.0	NT	NT	<12	NA
Polynuclear Aromatic Hydrocarbons								
Acenaphthene	<0.0066	<0.0066	<0.0066	NT	NT	NT	1,000	mg/kg
Anthracene	<0.0066	<0.0066	<0.0066	NT	NT	NT	1,000	mg/kg
Benzo(a)anthracene	<0.0066	<0.0066	<0.0066	NT	NT	NT	0.22	mg/kg
Benzo(a)pyrene	<0.0066	<0.0066	<0.0066	NT	NT	NT	0.022	mg/kg
Benzo(b)fluoranthene	<0.0066	<0.0066	0.0028 J	NT	NT	NT	0.22	mg/kg
Benzo(k)fluoranthene	<0.0066	<0.0066	<0.0066	NT	NT	NT	2.2	mg/kg
Chrysene	<0.0066	<0.0066	0.0037 J	NT	NT	NT	22	mg/kg
Dibenzo(a,h)anthracene	<0.0066	<0.0066	<0.0066	NT	NT	NT	0.022	mg/kg
Fluoranthene	0.0017 J	<0.0066	<0.0066	NT	NT	NT	1,000	mg/kg
Fluorene	<0.0066	<0.0066	<0.0066	NT	NT	NT	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	<0.0066	<0.0066	<0.0066	NT	NT	NT	0.22	mg/kg
Napthalene	0.012	0.0064 J	0.0086	NT	NT	NT	23	mg/kg
Pyrene	0.0018	<0.0066	0.0021 J	NT	NT	NT	1,000	mg/kg
General Chemistry								
Chromium, Hexavalent	<2.00	<2.00	<2.00	<2.00	NT	NT	23	mg/kg
Chromium, Trivalent	11	10.3	10.2	12.1	NT	NT	120,000	mg/kg
Specific Conductivity	14.8	18.6	8.04	12.7	NT	NT	<4 or 2 x the background	mmhos/cm
pH	7.92	7.85	8.28	7.88	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 allowable limit but under BACKGROUND level.  
Over allowable limit and not within BACKGROUND level.  
Over allowable limit



FF-May-2012

Tim Dobransky  
Olsson Associates  
826 21 1/2 Road  
Grand Junction, Colorado 81505

Tel: (970) 263-7800  
Fax: (970) 263-7456

Re: FEE 29 Spill

Work Order: **1204733**

Dear Tim,

ALS Environmental received 6 samples on 20-Apr-2012 08:40 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. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 30.

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

Sincerely,

A handwritten signature in cursive script that reads "Patricia L. Lynch".

Electronically approved by: Yvan K. Ty

Patricia L. Lynch  
Project Manager



Certificate No: T104704231-09A-TX

ADDRESS 10450 Stancliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

DOV#T UR X S#K VD /#P R US##Sdu#r i#k h#D OV#Dderudwru| #T urxs##D #Fdp seha#Burkhu#Op l#hg#F rp sdq |

Environmental

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RIGHT SOLUTIONS RIGHT PARTNER

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**Client:** Olsson Associates  
**Project:** FEE 29 Spill  
**Work Order:** 1204733

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**Work Order Sample Summary**

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<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1204733-01	FEE 29-SS1	Soil		4/18/2012 15:10	4/20/2012 08:40	<input type="checkbox"/>
1204733-02	FEE 29-BG1	Soil		4/18/2012 15:20	4/20/2012 08:40	<input type="checkbox"/>
1204733-02	FEE 29-BG1	Soil		4/18/2012 15:20	4/20/2012 08:40	<input type="checkbox"/>
1204733-03	FEE 29-BG2	Soil		4/18/2012 15:30	4/20/2012 08:40	<input type="checkbox"/>
1204733-04	FEE 29-SS2	Soil		4/18/2012 15:35	4/20/2012 08:40	<input type="checkbox"/>
1204733-05	FEE 29-BG3	Soil		4/18/2012 15:45	4/20/2012 08:40	<input type="checkbox"/>
1204733-06	FEE 29-SS3	Soil		4/18/2012 15:50	4/20/2012 08:40	<input type="checkbox"/>

---

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**Client:** Olsson Associates**Project:** FEE 29 Spill**Work Order:** 1204733**Case Narrative**

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Batch 60530, Metals, Sample 1204696-01 : MS/MSD is for an unrelated sample.

Batch R126789, Volatile Organics, Sample FEE 29-SS1 : MS/MSD recoveries were below the control limits for several analytes. The associated LCS recoveries and MS/MSD RPD were within the control limits.

# ALS Environmental

Date: 11-May-12

**Client:** Olsson Associates  
**Project:** FEE 29 Spill  
**Sample ID:** FEE 29-SS1  
**Collection Date:** 4/18/2012 03:10 PM

**Work Order:** 1204733  
**Lab ID:** 1204733-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<b>TPH AND MISCELLANEOUS GCFID</b>			<b>SW8015M</b>				Analyst: <b>KMB</b>
DRO (>C10 - C28)	15		1.7	mg/Kg	1	4/22/2012	4/25/2012 11:59 AM
Surr: 2-Fluorobiphenyl	68.1		60-135	%REC	1	4/22/2012	4/25/2012 11:59 AM
<b>GASOLINE RANGE ORGANICS - SW8015C</b>			<b>SW8015</b>				Analyst: <b>KKP</b>
Gasoline Range Organics	0.046	J	0.050	mg/Kg	1		4/23/2012 11:05 PM
Surr: 4-Bromofluorobenzene	94.1		70-130	%REC	1		4/23/2012 11:05 PM
<b>TRIVALENT CHROMIUM</b>			<b>CALCULATION</b>				Analyst: <b>SKS</b>
Chromium, Trivalent	11.0		5.00	mg/Kg	1		5/2/2012
<b>MERCURY - SW7471B</b>			<b>SW7471A</b>				Analyst: <b>JCJ</b>
Mercury	0.0299		0.00346	mg/Kg	1	4/25/2012	4/25/2012 02:41 PM
<b>METALS</b>			<b>SW6020</b>				Analyst: <b>ALR</b>
Arsenic	7.48		0.470	mg/Kg	1	4/24/2012	4/27/2012 12:12 AM
Barium	97.8		4.70	mg/Kg	10	4/24/2012	4/27/2012 10:16 PM
Cadmium	1.15		0.470	mg/Kg	1	4/24/2012	4/27/2012 12:12 AM
Chromium	11.0		0.470	mg/Kg	1	4/24/2012	4/27/2012 12:12 AM
Copper	17.2		0.470	mg/Kg	1	4/24/2012	4/27/2012 12:12 AM
Lead	17.5		0.470	mg/Kg	1	4/24/2012	4/27/2012 12:12 AM
Nickel	22.4		0.470	mg/Kg	1	4/24/2012	4/27/2012 12:12 AM
Selenium	3.13		0.470	mg/Kg	1	4/24/2012	4/27/2012 12:12 AM
Silver	0.226	J	0.470	mg/Kg	1	4/24/2012	4/27/2012 12:12 AM
Zinc	84.5		4.70	mg/Kg	10	4/24/2012	4/27/2012 10:16 PM
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>				Analyst: <b>ALR</b>
Sodium Adsorption Ratio	6.72		0.0100	meq/meq	1	4/25/2012	5/2/2012
<b>LOW-LEVEL PAHS</b>			<b>SW8270</b>				Analyst: <b>LG</b>
Acenaphthene	U		0.0066	mg/Kg	1	4/23/2012	4/24/2012 02:29 PM
Anthracene	U		0.0066	mg/Kg	1	4/23/2012	4/24/2012 02:29 PM
Benz(a)anthracene	U		0.0066	mg/Kg	1	4/23/2012	4/24/2012 02:29 PM
Benzo(a)pyrene	U		0.0066	mg/Kg	1	4/23/2012	4/24/2012 02:29 PM
Benzo(b)fluoranthene	U		0.0066	mg/Kg	1	4/23/2012	4/24/2012 02:29 PM
Benzo(k)fluoranthene	U		0.0066	mg/Kg	1	4/23/2012	4/24/2012 02:29 PM
Chrysene	U		0.0066	mg/Kg	1	4/23/2012	4/24/2012 02:29 PM
Dibenz(a,h)anthracene	U		0.0066	mg/Kg	1	4/23/2012	4/24/2012 02:29 PM
Fluoranthene	0.0017	J	0.0066	mg/Kg	1	4/23/2012	4/24/2012 02:29 PM
Fluorene	U		0.0066	mg/Kg	1	4/23/2012	4/24/2012 02:29 PM
Indeno(1,2,3-cd)pyrene	U		0.0066	mg/Kg	1	4/23/2012	4/24/2012 02:29 PM
Naphthalene	0.012		0.0066	mg/Kg	1	4/23/2012	4/24/2012 02:29 PM
Pyrene	0.0018	J	0.0066	mg/Kg	1	4/23/2012	4/24/2012 02:29 PM

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

# ALS Environmental

Date: 11-May-12

**Client:** Olsson Associates  
**Project:** FEE 29 Spill  
**Sample ID:** FEE 29-SS1  
**Collection Date:** 4/18/2012 03:10 PM

**Work Order:** 1204733  
**Lab ID:** 1204733-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<i>Surr: 2-Fluorobiphenyl</i>	64.6		43-125	%REC	1	4/23/2012	4/24/2012 02:29 PM
<i>Surr: 4-Terphenyl-d14</i>	82.2		32-125	%REC	1	4/23/2012	4/24/2012 02:29 PM
<i>Surr: Nitrobenzene-d5</i>	69.3		37-125	%REC	1	4/23/2012	4/24/2012 02:29 PM
<b>VOLATILES</b>			<b>SW8260</b>				Analyst: <b>WLR</b>
Benzene	U		0.0050	mg/Kg	1		4/25/2012 10:36 AM
Ethylbenzene	U		0.0050	mg/Kg	1		4/25/2012 10:36 AM
m,p-Xylene	U		0.010	mg/Kg	1		4/25/2012 10:36 AM
o-Xylene	U		0.0050	mg/Kg	1		4/25/2012 10:36 AM
Toluene	U		0.0050	mg/Kg	1		4/25/2012 10:36 AM
Xylenes, Total	U		0.015	mg/Kg	1		4/25/2012 10:36 AM
<i>Surr: 1,2-Dichloroethane-d4</i>	83.8		70-128	%REC	1		4/25/2012 10:36 AM
<i>Surr: 4-Bromofluorobenzene</i>	99.9		73-126	%REC	1		4/25/2012 10:36 AM
<i>Surr: Dibromofluoromethane</i>	91.5		71-128	%REC	1		4/25/2012 10:36 AM
<i>Surr: Toluene-d8</i>	89.7		73-127	%REC	1		4/25/2012 10:36 AM
<b>HEXAVALENT CHROMIUM</b>			<b>SW7196</b>				Analyst: <b>IAB</b>
Chromium, Hexavalent	U		2.00	mg/Kg	1	5/1/2012	5/1/2012 01:00 PM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>				Analyst: <b>TDW</b>
Electrical Conductivity @ saturation	14.8		0.0100	mmhos/cm @25	1		4/28/2012 11:00 AM
Electrical Conductivity, 1:1 aqueous	7.35		0.0100	mmhos/cm @25	1		4/28/2012 11:00 AM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>				Analyst: <b>TDW</b>
Saturation Point	0.498		0.100	% Saturation as	1		4/28/2012 10:00 AM
<b>MOISTURE</b>			<b>SW3550</b>				Analyst: <b>KAH</b>
Percent Moisture	9.54		0.0100	wt%	1		4/25/2012 04:10 PM
<b>PH</b>			<b>SW9045B</b>				Analyst: <b>TDW</b>
pH	7.92		0.100	pH Units	1		4/28/2012 02:00 PM

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

# ALS Environmental

Date: 11-May-12

Client: Olsson Associates  
 Project: FEE 29 Spill  
 Sample ID: FEE 29-BG1  
 Collection Date: 4/18/2012 03:20 PM

Work Order: 1204733  
 Lab ID: 1204733-02  
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<b>TRIVALENT CHROMIUM</b>			<b>CALCULATION</b>				Analyst: <b>SKS</b>
Chromium, Trivalent	12.1		5.00	mg/Kg	1		5/2/2012
<b>MERCURY - SW7471B</b>			<b>SW7471A</b>				Analyst: <b>JCJ</b>
Mercury	0.0202		0.00358	mg/Kg	1	4/25/2012	4/25/2012 02:43 PM
<b>METALS</b>			<b>SW6020</b>				Analyst: <b>ALR</b>
Arsenic	5.96		0.443	mg/Kg	1	4/24/2012	4/27/2012 12:16 AM
Barium	166		22.1	mg/Kg	50	4/24/2012	4/26/2012 09:27 PM
Cadmium	0.847		0.443	mg/Kg	1	4/24/2012	4/27/2012 12:16 AM
Chromium	12.1		0.443	mg/Kg	1	4/24/2012	4/27/2012 12:16 AM
Copper	17.4		0.443	mg/Kg	1	4/24/2012	4/27/2012 12:16 AM
Lead	17.4		0.443	mg/Kg	1	4/24/2012	4/27/2012 12:16 AM
Nickel	20.8		0.443	mg/Kg	1	4/24/2012	4/27/2012 12:16 AM
Selenium	2.73		0.443	mg/Kg	1	4/24/2012	4/27/2012 12:16 AM
Silver	0.146	J	0.443	mg/Kg	1	4/24/2012	4/27/2012 12:16 AM
Zinc	80.9		22.1	mg/Kg	50	4/24/2012	4/26/2012 09:27 PM
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>				Analyst: <b>ALR</b>
Sodium Adsorption Ratio	1.00		0.0100	meq/meq	1	4/25/2012	5/2/2012
<b>HEXAVALENT CHROMIUM</b>			<b>SW7196</b>				Analyst: <b>IAB</b>
Chromium, Hexavalent	U		2.00	mg/Kg	1	5/1/2012	5/1/2012 01:00 PM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>				Analyst: <b>TDW</b>
Electrical Conductivity @ saturation	12.7		0.0100	mmhos/cm @25	1		4/28/2012 11:00 AM
Electrical Conductivity, 1:1 aqueous	6.72		0.0100	mmhos/cm @25	1		4/28/2012 11:00 AM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>				Analyst: <b>TDW</b>
Saturation Point	0.527		0.100	% Saturation as	1		4/28/2012 10:00 AM
<b>MOISTURE</b>			<b>SW3550</b>				Analyst: <b>KAH</b>
Percent Moisture	6.77		0.0100	wt%	1		4/25/2012 04:10 PM
<b>PH</b>			<b>SW9045B</b>				Analyst: <b>TDW</b>
pH	7.88		0.100	pH Units	1		4/28/2012 02:00 PM

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



## ALS Environmental

Date: 11-May-12

**Client:** Olsson Associates  
**Project:** FEE 29 Spill  
**Sample ID:** FEE 29-BG2  
**Collection Date:** 4/18/2012 03:30 PM

**Work Order:** 1204733  
**Lab ID:** 1204733-03  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<b>METALS</b>			<b>SW6020</b>				Analyst: <b>ALR</b>
Arsenic	7.41		0.443	mg/Kg	1	4/24/2012	4/27/2012 12:20 AM
<b>MOISTURE</b>			<b>SW3550</b>				Analyst: <b>KAH</b>
Percent Moisture	5.98		0.0100	wt%	1		4/25/2012 04:10 PM

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

# ALS Environmental

Date: 11-May-12

**Client:** Olsson Associates  
**Project:** FEE 29 Spill  
**Sample ID:** FEE 29-SS2  
**Collection Date:** 4/18/2012 03:35 PM

**Work Order:** 1204733  
**Lab ID:** 1204733-04  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<b>TPH AND MISCELLANEOUS GCFID</b>			<b>SW8015M</b>				Analyst: <b>KMB</b>
<b>DRO (&gt;C10 - C28)</b>	<b>0.61</b>	J	<b>1.7</b>	<b>mg/Kg</b>	1	4/22/2012	4/23/2012 09:57 PM
<i>Surr: 2-Fluorobiphenyl</i>	73.2		60-135	%REC	1	4/22/2012	4/23/2012 09:57 PM
<b>GASOLINE RANGE ORGANICS - SW8015C</b>			<b>SW8015</b>				Analyst: <b>KKP</b>
Gasoline Range Organics	U		0.050	mg/Kg	1		4/23/2012 11:23 PM
<i>Surr: 4-Bromofluorobenzene</i>	95.8		70-130	%REC	1		4/23/2012 11:23 PM
<b>TRIVALENT CHROMIUM</b>			<b>CALCULATION</b>				Analyst: <b>SKS</b>
Chromium, Trivalent	10.3		5.00	mg/Kg	1		5/2/2012
<b>MERCURY - SW7471B</b>			<b>SW7471A</b>				Analyst: <b>JCJ</b>
Mercury	0.0312		0.00346	mg/Kg	1	4/25/2012	4/25/2012 02:45 PM
<b>METALS</b>			<b>SW6020</b>				Analyst: <b>ALR</b>
Arsenic	6.25		0.457	mg/Kg	1	4/24/2012	4/27/2012 12:24 AM
Barium	97.9		4.57	mg/Kg	10	4/24/2012	4/27/2012 10:20 PM
Cadmium	0.714		0.457	mg/Kg	1	4/24/2012	4/27/2012 12:24 AM
Chromium	10.3		0.457	mg/Kg	1	4/24/2012	4/27/2012 12:24 AM
Copper	15.8		0.457	mg/Kg	1	4/24/2012	4/27/2012 12:24 AM
Lead	17.1		0.457	mg/Kg	1	4/24/2012	4/27/2012 12:24 AM
Nickel	19.4		0.457	mg/Kg	1	4/24/2012	4/27/2012 12:24 AM
Selenium	2.87		0.457	mg/Kg	1	4/24/2012	4/27/2012 12:24 AM
Silver	0.144	J	0.457	mg/Kg	1	4/24/2012	4/27/2012 12:24 AM
Zinc	76.9		4.57	mg/Kg	10	4/24/2012	4/27/2012 10:20 PM
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>				Analyst: <b>ALR</b>
Sodium Adsorption Ratio	5.77		0.0100	meq/meq	1	4/25/2012	5/2/2012
<b>LOW-LEVEL PAHS</b>			<b>SW8270</b>				Analyst: <b>LG</b>
Acenaphthene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 09:52 AM
Anthracene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 09:52 AM
Benz(a)anthracene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 09:52 AM
Benzo(a)pyrene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 09:52 AM
Benzo(b)fluoranthene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 09:52 AM
Benzo(k)fluoranthene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 09:52 AM
Chrysene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 09:52 AM
Dibenz(a,h)anthracene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 09:52 AM
Fluoranthene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 09:52 AM
Fluorene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 09:52 AM
Indeno(1,2,3-cd)pyrene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 09:52 AM
<b>Naphthalene</b>	<b>0.0064</b>	J	<b>0.0066</b>	<b>mg/Kg</b>	1	4/23/2012	4/25/2012 09:52 AM
Pyrene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 09:52 AM

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

# ALS Environmental

Date: 11-May-12

**Client:** Olsson Associates  
**Project:** FEE 29 Spill  
**Sample ID:** FEE 29-SS2  
**Collection Date:** 4/18/2012 03:35 PM

**Work Order:** 1204733  
**Lab ID:** 1204733-04  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<i>Surr: 2-Fluorobiphenyl</i>	62.2		43-125	%REC	1	4/23/2012	4/25/2012 09:52 AM
<i>Surr: 4-Terphenyl-d14</i>	82.7		32-125	%REC	1	4/23/2012	4/25/2012 09:52 AM
<i>Surr: Nitrobenzene-d5</i>	61.9		37-125	%REC	1	4/23/2012	4/25/2012 09:52 AM
<b>VOLATILES</b>			<b>SW8260</b>				Analyst: <b>WLR</b>
Benzene	U		0.0050	mg/Kg	1		4/25/2012 11:04 AM
Ethylbenzene	U		0.0050	mg/Kg	1		4/25/2012 11:04 AM
m,p-Xylene	U		0.010	mg/Kg	1		4/25/2012 11:04 AM
o-Xylene	U		0.0050	mg/Kg	1		4/25/2012 11:04 AM
Toluene	U		0.0050	mg/Kg	1		4/25/2012 11:04 AM
Xylenes, Total	U		0.015	mg/Kg	1		4/25/2012 11:04 AM
<i>Surr: 1,2-Dichloroethane-d4</i>	90.1		70-128	%REC	1		4/25/2012 11:04 AM
<i>Surr: 4-Bromofluorobenzene</i>	126		73-126	%REC	1		4/25/2012 11:04 AM
<i>Surr: Dibromofluoromethane</i>	93.9		71-128	%REC	1		4/25/2012 11:04 AM
<i>Surr: Toluene-d8</i>	122		73-127	%REC	1		4/25/2012 11:04 AM
<b>HEXAVALENT CHROMIUM</b>			<b>SW7196</b>				Analyst: <b>IAB</b>
Chromium, Hexavalent	U		2.00	mg/Kg	1	5/1/2012	5/1/2012 01:00 PM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>				Analyst: <b>TDW</b>
Electrical Conductivity @ saturation	18.6		0.0100	mmhos/cm @25	1		4/28/2012 11:00 AM
Electrical Conductivity, 1:1 aqueous	8.48		0.0100	mmhos/cm @25	1		4/28/2012 11:00 AM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>				Analyst: <b>TDW</b>
Saturation Point	0.457		0.100	% Saturation as	1		4/28/2012 10:00 AM
<b>MOISTURE</b>			<b>SW3550</b>				Analyst: <b>KAH</b>
Percent Moisture	10.9		0.0100	wt%	1		4/25/2012 04:10 PM
<b>PH</b>			<b>SW9045B</b>				Analyst: <b>TDW</b>
pH	7.85		0.100	pH Units	1		4/28/2012 02:00 PM

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

## ALS Environmental

Date: 11-May-12

**Client:** Olsson Associates  
**Project:** FEE 29 Spill  
**Sample ID:** FEE 29-BG3  
**Collection Date:** 4/18/2012 03:45 PM

**Work Order:** 1204733  
**Lab ID:** 1204733-05  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<b>METALS</b>			<b>SW6020</b>				Analyst: <b>ALR</b>
Arsenic	6.01		0.441	mg/Kg	1	4/24/2012	4/27/2012 12:29 AM
<b>MOISTURE</b>			<b>SW3550</b>				Analyst: <b>KAH</b>
Percent Moisture	3.83		0.0100	wt%	1		4/25/2012 04:10 PM

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

# ALS Environmental

Date: 11-May-12

**Client:** Olsson Associates  
**Project:** FEE 29 Spill  
**Sample ID:** FEE 29-SS3  
**Collection Date:** 4/18/2012 03:50 PM

**Work Order:** 1204733  
**Lab ID:** 1204733-06  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<b>TPH AND MISCELLANEOUS GCFID</b>			<b>SW8015M</b>				Analyst: <b>KMB</b>
<b>DRO (&gt;C10 - C28)</b>	<b>3.4</b>		<b>1.7</b>	<b>mg/Kg</b>	1	4/22/2012	4/26/2012 02:29 PM
<i>Surr: 2-Fluorobiphenyl</i>	<i>74.5</i>		<i>60-135</i>	<i>%REC</i>	1	4/22/2012	4/26/2012 02:29 PM
<b>GASOLINE RANGE ORGANICS - SW8015C</b>			<b>SW8015</b>				Analyst: <b>KKP</b>
Gasoline Range Organics	U		0.050	mg/Kg	1		4/23/2012 11:40 PM
<i>Surr: 4-Bromofluorobenzene</i>	<i>94.9</i>		<i>70-130</i>	<i>%REC</i>	1		4/23/2012 11:40 PM
<b>TRIVALENT CHROMIUM</b>			<b>CALCULATION</b>				Analyst: <b>SKS</b>
Chromium, Trivalent	10.2		5.00	mg/Kg	1		5/2/2012
<b>MERCURY - SW7471B</b>			<b>SW7471A</b>				Analyst: <b>JCJ</b>
Mercury	0.0293		0.00355	mg/Kg	1	4/25/2012	4/25/2012 02:47 PM
<b>METALS</b>			<b>SW6020</b>				Analyst: <b>ALR</b>
Arsenic	6.01		0.436	mg/Kg	1	4/24/2012	4/27/2012 12:33 AM
Barium	175		21.8	mg/Kg	50	4/24/2012	4/26/2012 09:31 PM
Cadmium	0.446		0.436	mg/Kg	1	4/24/2012	4/27/2012 12:33 AM
Chromium	10.2		0.436	mg/Kg	1	4/24/2012	4/27/2012 12:33 AM
Copper	14.8		0.436	mg/Kg	1	4/24/2012	4/27/2012 12:33 AM
Lead	19.4		0.436	mg/Kg	1	4/24/2012	4/27/2012 12:33 AM
Nickel	17.9		0.436	mg/Kg	1	4/24/2012	4/27/2012 12:33 AM
Selenium	3.16		0.436	mg/Kg	1	4/24/2012	4/27/2012 12:33 AM
Silver	0.133	J	0.436	mg/Kg	1	4/24/2012	4/27/2012 12:33 AM
Zinc	68.9		21.8	mg/Kg	50	4/24/2012	4/26/2012 09:31 PM
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>				Analyst: <b>ALR</b>
Sodium Adsorption Ratio	4.72		0.0100	meq/meq	1	4/25/2012	5/2/2012
<b>LOW-LEVEL PAHS</b>			<b>SW8270</b>				Analyst: <b>LG</b>
Acenaphthene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 10:12 AM
Anthracene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 10:12 AM
Benz(a)anthracene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 10:12 AM
Benzo(a)pyrene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 10:12 AM
<b>Benzo(b)fluoranthene</b>	<b>0.0028</b>	J	<b>0.0066</b>	<b>mg/Kg</b>	1	4/23/2012	4/25/2012 10:12 AM
Benzo(k)fluoranthene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 10:12 AM
<b>Chrysene</b>	<b>0.0037</b>	J	<b>0.0066</b>	<b>mg/Kg</b>	1	4/23/2012	4/25/2012 10:12 AM
Dibenz(a,h)anthracene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 10:12 AM
Fluoranthene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 10:12 AM
Fluorene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 10:12 AM
Indeno(1,2,3-cd)pyrene	U		0.0066	mg/Kg	1	4/23/2012	4/25/2012 10:12 AM
<b>Naphthalene</b>	<b>0.0086</b>		<b>0.0066</b>	<b>mg/Kg</b>	1	4/23/2012	4/25/2012 10:12 AM
<b>Pyrene</b>	<b>0.0021</b>	J	<b>0.0066</b>	<b>mg/Kg</b>	1	4/23/2012	4/25/2012 10:12 AM

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

# ALS Environmental

Date: 11-May-12

**Client:** Olsson Associates  
**Project:** FEE 29 Spill  
**Sample ID:** FEE 29-SS3  
**Collection Date:** 4/18/2012 03:50 PM

**Work Order:** 1204733  
**Lab ID:** 1204733-06  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<i>Surr: 2-Fluorobiphenyl</i>	69.6		43-125	%REC	1	4/23/2012	4/25/2012 10:12 AM
<i>Surr: 4-Terphenyl-d14</i>	83.2		32-125	%REC	1	4/23/2012	4/25/2012 10:12 AM
<i>Surr: Nitrobenzene-d5</i>	75.0		37-125	%REC	1	4/23/2012	4/25/2012 10:12 AM
<b>VOLATILES</b>			<b>SW8260</b>				Analyst: <b>WLR</b>
Benzene	U		0.0050	mg/Kg	1		4/25/2012 11:31 AM
Ethylbenzene	U		0.0050	mg/Kg	1		4/25/2012 11:31 AM
m,p-Xylene	U		0.010	mg/Kg	1		4/25/2012 11:31 AM
o-Xylene	U		0.0050	mg/Kg	1		4/25/2012 11:31 AM
Toluene	U		0.0050	mg/Kg	1		4/25/2012 11:31 AM
Xylenes, Total	U		0.015	mg/Kg	1		4/25/2012 11:31 AM
<i>Surr: 1,2-Dichloroethane-d4</i>	95.5		70-128	%REC	1		4/25/2012 11:31 AM
<i>Surr: 4-Bromofluorobenzene</i>	100		73-126	%REC	1		4/25/2012 11:31 AM
<i>Surr: Dibromofluoromethane</i>	91.9		71-128	%REC	1		4/25/2012 11:31 AM
<i>Surr: Toluene-d8</i>	84.8		73-127	%REC	1		4/25/2012 11:31 AM
<b>HEXAVALENT CHROMIUM</b>			<b>SW7196</b>				Analyst: <b>IAB</b>
Chromium, Hexavalent	U		2.00	mg/Kg	1	5/1/2012	5/1/2012 01:00 PM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>				Analyst: <b>TDW</b>
Electrical Conductivity @ saturation	8.04		0.0100	mmhos/cm @25	1		4/28/2012 11:00 AM
Electrical Conductivity, 1:1 aqueous	3.88		0.0100	mmhos/cm @25	1		4/28/2012 11:00 AM
<b>LA29B SATURATION POINT</b>			<b>LADNR-29B SP</b>				Analyst: <b>TDW</b>
Saturation Point	0.483		0.100	% Saturation as	1		4/28/2012 10:00 AM
<b>MOISTURE</b>			<b>SW3550</b>				Analyst: <b>KAH</b>
Percent Moisture	10.7		0.0100	wt%	1		4/25/2012 04:10 PM
<b>PH</b>			<b>SW9045B</b>				Analyst: <b>TDW</b>
pH	8.28		0.100	pH Units	1		4/28/2012 02:00 PM

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

# ALS Environmental

Date: 33-May-12

**Client:** Olsson Associates  
**Work Order:** 1204733  
**Project:** FEE 29 Spill

## QC BATCH REPORT

Batch ID: **60481** Instrument ID **FID-7** Method: **SW8015M**

<b>MBLK</b>	Sample ID: <b>FBLKS1-120422-60481</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/23/2012 11:37 AM</b>			
Client ID:	Run ID: <b>FID-7_120423A</b>				SeqNo: <b>2755003</b>		Prep Date: <b>4/22/2012</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)	U	1.7								
<i>Surr: 2-Fluorobiphenyl</i>	2.821	0	3.3	0	85.5	60-135	0			

<b>LCS</b>	Sample ID: <b>FLCSS1-120422-60481</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/23/2012 11:58 AM</b>			
Client ID:	Run ID: <b>FID-7_120423A</b>				SeqNo: <b>2755004</b>		Prep Date: <b>4/22/2012</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)	36.75	1.7	33.3	0	110	70-130	0			
<i>Surr: 2-Fluorobiphenyl</i>	3.483	0	3.3	0	106	60-135	0			

<b>MS</b>	Sample ID: <b>1204673-03CMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/23/2012 12:40 PM</b>			
Client ID:	Run ID: <b>FID-7_120423A</b>				SeqNo: <b>2755006</b>		Prep Date: <b>4/22/2012</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)	81.48	1.7	33.21	55.27	78.9	70-130	0			E
<i>Surr: 2-Fluorobiphenyl</i>	4.016	0	3.291	0	122	60-135	0			

<b>MSD</b>	Sample ID: <b>1204673-03CMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/23/2012 01:01 PM</b>			
Client ID:	Run ID: <b>FID-7_120423A</b>				SeqNo: <b>2755007</b>		Prep Date: <b>4/22/2012</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)	80.41	1.7	33.2	55.27	75.7	70-130	81.48	1.32	30	E
<i>Surr: 2-Fluorobiphenyl</i>	4.136	0	3.29	0	126	60-135	4.016	2.95	30	

The following samples were analyzed in this batch:

1204733-01B	1204733-04B	1204733-06B
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 1 of 15

Client: Olsson Associates  
 Work Order: 1204733  
 Project: FEE 29 Spill

## QC BATCH REPORT

Batch ID: **R126702** Instrument ID **FID-9** Method: **SW8015**

**MBLK** Sample ID: **GBLKS1-120423-R126702** Units: **mg/Kg** Analysis Date: **4/23/2012 09:37 PM**

Client ID: Run ID: **FID-9\_120423C** SeqNo: **2756389** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	U	0.050								
Surr: 4-Bromofluorobenzene	0.09328	0.0050	0.1	0	93.3	70-130	0			

**LCS** Sample ID: **GLCSS1-120423-R126702** Units: **mg/Kg** Analysis Date: **4/23/2012 09:01 PM**

Client ID: Run ID: **FID-9\_120423C** SeqNo: **2756387** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.047	0.050	1	0	105	70-130	0			
Surr: 4-Bromofluorobenzene	0.09322	0.0050	0.1	0	93.2	70-130	0			

**LCSD** Sample ID: **GLCSDS1-120423-R126702** Units: **mg/Kg** Analysis Date: **4/23/2012 09:19 PM**

Client ID: Run ID: **FID-9\_120423C** SeqNo: **2756388** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.077	0.050	1	0	108	70-130	1.047	2.88	30	
Surr: 4-Bromofluorobenzene	0.09301	0.0050	0.1	0	93	70-130	0.09322	0.234	30	

**MS** Sample ID: **1203999-33ZMS** Units: **mg/Kg** Analysis Date: **4/23/2012 10:30 PM**

Client ID: Run ID: **FID-9\_120423C** SeqNo: **2756391** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.06	0.050	1	0	106	70-130	0			
Surr: 4-Bromofluorobenzene	0.09194	0.0050	0.1	0	91.9	70-130	0			

**MSD** Sample ID: **1203999-33ZMSD** Units: **mg/Kg** Analysis Date: **4/23/2012 10:47 PM**

Client ID: Run ID: **FID-9\_120423C** SeqNo: **2756392** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.033	0.050	1	0	103	70-130	1.06	2.58	30	
Surr: 4-Bromofluorobenzene	0.09486	0.0050	0.1	0	94.9	70-130	0.09194	3.12	30	

The following samples were analyzed in this batch:

1204733-01A	1204733-04A	1204733-06A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.



**Client:** Olsson Associates  
**Work Order:** 1204733  
**Project:** FEE 29 Spill

## QC BATCH REPORT

Batch ID: **60527A** Instrument ID **MISC-Metals** Method: **La29B SAR**

**DUP** Sample ID: **1204725-01EDUP** Units: **meq/meq** Analysis Date: **5/2/2012**  
Client ID: Run ID: **MISC-METALS\_120502** SeqNo: **2767073** Prep Date: **4/25/2012** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	30	0.010	0	0	0		29	3.39	30	

The following samples were analyzed in this batch:

1204733-01B	1204733-02B	1204733-04B
1204733-06B		

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

**Client:** Olsson Associates  
**Work Order:** 1204733  
**Project:** FEE 29 Spill

## QC BATCH REPORT

Batch ID: **60530** Instrument ID **ICPMS03** Method: **SW6020**

<b>MBLK</b>	Sample ID: <b>MBLKS1-042412-60530</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/25/2012 05:23 PM</b>			
Client ID:	Run ID: <b>ICPMS03_120425A</b>				SeqNo: <b>2758365</b>		Prep Date: <b>4/24/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.50								
Barium	U	0.50								
Cadmium	U	0.50								
Chromium	U	0.50								
Copper	U	0.50								
Lead	U	0.50								
Nickel	U	0.50								
Selenium	U	0.50								
Silver	U	0.50								
Zinc	0.3363	0.50								J

<b>LCS</b>	Sample ID: <b>MLCSS1-042412-60530</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/25/2012 05:10 PM</b>			
Client ID:	Run ID: <b>ICPMS03_120425A</b>				SeqNo: <b>2758337</b>		Prep Date: <b>4/24/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.03	0.50	10	0	100	80-120	0			
Barium	10.47	0.50	10	0	105	80-120	0			
Cadmium	10.22	0.50	10	0	102	80-120	0			
Chromium	10.07	0.50	10	0	101	80-120	0			
Copper	10.44	0.50	10	0	104	80-120	0			
Lead	10.79	0.50	10	0	108	80-120	0			
Nickel	10.17	0.50	10	0	102	80-120	0			
Selenium	10.41	0.50	10	0	104	80-120	0			
Silver	10.34	0.50	10	0	103	80-120	0			
Zinc	11.51	0.50	10	0	115	80-120	0			

<b>MS</b>	Sample ID: <b>1204696-01AMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>4/25/2012 09:42 PM</b>			
Client ID:	Run ID: <b>ICPMS03_120425A</b>				SeqNo: <b>2758609</b>		Prep Date: <b>4/24/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	1316	0.48	9.493	1451	-1420	75-125	0			SEO
Barium	240.6	0.48	9.493	254.2	-144	75-125	0			SEO
Cadmium	303.8	0.48	9.493	297.7	63.6	75-125	0			SEO
Chromium	652.4	0.48	9.493	746	-987	75-125	0			SEO
Copper	10320	0.48	9.493	11270	-9970	75-125	0			SEO
Lead	2110	0.48	9.493	2117	-71.4	75-125	0			SEO
Nickel	1970	0.48	9.493	2069	-1040	75-125	0			SEO
Selenium	33.79	0.48	9.493	29.68	43.3	75-125	0			S
Silver	138.2	0.48	9.493	134.4	40.7	75-125	0			SEO
Zinc	55150	0.48	9.493	62720	-79800	75-125	0			SEO

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

Client: Olsson Associates  
 Work Order: 1204733  
 Project: FEE 29 Spill

## QC BATCH REPORT

Batch ID: **60530** Instrument ID **ICPMS03** Method: **SW6020**

<b>MSD</b>	Sample ID: <b>1204696-01AMSD</b>			Units: <b>mg/Kg</b>			Analysis Date: <b>4/25/2012 09:45 PM</b>			
Client ID:	Run ID: <b>ICPMS03_120425A</b>			SeqNo: <b>2758610</b>			Prep Date: <b>4/24/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	1326	0.47	9.415	1451	-1330	75-125	1316	0.752	25	SEO
Barium	240.2	0.47	9.415	254.2	-149	75-125	240.6	0.154	25	SEO
Cadmium	303.1	0.47	9.415	297.7	56.7	75-125	303.8	0.231	25	SEO
Chromium	664.3	0.47	9.415	746	-868	75-125	652.4	1.82	25	SEO
Copper	10390	0.47	9.415	11270	-9250	75-125	10320	0.729	25	SEO
Lead	2082	0.47	9.415	2117	-376	75-125	2110	1.36	25	SEO
Nickel	1980	0.47	9.415	2069	-943	75-125	1970	0.518	25	SEO
Selenium	34.06	0.47	9.415	29.68	46.5	75-125	33.79	0.794	25	S
Silver	135.7	0.47	9.415	134.4	14	75-125	138.2	1.86	25	SEO
Zinc	55330	0.47	9.415	62720	-78500	75-125	55150	0.341	25	SEO

<b>DUP</b>	Sample ID: <b>1204696-01ADUP</b>			Units: <b>mg/Kg</b>			Analysis Date: <b>4/26/2012 08:40 PM</b>			
Client ID:	Run ID: <b>ICPMS03_120426A</b>			SeqNo: <b>2760452</b>			Prep Date: <b>4/24/2012</b>		DF: <b>10000</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Lead	21940	4,800	0	0	0	0-0	21940	0	25	
Zinc	58210	4,800	0	0	0	0-0	58210	0	25	

<b>DUP</b>	Sample ID: <b>1204696-01ADUP</b>			Units: <b>mg/Kg</b>			Analysis Date: <b>4/26/2012 10:56 PM</b>			
Client ID:	Run ID: <b>ICPMS03_120426A</b>			SeqNo: <b>2760472</b>			Prep Date: <b>4/24/2012</b>		DF: <b>100</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	1524	48	0	0	0	0-0	1470	3.62	25	
Barium	1137	48	0	0	0	0-0	1092	4.04	25	
Cadmium	1400	48	0	0	0	0-0	1352	3.45	25	
Chromium	802.8	48	0	0	0	0-0	769.4	4.26	25	
Copper	12100	48	0	0	0	0-0	11550	4.65	25	
Nickel	2302	48	0	0	0	0-0	2193	4.85	25	
Selenium	36.37	48	0	0	0	0-0	40.06	0	25	J
Silver	185.6	48	0	0	0	0-0	170.5	8.46	25	

The following samples were analyzed in this batch:

1204733-01B	1204733-02A	1204733-03A
1204733-04B	1204733-05A	1204733-06B

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

**Client:** Olsson Associates  
**Work Order:** 1204733  
**Project:** FEE 29 Spill

## QC BATCH REPORT

Batch ID: **60556**      Instrument ID **HG02**      Method: **SW7471A**

<b>MBLK</b>	Sample ID: <b>GBLKS1-042512-60556</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/25/2012 02:19 PM</b>			
Client ID:	Run ID: <b>HG02_120425A</b>				SeqNo: <b>2758265</b>		Prep Date: <b>4/25/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	3.3								

<b>LCS</b>	Sample ID: <b>GLCSS1-042512-60556</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/25/2012 02:21 PM</b>			
Client ID:	Run ID: <b>HG02_120425A</b>				SeqNo: <b>2758266</b>		Prep Date: <b>4/25/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	328.7	3.3	333.3	0	98.6	85-115	0			

<b>MS</b>	Sample ID: <b>1204730-02BMS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/25/2012 02:31 PM</b>			
Client ID:	Run ID: <b>HG02_120425A</b>				SeqNo: <b>2758269</b>		Prep Date: <b>4/25/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	313.5	3.5	354.6	6	86.7	85-115	0			

<b>MSD</b>	Sample ID: <b>1204730-02BMSD</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/25/2012 02:33 PM</b>			
Client ID:	Run ID: <b>HG02_120425A</b>				SeqNo: <b>2758270</b>		Prep Date: <b>4/25/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	317	3.5	354.6	6	87.7	85-115	313.5	1.12	20	

<b>DUP</b>	Sample ID: <b>1204730-02BDUP</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/25/2012 02:29 PM</b>			
Client ID:	Run ID: <b>HG02_120425A</b>				SeqNo: <b>2758268</b>		Prep Date: <b>4/25/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	5.905	3.5	0	0	0		6	1.59	20	

The following samples were analyzed in this batch:

1204733-01B	1204733-02A	1204733-04B
1204733-06B		

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

Client: Olsson Associates  
 Work Order: 1204733  
 Project: FEE 29 Spill

## QC BATCH REPORT

Batch ID: **60509** Instrument ID **SV-4** Method: **SW8270**

<b>MBLK</b>	Sample ID: <b>SBLKS1-120423-60509</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/24/2012 11:27 AM</b>			
Client ID:	Run ID: <b>SV-4_120424B</b>				SeqNo: <b>2757143</b>		Prep Date: <b>4/23/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	U	6.6								
Anthracene	U	6.6								
Benz(a)anthracene	U	6.6								
Benzo(a)pyrene	U	6.6								
Benzo(b)fluoranthene	U	6.6								
Benzo(k)fluoranthene	U	6.6								
Chrysene	U	6.6								
Dibenz(a,h)anthracene	U	6.6								
Fluoranthene	U	6.6								
Fluorene	U	6.6								
Indeno(1,2,3-cd)pyrene	U	6.6								
Naphthalene	U	6.6								
Pyrene	U	6.6								
Surr: 2-Fluorobiphenyl	121.9	6.6	166.7	0	73.1	43-125	0			
Surr: 4-Terphenyl-d14	132.6	6.6	166.7	0	79.6	32-125	0			
Surr: Nitrobenzene-d5	122.6	6.6	166.7	0	73.6	37-125	0			

<b>LCS</b>	Sample ID: <b>SLCSS1-120423-60509</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/24/2012 11:47 AM</b>			
Client ID:	Run ID: <b>SV-4_120424B</b>				SeqNo: <b>2757144</b>		Prep Date: <b>4/23/2012</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	127	6.6	166.7	0	76.2	50-120	0			
Anthracene	133.5	6.6	166.7	0	80.1	50-123	0			
Benz(a)anthracene	149.5	6.6	166.7	0	89.7	50-131	0			
Benzo(a)pyrene	147.5	6.6	166.7	0	88.5	50-130	0			
Benzo(b)fluoranthene	174.4	6.6	166.7	0	105	50-137	0			
Benzo(k)fluoranthene	145.5	6.6	166.7	0	87.3	50-143	0			
Chrysene	139.5	6.6	166.7	0	83.7	50-130	0			
Dibenz(a,h)anthracene	163.2	6.6	166.7	0	97.9	50-130	0			
Fluoranthene	132.5	6.6	166.7	0	79.5	50-131	0			
Fluorene	130.5	6.6	166.7	0	78.3	50-125	0			
Indeno(1,2,3-cd)pyrene	165.3	6.6	166.7	0	99.2	45-139	0			
Naphthalene	126.8	6.6	166.7	0	76.1	50-125	0			
Pyrene	144.5	6.6	166.7	0	86.7	45-130	0			
Surr: 2-Fluorobiphenyl	130.5	6.6	166.7	0	78.3	43-125	0			
Surr: 4-Terphenyl-d14	152.9	6.6	166.7	0	91.7	32-125	0			
Surr: Nitrobenzene-d5	133.6	6.6	166.7	0	80.2	37-125	0			

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

Client: Olsson Associates  
 Work Order: 1204733  
 Project: FEE 29 Spill

## QC BATCH REPORT

Batch ID: **60509** Instrument ID **SV-4** Method: **SW8270**

MS				Sample ID: <b>1204733-01BMS</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>4/24/2012 02:49 PM</b>	
Client ID: <b>FEE 29-SS1</b>				Run ID: <b>SV-4_120424B</b>			SeqNo: <b>2757146</b>		Prep Date: <b>4/23/2012</b>	
							DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	106	6.6	166.4	0	63.7	50-120	0			
Anthracene	122.3	6.6	166.4	0	73.5	50-123	0			
Benz(a)anthracene	134.5	6.6	166.4	0	80.8	50-131	0			
Benzo(a)pyrene	133.7	6.6	166.4	0	80.3	50-130	0			
Benzo(b)fluoranthene	140.2	6.6	166.4	0	84.2	50-137	0			
Benzo(k)fluoranthene	138.1	6.6	166.4	0	83	50-143	0			
Chrysene	133.6	6.6	166.4	0	80.3	50-130	0			
Dibenz(a,h)anthracene	143.5	6.6	166.4	0	86.2	50-130	0			
Fluoranthene	127.9	6.6	166.4	1.726	75.8	50-131	0			
Fluorene	121.7	6.6	166.4	0	73.1	50-125	0			
Indeno(1,2,3-cd)pyrene	146.7	6.6	166.4	0	88.1	45-139	0			
Naphthalene	112.3	6.6	166.4	11.56	60.5	50-125	0			
Pyrene	131.3	6.6	166.4	1.804	77.8	45-130	0			
Surr: 2-Fluorobiphenyl	107.1	6.6	166.4	0	64.3	43-125	0			
Surr: 4-Terphenyl-d14	133.5	6.6	166.4	0	80.2	32-125	0			
Surr: Nitrobenzene-d5	105	6.6	166.4	0	63.1	37-125	0			

MSD				Sample ID: <b>1204733-01BMSD</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>4/24/2012 03:09 PM</b>	
Client ID: <b>FEE 29-SS1</b>				Run ID: <b>SV-4_120424B</b>			SeqNo: <b>2757147</b>		Prep Date: <b>4/23/2012</b>	
							DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	95.98	6.6	166.4	0	57.7	50-120	106	9.88	30	
Anthracene	120.4	6.6	166.4	0	72.3	50-123	122.3	1.6	30	
Benz(a)anthracene	138.1	6.6	166.4	0	83	50-131	134.5	2.63	30	
Benzo(a)pyrene	134.9	6.6	166.4	0	81.1	50-130	133.7	0.953	30	
Benzo(b)fluoranthene	157.4	6.6	166.4	0	94.5	50-137	140.2	11.5	30	
Benzo(k)fluoranthene	125	6.6	166.4	0	75.1	50-143	138.1	9.95	30	
Chrysene	132.3	6.6	166.4	0	79.5	50-130	133.6	0.998	30	
Dibenz(a,h)anthracene	149	6.6	166.4	0	89.5	50-130	143.5	3.71	30	
Fluoranthene	124.8	6.6	166.4	1.726	74	50-131	127.9	2.4	30	
Fluorene	116.4	6.6	166.4	0	69.9	50-125	121.7	4.48	30	
Indeno(1,2,3-cd)pyrene	156.5	6.6	166.4	0	94.1	45-139	146.7	6.5	30	
Naphthalene	115.9	6.6	166.4	11.56	62.7	50-125	112.3	3.16	30	
Pyrene	127.4	6.6	166.4	1.804	75.5	45-130	131.3	3.01	30	
Surr: 2-Fluorobiphenyl	103.2	6.6	166.4	0	62	43-125	107.1	3.69	30	
Surr: 4-Terphenyl-d14	134.8	6.6	166.4	0	81	32-125	133.5	0.986	30	
Surr: Nitrobenzene-d5	113.2	6.6	166.4	0	68	37-125	105	7.5	30	

The following samples were analyzed in this batch:

1204733-01B 1204733-04B 1204733-06B

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

Client: Olsson Associates  
 Work Order: 1204733  
 Project: FEE 29 Spill

# QC BATCH REPORT

Batch ID: **R126789** Instrument ID **VOA3** Method: **SW8260**

<b>MBLK</b>	Sample ID: <b>VBLKS1-042512-R126789</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/25/2012 10:09 AM</b>			
Client ID:	Run ID: <b>VOA3_120425A</b>				SeqNo: <b>2758485</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
Benzene	U	5.0								
Ethylbenzene	U	5.0								
m,p-Xylene	U	10								
o-Xylene	U	5.0								
Toluene	U	5.0								
Xylenes, Total	U	15								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>39.13</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>78.3</i>	<i>70-128</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>43.97</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>87.9</i>	<i>73-126</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>49.34</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>98.7</i>	<i>71-128</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>45.85</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>91.7</i>	<i>73-127</i>	<i>0</i>			

<b>LCS</b>	Sample ID: <b>VLCSS1-042512-R126789</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/25/2012 08:47 AM</b>			
Client ID:	Run ID: <b>VOA3_120425A</b>				SeqNo: <b>2758484</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
Benzene	57.49	5.0	50	0	115	79-120	0			
Ethylbenzene	51.13	5.0	50	0	102	80-122	0			
m,p-Xylene	102.4	10	100	0	102	79-122	0			
o-Xylene	51.02	5.0	50	0	102	80-123	0			
Toluene	50.13	5.0	50	0	100	79-120	0			
Xylenes, Total	153.4	15	150	0	102	80-120	0			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>52.31</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>105</i>	<i>70-128</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>51.33</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>103</i>	<i>73-126</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>46.99</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>94</i>	<i>71-128</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>49.23</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>98.5</i>	<i>73-127</i>	<i>0</i>			

<b>MS</b>	Sample ID: <b>1204733-01AMS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/25/2012 12:26 PM</b>			
Client ID: <b>FEE 29-SS1</b>	Run ID: <b>VOA3_120425A</b>				SeqNo: <b>2758490</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
Benzene	41.1	5.0	50	0	82.2	79-120	0			
Ethylbenzene	35.29	5.0	50	0	70.6	80-122	0			S
m,p-Xylene	73.02	10	100	0	73	79-122	0			S
o-Xylene	30.33	5.0	50	0.5647	59.5	80-123	0			S
Toluene	37.23	5.0	50	0	74.5	79-120	0			S
Xylenes, Total	103.4	15	150	0.5647	68.5	80-120	0			S
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>52.49</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>105</i>	<i>70-128</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.37</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>96.7</i>	<i>73-126</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>45.12</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>90.2</i>	<i>71-128</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>46.74</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>93.5</i>	<i>73-127</i>	<i>0</i>			

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

**Client:** Olsson Associates  
**Work Order:** 1204733  
**Project:** FEE 29 Spill

## QC BATCH REPORT

Batch ID: **R126789** Instrument ID **VOA3** Method: **SW8260**

MSD		Sample ID: <b>1204733-01AMSD</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>4/25/2012 12:53 PM</b>		
Client ID: <b>FEE 29-SS1</b>		Run ID: <b>VOA3_120425A</b>				SeqNo: <b>2758491</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
Benzene	39.79	5.0	50	0	79.6	79-120	41.1	3.25	30	
Ethylbenzene	36.95	5.0	50	0	73.9	80-122	35.29	4.61	30	S
m,p-Xylene	76.91	10	100	0	76.9	79-122	73.02	5.18	30	S
o-Xylene	35.71	5.0	50	0.5647	70.3	80-123	30.33	16.3	30	S
Toluene	37.44	5.0	50	0	74.9	79-120	37.23	0.575	30	S
Xylenes, Total	112.6	15	150	0.5647	74.7	80-120	103.4	8.58	30	S
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>46.89</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>93.8</i>	<i>70-128</i>	<i>52.49</i>	<i>11.3</i>	<i>30</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>51.13</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>73-126</i>	<i>48.37</i>	<i>5.55</i>	<i>30</i>	
<i>Surr: Dibromofluoromethane</i>	<i>46.69</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>93.4</i>	<i>71-128</i>	<i>45.12</i>	<i>3.41</i>	<i>30</i>	
<i>Surr: Toluene-d8</i>	<i>47.5</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>95</i>	<i>73-127</i>	<i>46.74</i>	<i>1.61</i>	<i>30</i>	

The following samples were analyzed in this batch:

1204733-01A	1204733-04A	1204733-06A
-------------	-------------	-------------

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



**Client:** Olsson Associates  
**Work Order:** 1204733  
**Project:** FEE 29 Spill

## QC BATCH REPORT

Batch ID: **60734**      Instrument ID **UV-2450**      Method: **SW7196**

**MBLK**      Sample ID: **WBLKS-050112-60734**      Units: **mg/kg**      Analysis Date: **5/1/2012 01:00 PM**

Client ID:      Run ID: **UV-2450\_120501C**      SeqNo: **2765621**      Prep Date: **5/1/2012**      DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	U	2.0								

**LCS**      Sample ID: **WLCSS-050112-60734**      Units: **mg/kg**      Analysis Date: **5/1/2012 01:00 PM**

Client ID:      Run ID: **UV-2450\_120501C**      SeqNo: **2765622**      Prep Date: **5/1/2012**      DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	10.64	2.0	10	0	106	80-120	0			

**LCSD**      Sample ID: **WLCSDS-050112-60734**      Units: **mg/kg**      Analysis Date: **5/1/2012 01:00 PM**

Client ID:      Run ID: **UV-2450\_120501C**      SeqNo: **2765632**      Prep Date: **5/1/2012**      DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	9.92	2.0	10	0	99.2	80-120	10.64	7	20	

**MS**      Sample ID: **1204725-01DMS**      Units: **mg/kg**      Analysis Date: **5/1/2012 01:00 PM**

Client ID:      Run ID: **UV-2450\_120501C**      SeqNo: **2765633**      Prep Date: **5/1/2012**      DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	10.32	2.0	10	0.24	101	75-125	0			

The following samples were analyzed in this batch:

1204733-01B	1204733-02A	1204733-04B
1204733-06B		

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

**Client:** Olsson Associates  
**Work Order:** 1204733  
**Project:** FEE 29 Spill

## QC BATCH REPORT

Batch ID: **R126844** Instrument ID **Balance1** Method: **SW3550**

**DUP** Sample ID: **1204419-06BDUP** Units: **wt%** Analysis Date: **4/25/2012 04:10 PM**

Client ID: Run ID: **BALANCE1\_120425H** SeqNo: **2759536** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	15.6	0.010	0	0	0	0-0	16.87	7.82	20	

The following samples were analyzed in this batch:

1204733-01B	1204733-02A	1204733-03A
1204733-04B	1204733-05A	1204733-06B

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

**Client:** Olsson Associates  
**Work Order:** 1204733  
**Project:** FEE 29 Spill

## QC BATCH REPORT

Batch ID: **R126934** Instrument ID **WetChem** Method: **LaDNR-29B EC**

**MBLK** Sample ID: **WBLKS1-120428-R126934** Units: **mmhos/cm @25°** Analysis Date: **4/28/2012 11:00 AM**

Client ID: Run ID: **WETCHEM\_120428A** SeqNo: **2761812** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ saturation	U	0.010								
Electrical Conductivity, 1:1 aqueous	U	0.010								

**LCS** Sample ID: **WLCSS1-120428-R126934** Units: **mmhos/cm @25°** Analysis Date: **4/28/2012 11:00 AM**

Client ID: Run ID: **WETCHEM\_120428A** SeqNo: **2761813** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity, 1:1 aqueous	1.49	0.010	1.412	0	106	90-110	0			

**DUP** Sample ID: **1204725-01EDUP** Units: **mmhos/cm @25°** Analysis Date: **4/28/2012 11:00 AM**

Client ID: Run ID: **WETCHEM\_120428A** SeqNo: **2761814** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ saturation	7.103	0.010	0	0	0		7.108	0.0704	20	
Electrical Conductivity, 1:1 aqueous	2.36	0.010	0	0	0		2.38	0.844	20	

The following samples were analyzed in this batch:

1204733-01B	1204733-02B	1204733-04B
1204733-06B		

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

**Client:** Olsson Associates  
**Work Order:** 1204733  
**Project:** FEE 29 Spill

## QC BATCH REPORT

Batch ID: **R126935** Instrument ID **Balance1** Method: **LaDNR-29B SP**

<b>DUP</b>	Sample ID: <b>1204725-01EDUP</b>				Units: % Saturation as D			Analysis Date: <b>4/28/2012 10:00 AM</b>		
Client ID:	Run ID: <b>BALANCE1_120428A</b>				SeqNo: <b>2761835</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
Saturation Point	0.332	0.10	0	0	0		0.335	0.9	30	

The following samples were analyzed in this batch:

1204733-01B	1204733-02B	1204733-04B
1204733-06B		

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

**Client:** Olsson Associates  
**Work Order:** 1204733  
**Project:** FEE 29 Spill

## QC BATCH REPORT

Batch ID: **R126936** Instrument ID **WetChem** Method: **SW9045B**

<b>LCS</b>		Sample ID: <b>WLCSS1-120428-R126936</b>				Units: <b>pH Units</b>		Analysis Date: <b>4/28/2012 02:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_120428B</b>				SeqNo: <b>2761836</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
pH	6	0.10	6	0	100	90-110	0			

<b>DUP</b>		Sample ID: <b>1204725-01DDUP</b>				Units: <b>pH Units</b>		Analysis Date: <b>4/28/2012 02:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_120428B</b>				SeqNo: <b>2761855</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
pH	8.21	0.10	0	0	0	0-0	8.17	0.488	20	

The following samples were analyzed in this batch:

1204733-01B	1204733-02A	1204733-04B
1204733-06B		

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

**Client:** Olsson Associates  
**Project:** FEE 29 Spill  
**WorkOrder:** 1204733

**QUALIFIERS,  
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	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 detected below quantitation limit
M	Manually integrated, see raw data for justification
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

<u>Acronym</u>	<u>Description</u>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

<u>Units Reported</u>	<u>Description</u>
aturation as Deci	
meq/meq	
mg/Kg	Milligrams per Kilogram
mmhos/cm @25°C	
pH Units	
wt%	

## Sample Receipt Checklist

Client Name: **OLSSON ASSOC - GRAND JUNC**

Date/Time Received: **20-Apr-12 08:40**

Work Order: **1204733**

Received by: **PMG**

Checklist completed by Hector Coronado 21-Apr-12  
eSignature Date

Reviewed by: Patricia L. Lynch 11-May-12  
eSignature Date

Matrices: soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.0c</u> <u>0002</u>		
Cooler(s)/Kit(s):	<u>Lg Igloo R/W</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u>-</u>		

Login Notes:

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Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



Environmental

# Chain of Custody Form

Page 1 of 1

COC ID: 123456

- ☐ Cincinnati, OH  
+1 513 733 5336
- ☐ Everett, WA  
+1 425 356 2600
- ☐ Fort Collins, CO  
+1 970 490 1511

1204733

OLSSON ASSOC - GRAND JUNCTION: Olsson Associates

Project: FEE 29 Spill



Customer Information				Project Information				Parameter/Method Request for Analysis											
ALS Project Manager:				ALS Project Manager:				ALS Project Manager:											
Project Name				Project Name				Project Name											
Project Number				Project Number				Project Number											
Bill To Company				Bill To Company				Bill To Company											
Invoice Attn				Invoice Attn				Invoice Attn											
Address				Address				Address											
City/State/Zip				City/State/Zip				City/State/Zip											
Phone				Phone				Phone											
Fax				Fax				Fax											
e-Mail Address				e-Mail Address				e-Mail Address											
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	FEE 29-SS1	4/18/12	1510	Soil	NA	2	X	X	X	X	X	X	X	X	X	X			
2	FEE 29-BG1	4/18/12	1520	Soil	NA	2				X	X	X	X	X	X	X			
3	FEE 29-BG2	4/18/12	1530	Soil	NA	1													
4	FEE 29-SS2	4/18/12	1535	Soil	NA	2	X	X	X	X	X	X	X	X	X	X			
5	FEE 29-BG3	4/18/12	1545	Soil	NA	1													
6	FEE 29-SS3	4/18/12	1550	Soil	NA	2	X	X	X	X	X	X	X	X	X	X			
7																			
8																			
9																			
10																			
Sampler(s): Please Print & Sign				Shipment Method:				Required Turnaround Time:				Results Due Date:							
Tim Dobransky				FedEx				<input checked="" type="checkbox"/> STD 10 WK Days <input type="checkbox"/> 5 WK Days <input type="checkbox"/> 2 WK Days <input type="checkbox"/> 24 Hour				<input type="checkbox"/> Other							
Relinquished by:				Received by:				Notes:				Chevron Pricing Applies - Per Bruce Schlatter							
Date: 4/19/12				Time: 1700				QC Package: (Check Box Below)											
Relinquished by:				Received by (Laboratory):				Cooler Temp.				Level II: Standard QC							
Date:				Time:				Level III: Std QC + Raw Data											
Logged by (Laboratory):				Checked by (Laboratory):				Level IV: SW846 CLP-Like											
Date:				Time:				Other:											
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035																			

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

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