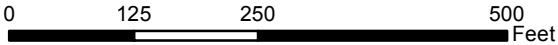


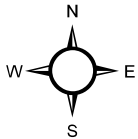


**Legend**

- Spill Origin
- Soil Sample Location
- Spill Path



1 inch = 193 feet



PROJECT NO:	009-0082	UNION PACIFIC 29-32 SPILL RESPONSE CHEVRON USA, INC RIO BLANCO COUNTY, COLORADO NESW S32 T2N R102W	 760 HORIZON DRIVE, SUITE 102 GRAND JUNCTION, CO 81506 TEL 970.263.7800 FAX 970.263.7456	FIGURE
DRAWN BY:	SBS			1
DATE:	01/28/2014			

Table 1  
UP 29-32 Spill Response  
Soil Data Summary

SAMPLE SUMMARY	
Location Description	UP 29-32 Spill
Sample Type	Soil

LABORATORY DATA SUMMARY														
Sample ID	UP 29-32-SS1	UP 29-32-SS2	UP 29-32-SS2	UP 29-32-SS2	UP 29-32-SS3	UP 29-32-SS3	UP 29-32-BG1	UP 29-32-BG2	UP 29-32-BG3	UP 29-32-BG4	UP 29-32-BG5	UP126X32-BG2	COGCC TABLE 910-1 CONCENTRATION LEVELS	UNITS
Depth	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"		
Sample Date	2/7/2012	2/7/2012	3/1/2012	4/18/2012	2/7/2012	4/18/2012	2/7/2012	2/7/2012	2/7/2012	4/18/2012	10/8/2013	7/31/2013		
Analytical Parameters														
TPH														
TPH Gasoline Range Organics	<16	<16	NT	NT	<14	NT	NT	NT	NT	NT	NT	NT	500	mg/kg
TPH Diesel Range Organics	32.9	1310	191	NT	39.3	NT	NT	NT	NT	NT	NT	NT		
BTEX														
Benzene	<0.078	<0.078	NT	NT	<0.069	NT	NT	NT	NT	NT	NT	NT	0.17	mg/kg
Toluene	<0.160	<0.160	NT	NT	<0.140	NT	NT	NT	NT	NT	NT	NT	85	mg/kg
Ethylbenzene	<0.160	<0.160	NT	NT	<0.140	NT	NT	NT	NT	NT	NT	NT	100	mg/kg
Total Xylene	<0.310	<0.310	NT	NT	<0.280	NT	NT	NT	NT	NT	NT	NT	175	mg/kg
Metals														
Arsenic	6.5	5.1	NT	NT	5.2	NT	4.5	5.6	4.5	5.3	4.5	6.3	0.39	mg/kg
Barium	456	6760	NT	NT	214	NT	197	NT	NT	NT	NT	NT	15,000	mg/kg
Cadmium	<1.2	<1.3	NT	NT	<1.1	NT	<1.1	NT	NT	NT	NT	NT	70	mg/kg
Chromium	15.0	14.0	NT	NT	11.8	NT	14.5	NT	NT	NT	NT	NT	NA	mg/kg
Copper	19.2	16.2	NT	NT	17.0	NT	17.8	NT	NT	NT	NT	NT	3,100	mg/kg
Lead	21.1	179	NT	NT	16.9	NT	18.3	NT	NT	NT	NT	NT	400	mg/kg
Mercury	<0.12	<0.12	NT	NT	<0.11	NT	<0.11	NT	NT	NT	NT	NT	23	mg/kg
Nickel	17.2	19.6	NT	NT	18.6	NT	18.3	NT	NT	NT	NT	NT	1,600	mg/kg
Selenium	<6.2	<6.4	NT	NT	<5.7	NT	<5.7	NT	NT	NT	NT	NT	390	mg/kg
Silver	<3.7	<3.8	NT	NT	<3.4	NT	<3.4	NT	NT	NT	NT	NT	390	mg/kg
Zinc	85.0	191	NT	NT	77.1	NT	84.0	NT	NT	NT	NT	NT	23,000	mg/kg
SAR Metals Analysis														
Calcium	211	285	NT	82.9	700	NT	173	NT	NT	NT	NT	NT	NA	mg/L
Magnesium	62.5	36.1	NT	11.2	57.9	NT	25.9	NT	NT	NT	NT	NT	NA	mg/L
Sodium	684	969	NT	38.1	291	NT	216	NT	NT	NT	NT	NT	NA	mg/L
Sodium Adsorption Ratio	10.6	14.4	NT	1.04	2.84	NT	4.05	NT	NT	NT	NT	NT	<12	
Polynuclear Aromatic Hyrdrocarbons														
Acenaphthene	<0.0085	<0.034	NT	NT	<0.0080	NT	NT	NT	NT	NT	NT	NT	1,000	mg/kg
Anthracene	<0.0085	<0.34	NT	NT	<0.0080	NT	NT	NT	NT	NT	NT	NT	1,000	mg/kg
Benzo(a)anthracene	<0.021	<0.420 <sup>a</sup>	NT	NT	<0.020	NT	NT	NT	NT	NT	NT	NT	0.22	mg/kg
Benzo(a)pyrene	<0.021	<0.420 <sup>a</sup>	NT	NT	<0.020	NT	NT	NT	NT	NT	NT	NT	0.022	mg/kg
Benzo(b)fluoranthene	<0.021	<0.420 <sup>a</sup>	NT	NT	<0.020	NT	NT	NT	NT	NT	NT	NT	0.22	mg/kg
Benzo(k)fluoranthene	<0.021	<0.420 <sup>a</sup>	NT	NT	<0.020	NT	NT	NT	NT	NT	NT	NT	2.2	mg/kg
Chrysene	<0.021	<0.420 <sup>a</sup>	NT	NT	<0.020	NT	NT	NT	NT	NT	NT	NT	22	mg/kg
Dibenzo(a,h)anthracene	<0.021	<0.420 <sup>a</sup>	NT	NT	<0.020	NT	NT	NT	NT	NT	NT	NT	0.022	mg/kg
Fluoranthene	<0.0085	<0.034	NT	NT	<0.0080	NT	NT	NT	NT	NT	NT	NT	1,000	mg/kg
Fluorene	<0.0085	<0.034	NT	NT	<0.0080	NT	NT	NT	NT	NT	NT	NT	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	<0.026	<0.510 <sup>a</sup>	NT	NT	<0.024	NT	NT	NT	NT	NT	NT	NT	0.22	mg/kg
Napthalene	<0.0085	0.0371	NT	NT	<0.0080	NT	NT	NT	NT	NT	NT	NT	23	mg/kg
Pyrene	<0.0085	<0.170 <sup>a</sup>	NT	NT	<0.0080	NT	NT	NT	NT	NT	NT	NT	1,000	mg/kg
General Chemistry														
Chromium, Hexavalent	<0.49	<0.49	NT	NT	<0.47	NT	<0.46	NT	NT	NT	NT	NT	23	mg/kg
Chromium, Trivalent	14.7	13.7	NT	NT	11.4	NT	14.2	NT	NT	NT	NT	NT	120,000	mg/kg
Redox Potential Vs H2	447	481	NT	NT	520	NT	449	NT	NT	NT	NT	NT	NA	mv
Solids, Percent	78.2	78.4	NT	NT	83.5	NT	87.4	NT	NT	NT	NT	NT	NA	%
Specific Conductivity	3.82	6.31	NT	1.22	4.72	3.32	1.810	NT	NT	NT	NT	NT	<4 or 2 x the background	mmhos/cm
pH	8.91	8.34	NT	NT	8.09	NT	8.79	NT	NT	NT	NT	NT	6-9	su

a - Result is from Run #2  
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 Level but under BACKGROUND level.  
Over COGCC Table 910-1 Concentration Level and not within BACKGROUND level.  
Over COGCC Table 910-1 Concentration Level



18-Oct-2013

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

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

Re: UP 29-32 Spill Followup

Work Order: **1310608**

Dear Tim,

ALS Environmental received 1 sample on 10-Oct-2013 09:10 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 10.

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

Sincerely,

A handwritten signature in black ink that reads "Sonia West".

Electronically approved by: Jumoke M. Lawal

Sonia West  
Project Manager



Certificate No: T104704231-13-12

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

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**Client:** Olsson Associates  
**Project:** UP 29-32 Spill Followup  
**Work Order:** 1310608

**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>
1310608-01	UP 29-32-BG5	Soil		10/8/2013 12:15	10/10/2013 09:10	<input type="checkbox"/>

## ALS Environmental

*Date: 18-Oct-13*

---

**Client:** Olsson Associates  
**Project:** UP 29-32 Spill Followup  
**Work Order:** 1310608

---

### Case Narrative

Batch 73886, Total Metals 6020, Sample UP 29-32-BG5 (1310608-01A): DUP RPD is outside of the control limits due to matrix interference.

## ALS Environmental

Date: 18-Oct-13

**Client:** Olsson Associates  
**Project:** UP 29-32 Spill Followup  
**Sample ID:** UP 29-32-BG5  
**Collection Date:** 10/8/2013 12:15 PM

**Work Order:** 1310608  
**Lab ID:** 1310608-01  
**Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<b>METALS</b>			<b>SW6020</b>		SW3050A		Analyst: <b>ALR</b>
Arsenic	4.49		0.422	mg/Kg	1	10/17/2013	10/17/2013 03:42 PM

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

**Work Order:** 1310608  
**Client:** Olsson Associates  
**Project:** UP 29-32 Spill Followup

## DATES REPORT

Sample ID	Client Sample ID	Matrix	Collection Date	TCLP Date	Prep Date	Analysis Date
<b><u>Batch ID</u></b> 73886		<b><u>Test Name:</u></b> Metals				
1310608-01A	UP 29-32-BG5	Soil	10/8/2013 12:15:00 PM		10/17/2013 11:00 AM	10/17/2013 03:42 PM

# ALS Environmental

Date: 18-Oct-13

**Client:** Olsson Associates  
**Work Order:** 1310608  
**Project:** UP 29-32 Spill Followup

## QC BATCH REPORT

Batch ID: **73886** Instrument ID **ICP7500** Method: **SW6020**

**MBLK** Sample ID: **MBLKS1-101713-73886** Units: **mg/Kg** Analysis Date: **10/17/2013 02:12 PM**

Client ID: Run ID: **ICP7500\_131017A** SeqNo: **3396967** Prep Date: **10/17/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.500								

**LCS** Sample ID: **MLCSS1-101713-73886** Units: **mg/Kg** Analysis Date: **10/17/2013 02:17 PM**

Client ID: Run ID: **ICP7500\_131017A** SeqNo: **3396968** Prep Date: **10/17/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.67	0.500	10	0	96.7	80-120				

**MS** Sample ID: **1310608-01AMS** Units: **mg/Kg** Analysis Date: **10/17/2013 03:56 PM**

Client ID: **UP 29-32-BG5** Run ID: **ICP7500\_131017A** SeqNo: **3397046** Prep Date: **10/17/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.16	0.450	8.999	4.488	96.3	75-125				

**MSD** Sample ID: **1310608-01AMSD** Units: **mg/Kg** Analysis Date: **10/17/2013 04:01 PM**

Client ID: **UP 29-32-BG5** Run ID: **ICP7500\_131017A** SeqNo: **3397047** Prep Date: **10/17/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	13.68	0.452	9.04	4.488	102	75-125	13.16	3.88	25	

**DUP** Sample ID: **1310608-01ADUP** Units: **mg/Kg** Analysis Date: **10/17/2013 03:47 PM**

Client ID: **UP 29-32-BG5** Run ID: **ICP7500\_131017A** SeqNo: **3397044** Prep Date: **10/17/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	5.959	0.415					4.488	28.2	25	R

The following samples were analyzed in this batch:

1310608-01A

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

QC Page: 1 of 1



**Client:** Olsson Associates  
**Project:** UP 29-32 Spill Followup  
**WorkOrder:** 1310608

## **QUALIFIERS, ACRONYMS, UNITS**

<b><u>Qualifier</u></b>	<b><u>Description</u></b>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte 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

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

<b><u>Units Reported</u></b>	<b><u>Description</u></b>
mg/Kg	Milligrams per Kilogram

## Sample Receipt Checklist

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

Date/Time Received: **10-Oct-13 09:10**

Work Order: **1310608**

Received by: **RDH**

Checklist completed by Sonia West

11-Oct-13

Reviewed by:

eSignature

Date

eSignature

Date

Matrices: Soil

Carrier name: FedEx

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

Not Present ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Container/Temp Blank temperature in compliance?

Yes ☒

No ☐

Temperature(s)/Thermometer(s):

4.1C/4.1C u/c

IR1

Cooler(s)/Kit(s):

Large Red/White

Date/Time sample(s) sent to storage:

10/11/13 17:09

Water - VOA vials have zero headspace?

Yes ☐

No ☐

No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

pH adjusted?

Yes ☐

No ☐

N/A ☒

pH adjusted by:

-

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



## Chain of Custody Form

Page 1 of 1

COC ID: 123456

# Environmental

☐ Cincinnati, OH  
+1 513 733 5336

☐ Everett, WA  
+1 425 356 2600

☐ Fort Collins, CO  
+1 970 490 1511

☐ Cincinnati, OH  
+1 513 733 5336

☐ Everett, WA  
☐ +1 425 356 2600

Project: UP 29-32 Spill Followup

1310608

OLSSON ASSOC - GRAND JUNCTION: Olsson Associates

Environmental

COC ID: 125450

41 970 450 1511

Customer Information				Project Information				ALS Project Manager:				Parameter/Method Request for Analysis							
Purchase Order				Project Name	UP 29-32 Spill Followup			A	TPH (GRO & DRO)										
Work Order				Project Number	9.0082.203.203004			B	BTX										
Company Name	Olsson Associates			Bill To Company	Olsson Associates			C	PAH (See Attached List)										
Send Report To	Tim Dobransky			Invoice Attn:	Tim Dobransky			D	Electrical Conductivity										
Address	760 Horizon Drive Grand Junction, CO			City/State/Zip	Grand Junction, CO			E	Sodium Adsorption Ratio										
Phone	970.263.7800			Phone	970.263.7800			F	pH										
Fax	970.263.7456			Fax	970.263.7456			G	Metals (See Attached List)										
e-Mail Address	dobransky@oacconsulting.com			e-Mail Address				H	Arsenic Only										
No.	Sample Description			Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	UP 29-32-BG5			10/08/13	1215	Soil	NA	1								X			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
Sampler(s): Please Print & Sign Tim Dobransky				Shipment Method: FedEx				Required Turnaround Time: <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> Other _____				Results Due Date: <input type="checkbox"/> 24 Hour							
Relinquished by: [Signature]				Received by: [Signature]				Notes: Chevron Pricing Applies - Per Bruce Schlatter											
Date: 10/9/13				Time: 1700				QC Package: (Check Box Below) <input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Std QC + Raw Data <input type="checkbox"/> Level IV: SW846 CLP-Like Other: _____											
Relinquished by: [Signature]				Received by: [Signature]				Cooler Temp. X											
Date: 10/9/13				Time: 1700				Checked by (Laboratory): [Signature]											
Date: 10/9/13				Time: 1700				Logged by (Laboratory): [Signature]											
Date: 10/9/13				Time: 1700				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.**

Copyright 2011 by ALS Group

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

GRAND JUNCTION, CO 81506  
UNITED STATES US

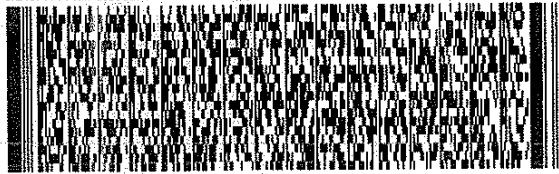
SHIP DATE: 09OCT13  
ACTWGT: 45.0 LB MAN  
CAD: 390082/CAFE2704

BILL SENDER

1310608

TO **SAMPLE RECEIVING**  
**ALS ENVIRONMENTAL**  
**10450 STANCLIFF RD. #210**

**HOUSTON TX 77099**  
(281) 530-5656  
**PO: 9.0082.203.203004**



**FedEx**  
Express

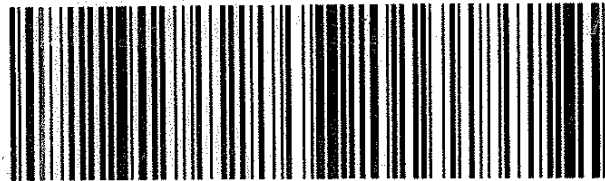


TRK# **5632 6808 3408**  
0201

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

**XH SGRA**

**77099**  
**TX-US IAH**



**ALS Environmental**

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

Date: /0  
Name:  
Company:

**CUSTODY SEAL**

9/13 Time: 1700  
TIM DOBRANSKY  
Olsson Assoc.

Seal Broken By:

ASH  
Date: 10/10/13



13-Aug-2013

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

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

Re: Chevron UP 126X32 Spill 9.0082.203.203004

Work Order: **1308146**

Dear Tim,

ALS Environmental received 6 samples on 03-Aug-2013 09:35 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 34.

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

Sincerely,

A handwritten signature in black ink that reads "Sonia West".

Electronically approved by: Luke F. Hernandez

Sonia West  
Project Manager



Certificate No: T104704231-13-12

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

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**Client:** Olsson Associates  
**Project:** Chevron UP 126X32 Spill 9.0082.203.203004  
**Work Order:** 1308146

## 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>
1308146-01	UP126X32-SS1	Soil		7/31/2013 11:00	8/3/2013 09:35	<input type="checkbox"/>
1308146-02	UP126X32-BG1	Soil		7/31/2013 11:05	8/3/2013 09:35	<input type="checkbox"/>
1308146-03	UP126X32-SS2	Soil		7/31/2013 11:20	8/3/2013 09:35	<input type="checkbox"/>
1308146-04	UP126X325-BG2	Soil		7/31/2013 11:30	8/3/2013 09:35	<input type="checkbox"/>
1308146-05	UP126X32-SS3	Soil		7/31/2013 11:45	8/3/2013 09:35	<input type="checkbox"/>
1308146-06	UP126X32-BG3	Soil		7/31/2013 11:50	8/3/2013 09:35	<input type="checkbox"/>

Client: Olsson Associates

Project: Chevron UP 126X32 Spill 9.0082.203.203004

Work Order: 1308146

## Case Narrative

Ó&@ GFGÖÜUÁ €Í T ËUæ ]|^ÁHè Fİ î ÊFÔKÁ ÙET ÙÖÁ^Á; Á} |^æ^áÁæ ]|^È  
Á  
Ó&@ GFFİ ÊV[ çÁ^ çÁ Á €GËUæ ]|^ÁHè Fİ î ÊFÔKÁ ÙET ÙÖÁ^Á; Á} |^æ^áÁæ ]|^È

# ALS Environmental

Date: 13-Aug-13

Client: Olsson Associates

Project: Chevron UP 126X32 Spill 9.0082.203.203004

Work Order: 1308146

Sample ID: UP126X32-SS1

Lab ID: 1308146-01

Collection Date: 7/31/2013 11:00 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<b>TPH (DRO) - 8015C</b>			<b>SW8015M</b>		SW3541		Analyst: <b>RPM</b>
DRO (>C10 - C28)	66		3.4 mg/Kg		2	8/7/2013	8/8/2013 10:08 AM
Surr: 2-Fluorobiphenyl	66.9		60-135 %REC		2	8/7/2013	8/8/2013 10:08 AM
<b>GASOLINE RANGE ORGANICS - SW8015C</b>			<b>SW8015</b>				Analyst: <b>KKP</b>
Gasoline Range Organics	U		0.050 mg/Kg		1		8/7/2013 06:16 PM
Surr: 4-Bromofluorobenzene	84.1		70-130 %REC		1		8/7/2013 06:16 PM
<b>TRIVALENT CHROMIUM</b>			<b>CALCULATION</b>				Analyst: <b>SKS</b>
Chromium, Trivalent	10.3		5.00 mg/Kg		1		8/13/2013
<b>MERCURY - SW7471B</b>			<b>SW7471A</b>		SW7471A		Analyst: <b>OFO</b>
Mercury	0.0306		0.00339 mg/Kg		1	8/6/2013	8/6/2013 02:31 PM
<b>METALS</b>			<b>SW6020</b>		SW3050A		Analyst: <b>SKS</b>
Arsenic	6.33		0.464 mg/Kg		1	8/7/2013	8/7/2013 07:32 PM
Barium	90.3		0.464 mg/Kg		1	8/7/2013	8/7/2013 07:32 PM
Cadmium	0.609		0.464 mg/Kg		1	8/7/2013	8/7/2013 07:32 PM
Chromium	10.3		0.464 mg/Kg		1	8/7/2013	8/7/2013 07:32 PM
Copper	15.3		0.464 mg/Kg		1	8/7/2013	8/7/2013 07:32 PM
Lead	16.3		0.464 mg/Kg		1	8/7/2013	8/7/2013 07:32 PM
Nickel	19.2		0.464 mg/Kg		1	8/7/2013	8/7/2013 07:32 PM
Selenium	2.91		0.464 mg/Kg		1	8/7/2013	8/7/2013 07:32 PM
Silver	0.0885	J	0.464 mg/Kg		1	8/7/2013	8/7/2013 07:32 PM
Zinc	79.4		0.928 mg/Kg		1	8/7/2013	8/7/2013 07:32 PM
<b>LA 29B - 1:1 SOLUBLE CATIONS FOR SAR</b>			<b>LA29B-6020</b>		La29B-6020		Analyst: <b>SKS</b>
Calcium	486		50.0 mg/L		100	8/7/2013	8/9/2013 01:42 PM
Magnesium	156		50.0 mg/L		100	8/7/2013	8/9/2013 01:42 PM
Sodium	2,640		50.0 mg/L		100	8/7/2013	8/9/2013 01:42 PM
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		La29B-6020		Analyst: <b>ALR</b>
Sodium Adsorption Ratio	26.7		0.0100 meq/meq		1	8/7/2013	8/12/2013
<b>LOW-LEVEL PAHS</b>			<b>SW8270</b>		SW3541		Analyst: <b>ACN</b>
Acenaphthene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 03:16 PM
Anthracene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 03:16 PM
Benz(a)anthracene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 03:16 PM
Benzo(a)pyrene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 03:16 PM
Benzo(b)fluoranthene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 03:16 PM
Benzo(k)fluoranthene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 03:16 PM
Chrysene	0.022		0.0066 mg/Kg		1	8/7/2013	8/7/2013 03:16 PM
Dibenz(a,h)anthracene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 03:16 PM

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



# ALS Environmental

Date: 13-Aug-13

Client: Olsson Associates

Project: Chevron UP 126X32 Spill 9.0082.203.203004

Work Order: 1308146

Sample ID: UP126X32-SS1

Lab ID: 1308146-01

Collection Date: 7/31/2013 11:00 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<b>Fluoranthene</b>	<b>0.0027</b>	J	<b>0.0066</b>	<b>mg/Kg</b>	1	8/7/2013	8/7/2013 03:16 PM
<b>Fluorene</b>	<b>0.0087</b>		<b>0.0066</b>	<b>mg/Kg</b>	1	8/7/2013	8/7/2013 03:16 PM
Indeno(1,2,3-cd)pyrene	U		0.0066	mg/Kg	1	8/7/2013	8/7/2013 03:16 PM
<b>Naphthalene</b>	<b>0.0023</b>	J	<b>0.0066</b>	<b>mg/Kg</b>	1	8/7/2013	8/7/2013 03:16 PM
<b>Pyrene</b>	<b>0.0048</b>	J	<b>0.0066</b>	<b>mg/Kg</b>	1	8/7/2013	8/7/2013 03:16 PM
Surr: 2-Fluorobiphenyl	66.9		43-125	%REC	1	8/7/2013	8/7/2013 03:16 PM
Surr: 4-Terphenyl-d14	93.4		32-125	%REC	1	8/7/2013	8/7/2013 03:16 PM
Surr: Nitrobenzene-d5	63.1		37-125	%REC	1	8/7/2013	8/7/2013 03:16 PM
<b>VOLATILES - SW8260C</b>			<b>SW8260</b>	Analyst: <b>WLR</b>			
Benzene	U		0.0050	mg/Kg	1		8/8/2013 10:57 AM
Ethylbenzene	U		0.0050	mg/Kg	1		8/8/2013 10:57 AM
m,p-Xylene	U		0.010	mg/Kg	1		8/8/2013 10:57 AM
o-Xylene	U		0.0050	mg/Kg	1		8/8/2013 10:57 AM
Toluene	U		0.0050	mg/Kg	1		8/8/2013 10:57 AM
Xylenes, Total	U		0.010	mg/Kg	1		8/8/2013 10:57 AM
Surr: 1,2-Dichloroethane-d4	104		70-128	%REC	1		8/8/2013 10:57 AM
Surr: 4-Bromofluorobenzene	97.5		73-126	%REC	1		8/8/2013 10:57 AM
Surr: Dibromofluoromethane	102		71-128	%REC	1		8/8/2013 10:57 AM
Surr: Toluene-d8	95.9		73-127	%REC	1		8/8/2013 10:57 AM
<b>HEXAVALENT CHROMIUM - SW7196A</b>			<b>SW7196</b>	SW3060A Analyst: <b>KKB</b>			
Chromium, Hexavalent	U		1.92	mg/Kg	1	8/12/2013	8/12/2013 12:00 PM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>	Analyst: <b>PPM</b>			
Electrical Conductivity @ saturation	20.4		0.0100	mmhos/cm @25°C	1		8/9/2013 02:30 PM
Electrical Conductivity, 1:1 aqueous	11.1		0.0100	mmhos/cm @25°C	1		8/9/2013 02:30 PM
<b>LA29B SATURATION POINT (AS FRACTION)</b>			<b>LADNR-29B SP</b>	Analyst: <b>KAH</b>			
Saturation Point	0.544		0.100	SP as fraction	1		8/8/2013 11:00 AM
<b>MOISTURE</b>			<b>SW3550</b>	Analyst: <b>KAH</b>			
Percent Moisture	6.09		0.0100	wt%	1		8/9/2013 02:05 PM
<b>PH - SOIL - SW9045D</b>			<b>SW9045B</b>	Analyst: <b>TBS</b>			
pH	8.37		0.100	pH Units	1		8/12/2013 11:15 AM

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

# ALS Environmental

Date: 13-Aug-13

Client: Olsson Associates

Project: Chevron UP 126X32 Spill 9.0082.203.203004

Work Order: 1308146

Sample ID: UP126X32-BG1

Lab ID: 1308146-02

Collection Date: 7/31/2013 11:05 AM

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	12.5		5.00	mg/Kg	1		8/13/2013
<b>MERCURY - SW7471B</b>			<b>SW7471A</b>			Analyst: <b>OFO</b>	
Mercury	0.0241		0.00345	mg/Kg	1	8/6/2013	8/6/2013 02:33 PM
<b>METALS</b>			<b>SW6020</b>			Analyst: <b>SKS</b>	
Arsenic	5.34		0.487	mg/Kg	1	8/7/2013	8/7/2013 07:35 PM
Barium	104		0.487	mg/Kg	1	8/7/2013	8/7/2013 07:35 PM
Cadmium	0.416	J	0.487	mg/Kg	1	8/7/2013	8/7/2013 07:35 PM
Chromium	12.5		0.487	mg/Kg	1	8/7/2013	8/7/2013 07:35 PM
Copper	14.4		0.487	mg/Kg	1	8/7/2013	8/7/2013 07:35 PM
Lead	15.5		0.487	mg/Kg	1	8/7/2013	8/7/2013 07:35 PM
Nickel	18.3		0.487	mg/Kg	1	8/7/2013	8/7/2013 07:35 PM
Selenium	1.84		0.487	mg/Kg	1	8/7/2013	8/7/2013 07:35 PM
Silver	0.0803	J	0.487	mg/Kg	1	8/7/2013	8/7/2013 07:35 PM
Zinc	77.3		0.975	mg/Kg	1	8/7/2013	8/7/2013 07:35 PM
<b>LA 29B - 1:1 SOLUBLE CATIONS FOR SAR</b>			<b>LA29B-6020</b>			Analyst: <b>SKS</b>	
Calcium	1,980		49.9	mg/L	100	8/7/2013	8/9/2013 01:45 PM
Magnesium	103		49.9	mg/L	100	8/7/2013	8/9/2013 01:45 PM
Sodium	557		49.9	mg/L	100	8/7/2013	8/9/2013 01:45 PM
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>			Analyst: <b>ALR</b>	
Sodium Adsorption Ratio	3.31		0.0100	meq/meq	1	8/7/2013	8/12/2013
<b>HEXAVALENT CHROMIUM - SW7196A</b>			<b>SW7196</b>			Analyst: <b>KKB</b>	
Chromium, Hexavalent	U		1.95	mg/Kg	1	8/12/2013	8/12/2013 12:00 PM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>PPM</b>	
Electrical Conductivity @ saturation	11.6		0.0100	mmhos/cm @25°C	1		8/9/2013 02:30 PM
Electrical Conductivity, 1:1 aqueous	5.94		0.0100	mmhos/cm @25°C	1		8/9/2013 02:30 PM
<b>LA29B SATURATION POINT (AS FRACTION)</b>			<b>LADNR-29B SP</b>			Analyst: <b>KAH</b>	
Saturation Point	0.514		0.100	SP as fraction	1		8/8/2013 11:00 AM
<b>MOISTURE</b>			<b>SW3550</b>			Analyst: <b>KAH</b>	
Percent Moisture	5.49		0.0100	wt%	1		8/9/2013 02:05 PM
<b>PH - SOIL - SW9045D</b>			<b>SW9045B</b>			Analyst: <b>TBS</b>	
pH	8.02		0.100	pH Units	1		8/12/2013 11:15 AM

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

# ALS Environmental

Date: 13-Aug-13

Client: Olsson Associates

Project: Chevron UP 126X32 Spill 9.0082.203.203004

Work Order: 1308146

Sample ID: UP126X32-SS2

Lab ID: 1308146-03

Collection Date: 7/31/2013 11:20 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<b>TPH (DRO) - 8015C</b>			<b>SW8015M</b>		SW3541		Analyst: <b>RPM</b>
DRO (>C10 - C28)	190		17 mg/Kg		10	8/7/2013	8/8/2013 10:31 AM
Surr: 2-Fluorobiphenyl	74.9		60-135 %REC		10	8/7/2013	8/8/2013 10:31 AM
<b>GASOLINE RANGE ORGANICS - SW8015C</b>			<b>SW8015</b>				Analyst: <b>KKP</b>
Gasoline Range Organics	U		0.050 mg/Kg		1		8/7/2013 06:32 PM
Surr: 4-Bromofluorobenzene	82.4		70-130 %REC		1		8/7/2013 06:32 PM
<b>TRIVALENT CHROMIUM</b>			<b>CALCULATION</b>				Analyst: <b>SKS</b>
Chromium, Trivalent	10.5		5.00 mg/Kg		1		8/13/2013
<b>MERCURY - SW7471B</b>			<b>SW7471A</b>		SW7471A		Analyst: <b>OFO</b>
Mercury	0.0278		0.00341 mg/Kg		1	8/6/2013	8/6/2013 02:35 PM
<b>METALS</b>			<b>SW6020</b>		SW3050A		Analyst: <b>SKS</b>
Arsenic	5.25		0.462 mg/Kg		1	8/7/2013	8/7/2013 07:37 PM
Barium	261		4.62 mg/Kg		10	8/7/2013	8/8/2013 02:55 PM
Cadmium	0.305	J	0.462 mg/Kg		1	8/7/2013	8/7/2013 07:37 PM
Chromium	10.5		0.462 mg/Kg		1	8/7/2013	8/7/2013 07:37 PM
Copper	15.3		0.462 mg/Kg		1	8/7/2013	8/7/2013 07:37 PM
Lead	17.2		0.462 mg/Kg		1	8/7/2013	8/7/2013 07:37 PM
Nickel	19.4		0.462 mg/Kg		1	8/7/2013	8/7/2013 07:37 PM
Selenium	1.97		0.462 mg/Kg		1	8/7/2013	8/7/2013 07:37 PM
Silver	0.0972	J	0.462 mg/Kg		1	8/7/2013	8/7/2013 07:37 PM
Zinc	83.3		0.924 mg/Kg		1	8/7/2013	8/7/2013 07:37 PM
<b>LA 29B - 1:1 SOLUBLE CATIONS FOR SAR</b>			<b>LA29B-6020</b>		La29B-6020		Analyst: <b>SKS</b>
Calcium	1,810		50.0 mg/L		100	8/7/2013	8/9/2013 01:52 PM
Magnesium	95.5		50.0 mg/L		100	8/7/2013	8/9/2013 01:52 PM
Sodium	485		50.0 mg/L		100	8/7/2013	8/9/2013 01:52 PM
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		La29B-6020		Analyst: <b>ALR</b>
Sodium Adsorption Ratio	3.01		0.0100 meq/meq		1	8/7/2013	8/12/2013
<b>LOW-LEVEL PAHS</b>			<b>SW8270</b>		SW3541		Analyst: <b>ACN</b>
Acenaphthene	0.015		0.0066 mg/Kg		1	8/7/2013	8/7/2013 02:56 PM
Anthracene	0.036		0.0066 mg/Kg		1	8/7/2013	8/7/2013 02:56 PM
Benz(a)anthracene	0.045		0.0066 mg/Kg		1	8/7/2013	8/7/2013 02:56 PM
Benzo(a)pyrene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 02:56 PM
Benzo(b)fluoranthene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 02:56 PM
Benzo(k)fluoranthene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 02:56 PM
Chrysene	0.038		0.0066 mg/Kg		1	8/7/2013	8/7/2013 02:56 PM
Dibenz(a,h)anthracene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 02:56 PM

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

# ALS Environmental

Date: 13-Aug-13

Client: Olsson Associates

Project: Chevron UP 126X32 Spill 9.0082.203.203004

Work Order: 1308146

Sample ID: UP126X32-SS2

Lab ID: 1308146-03

Collection Date: 7/31/2013 11:20 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<b>Fluoranthene</b>	<b>0.054</b>		<b>0.0066</b>	<b>mg/Kg</b>	1	8/7/2013	8/7/2013 02:56 PM
<b>Fluorene</b>	<b>0.036</b>		<b>0.0066</b>	<b>mg/Kg</b>	1	8/7/2013	8/7/2013 02:56 PM
Indeno(1,2,3-cd)pyrene	U		0.0066	mg/Kg	1	8/7/2013	8/7/2013 02:56 PM
<b>Naphthalene</b>	<b>0.0033</b>	J	<b>0.0066</b>	<b>mg/Kg</b>	1	8/7/2013	8/7/2013 02:56 PM
<b>Pyrene</b>	<b>0.039</b>		<b>0.0066</b>	<b>mg/Kg</b>	1	8/7/2013	8/7/2013 02:56 PM
Surr: 2-Fluorobiphenyl	69.8		43-125	%REC	1	8/7/2013	8/7/2013 02:56 PM
Surr: 4-Terphenyl-d14	97.9		32-125	%REC	1	8/7/2013	8/7/2013 02:56 PM
Surr: Nitrobenzene-d5	67.5		37-125	%REC	1	8/7/2013	8/7/2013 02:56 PM
<b>VOLATILES - SW8260C</b>			<b>SW8260</b>	Analyst: <b>WLR</b>			
Benzene	U		0.0050	mg/Kg	1		8/8/2013 11:21 AM
Ethylbenzene	U		0.0050	mg/Kg	1		8/8/2013 11:21 AM
m,p-Xylene	U		0.010	mg/Kg	1		8/8/2013 11:21 AM
o-Xylene	U		0.0050	mg/Kg	1		8/8/2013 11:21 AM
Toluene	U		0.0050	mg/Kg	1		8/8/2013 11:21 AM
Xylenes, Total	U		0.010	mg/Kg	1		8/8/2013 11:21 AM
Surr: 1,2-Dichloroethane-d4	101		70-128	%REC	1		8/8/2013 11:21 AM
Surr: 4-Bromofluorobenzene	99.0		73-126	%REC	1		8/8/2013 11:21 AM
Surr: Dibromofluoromethane	99.4		71-128	%REC	1		8/8/2013 11:21 AM
Surr: Toluene-d8	97.1		73-127	%REC	1		8/8/2013 11:21 AM
<b>HEXAVALENT CHROMIUM - SW7196A</b>			<b>SW7196</b>	SW3060A Analyst: <b>KKB</b>			
Chromium, Hexavalent	U		1.96	mg/Kg	1	8/12/2013	8/12/2013 12:00 PM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>	Analyst: <b>PPM</b>			
Electrical Conductivity @ saturation	14.6		0.0100	mmhos/cm @25°C	1		8/9/2013 02:30 PM
Electrical Conductivity, 1:1 aqueous	7.57		0.0100	mmhos/cm @25°C	1		8/9/2013 02:30 PM
<b>LA29B SATURATION POINT (AS FRACTION)</b>			<b>LADNR-29B SP</b>	Analyst: <b>KAH</b>			
Saturation Point	0.520		0.100	SP as fraction	1		8/8/2013 11:00 AM
<b>MOISTURE</b>			<b>SW3550</b>	Analyst: <b>KAH</b>			
Percent Moisture	4.92		0.0100	wt%	1		8/9/2013 02:05 PM
<b>PH - SOIL - SW9045D</b>			<b>SW9045B</b>	Analyst: <b>TBS</b>			
pH	7.65		0.100	pH Units	1		8/12/2013 11:15 AM

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

## ALS Environmental

Date: 13-Aug-13

Client: Olsson Associates

Project: Chevron UP 126X32 Spill 9.0082.203.203004

Sample ID: UP126X325-BG2

Collection Date: 7/31/2013 11:30 AM

Work Order: 1308146

Lab ID: 1308146-04

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<b>METALS</b>			<b>SW6020</b>		SW3050A		Analyst: <b>SKS</b>
Arsenic	6.28		0.492	mg/Kg	1	8/7/2013	8/7/2013 07:39 PM

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

# ALS Environmental

Date: 13-Aug-13

Client: Olsson Associates

Project: Chevron UP 126X32 Spill 9.0082.203.203004

Work Order: 1308146

Sample ID: UP126X32-SS3

Lab ID: 1308146-05

Collection Date: 7/31/2013 11:45 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<b>TPH (DRO) - 8015C</b>			<b>SW8015M</b>		SW3541		Analyst: <b>RPM</b>
DRO (>C10 - C28)	58		8.5 mg/Kg		5	8/7/2013	8/8/2013 10:55 AM
Surr: 2-Fluorobiphenyl	72.9		60-135 %REC		5	8/7/2013	8/8/2013 10:55 AM
<b>GASOLINE RANGE ORGANICS - SW8015C</b>			<b>SW8015</b>				Analyst: <b>KKP</b>
Gasoline Range Organics	U		0.050 mg/Kg		1		8/7/2013 06:48 PM
Surr: 4-Bromofluorobenzene	83.0		70-130 %REC		1		8/7/2013 06:48 PM
<b>TRIVALENT CHROMIUM</b>			<b>CALCULATION</b>				Analyst: <b>SKS</b>
Chromium, Trivalent	11.5		5.00 mg/Kg		1		8/13/2013
<b>MERCURY - SW7471B</b>			<b>SW7471A</b>		SW7471A		Analyst: <b>OFO</b>
Mercury	0.0178		0.00341 mg/Kg		1	8/6/2013	8/6/2013 02:37 PM
<b>METALS</b>			<b>SW6020</b>		SW3050A		Analyst: <b>SKS</b>
Arsenic	6.58		0.493 mg/Kg		1	8/7/2013	8/7/2013 07:47 PM
Barium	281		4.93 mg/Kg		10	8/7/2013	8/8/2013 03:02 PM
Cadmium	0.376	J	0.493 mg/Kg		1	8/7/2013	8/7/2013 07:47 PM
Chromium	11.5		0.493 mg/Kg		1	8/7/2013	8/7/2013 07:47 PM
Copper	16.3		0.493 mg/Kg		1	8/7/2013	8/7/2013 07:47 PM
Lead	18.5		0.493 mg/Kg		1	8/7/2013	8/7/2013 07:47 PM
Nickel	18.1		0.493 mg/Kg		1	8/7/2013	8/7/2013 07:47 PM
Selenium	1.64		0.493 mg/Kg		1	8/7/2013	8/7/2013 07:47 PM
Silver	0.0925	J	0.493 mg/Kg		1	8/7/2013	8/7/2013 07:47 PM
Zinc	86.3		0.986 mg/Kg		1	8/7/2013	8/7/2013 07:47 PM
<b>LA 29B - 1:1 SOLUBLE CATIONS FOR SAR</b>			<b>LA29B-6020</b>		La29B-6020		Analyst: <b>SKS</b>
Calcium	1,960		49.9 mg/L		100	8/7/2013	8/9/2013 01:54 PM
Magnesium	175		49.9 mg/L		100	8/7/2013	8/9/2013 01:54 PM
Sodium	979		49.9 mg/L		100	8/7/2013	8/9/2013 01:54 PM
<b>LA29B SODIUM ADSORPTION RATIO</b>			<b>LA29B SAR</b>		La29B-6020		Analyst: <b>ALR</b>
Sodium Adsorption Ratio	5.69		0.0100 meq/meq		1	8/7/2013	8/12/2013
<b>LOW-LEVEL PAHS</b>			<b>SW8270</b>		SW3541		Analyst: <b>ACN</b>
Acenaphthene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 03:36 PM
Anthracene	0.0041	J	0.0066 mg/Kg		1	8/7/2013	8/7/2013 03:36 PM
Benz(a)anthracene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 03:36 PM
Benzo(a)pyrene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 03:36 PM
Benzo(b)fluoranthene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 03:36 PM
Benzo(k)fluoranthene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 03:36 PM
Chrysene	0.025		0.0066 mg/Kg		1	8/7/2013	8/7/2013 03:36 PM
Dibenz(a,h)anthracene	U		0.0066 mg/Kg		1	8/7/2013	8/7/2013 03:36 PM

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

# ALS Environmental

Date: 13-Aug-13

Client: Olsson Associates

Project: Chevron UP 126X32 Spill 9.0082.203.203004

Work Order: 1308146

Sample ID: UP126X32-SS3

Lab ID: 1308146-05

Collection Date: 7/31/2013 11:45 AM

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
Fluoranthene	U		0.0066	mg/Kg	1	8/7/2013	8/7/2013 03:36 PM
Fluorene	U		0.0066	mg/Kg	1	8/7/2013	8/7/2013 03:36 PM
Indeno(1,2,3-cd)pyrene	U		0.0066	mg/Kg	1	8/7/2013	8/7/2013 03:36 PM
Naphthalene	U		0.0066	mg/Kg	1	8/7/2013	8/7/2013 03:36 PM
Pyrene	U		0.0066	mg/Kg	1	8/7/2013	8/7/2013 03:36 PM
Surr: 2-Fluorobiphenyl	70.3		43-125	%REC	1	8/7/2013	8/7/2013 03:36 PM
Surr: 4-Terphenyl-d14	85.5		32-125	%REC	1	8/7/2013	8/7/2013 03:36 PM
Surr: Nitrobenzene-d5	64.3		37-125	%REC	1	8/7/2013	8/7/2013 03:36 PM
<b>VOLATILES - SW8260C</b>			<b>SW8260</b>			Analyst: <b>WLR</b>	
Benzene	U		0.0050	mg/Kg	1		8/8/2013 11:45 AM
Ethylbenzene	U		0.0050	mg/Kg	1		8/8/2013 11:45 AM
m,p-Xylene	U		0.010	mg/Kg	1		8/8/2013 11:45 AM
o-Xylene	U		0.0050	mg/Kg	1		8/8/2013 11:45 AM
Toluene	U		0.0050	mg/Kg	1		8/8/2013 11:45 AM
Xylenes, Total	U		0.010	mg/Kg	1		8/8/2013 11:45 AM
Surr: 1,2-Dichloroethane-d4	106		70-128	%REC	1		8/8/2013 11:45 AM
Surr: 4-Bromofluorobenzene	99.1		73-126	%REC	1		8/8/2013 11:45 AM
Surr: Dibromofluoromethane	98.7		71-128	%REC	1		8/8/2013 11:45 AM
Surr: Toluene-d8	95.1		73-127	%REC	1		8/8/2013 11:45 AM
<b>HEXAVALENT CHROMIUM - SW7196A</b>			<b>SW7196</b>			Analyst: <b>KKB</b>	
Chromium, Hexavalent	U		1.93	mg/Kg	1	8/12/2013	8/12/2013 12:00 PM
<b>LA29B ELECTRICAL CONDUCTIVITY</b>			<b>LADNR-29B EC</b>			Analyst: <b>PPM</b>	
Electrical Conductivity @ saturation	27.8		0.0100	mmhos/cm @25°C	1		8/9/2013 02:30 PM
Electrical Conductivity, 1:1 aqueous	11.2		0.0100	mmhos/cm @25°C	1		8/9/2013 02:30 PM
<b>LA29B SATURATION POINT (AS FRACTION)</b>			<b>LADNR-29B SP</b>			Analyst: <b>KAH</b>	
Saturation Point	0.402		0.100	SP as fraction	1		8/8/2013 11:00 AM
<b>MOISTURE</b>			<b>SW3550</b>			Analyst: <b>KAH</b>	
Percent Moisture	6.18		0.0100	wt%	1		8/9/2013 02:05 PM
<b>PH - SOIL - SW9045D</b>			<b>SW9045B</b>			Analyst: <b>TBS</b>	
pH	7.52		0.100	pH Units	1		8/12/2013 11:15 AM

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

## ALS Environmental

Date: 13-Aug-13

Client: Olsson Associates

Project: Chevron UP 126X32 Spill 9.0082.203.203004

Sample ID: UP126X32-BG3

Collection Date: 7/31/2013 11:50 AM

Work Order: 1308146

Lab ID: 1308146-06

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
<b>METALS</b>			<b>SW6020</b>		SW3050A		Analyst: <b>SKS</b>
Arsenic	4.77		0.469	mg/Kg	1	8/7/2013	8/7/2013 07:49 PM

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



# ALS Environmental

Date: 13-Aug-13

**Client:** Olsson Associates

**Work Order:** 1308146

**Project:** Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **72121A** Instrument ID **FID-7** Method: **SW8015M**

<b>MBLK</b>	Sample ID: <b>FBLKS1-130807-72121A</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/7/2013 04:55 PM</b>			
Client ID:	Run ID: <b>FID-7_130807A</b>				SeqNo: <b>3318412</b>		Prep Date: <b>8/7/2013</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>	2.743	0	3.3	0	83.1	60-135	0			

<b>LCS</b>	Sample ID: <b>FLCSS1-130807-72121A</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/7/2013 05:19 PM</b>			
Client ID:	Run ID: <b>FID-7_130807A</b>				SeqNo: <b>3318413</b>		Prep Date: <b>8/7/2013</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)	30.37	1.7	33.3	0	91.2	70-130				
<i>Surr: 2-Fluorobiphenyl</i>	2.678	0	3.3	0	81.1	60-135	0			

<b>MS</b>	Sample ID: <b>1308146-01CMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/7/2013 06:30 PM</b>			
Client ID: <b>UP126X32-SS1</b>	Run ID: <b>FID-7_130807A</b>				SeqNo: <b>3318416</b>		Prep Date: <b>8/7/2013</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)	103.3	1.7	33.16	78.42	75.2	70-130				E
<i>Surr: 2-Fluorobiphenyl</i>	2.848	0	3.286	0	86.7	60-135	0			

<b>MSD</b>	Sample ID: <b>1308146-01CMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/7/2013 06:53 PM</b>			
Client ID: <b>UP126X32-SS1</b>	Run ID: <b>FID-7_130807A</b>				SeqNo: <b>3318417</b>		Prep Date: <b>8/7/2013</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)	124.1	1.7	33.15	78.42	138	70-130	103.3	18.2	30	SE
<i>Surr: 2-Fluorobiphenyl</i>	3.316	0	3.285	0	101	60-135	2.848	15.2	30	

The following samples were analyzed in this batch:

1308146-01C	1308146-03C	1308146-05C
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Olsson Associates  
**Work Order:** 1308146  
**Project:** Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **R151848**      Instrument ID **FID-14**      Method: **SW8015**

<b>MBLK</b>	Sample ID: <b>GBLKS-130807-R151848</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/7/2013 03:02 PM</b>			
Client ID:	Run ID: <b>FID-14_130807A</b>				SeqNo: <b>3315704</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
Gasoline Range Organics	U	0.050								
<i>Surr: 4-Bromofluorobenzene</i>	0.1031	0.0050	0.1	0	103	70-130	0			

<b>LCS</b>	Sample ID: <b>GLCSS-130807-R151848</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/7/2013 02:46 PM</b>			
Client ID:	Run ID: <b>FID-14_130807A</b>				SeqNo: <b>3315703</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
Gasoline Range Organics	1.086	0.050	1	0	109	70-130				
<i>Surr: 4-Bromofluorobenzene</i>	0.1109	0.0050	0.1	0	111	70-130	0			

<b>MS</b>	Sample ID: <b>1308009-11ZMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/7/2013 04:39 PM</b>			
Client ID:	Run ID: <b>FID-14_130807A</b>				SeqNo: <b>3315710</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
Gasoline Range Organics	1.097	0.050	1	0	110	70-130				
<i>Surr: 4-Bromofluorobenzene</i>	0.1063	0.0050	0.1	0	106	70-130	0			

<b>MSD</b>	Sample ID: <b>1308009-11ZMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/7/2013 04:55 PM</b>			
Client ID:	Run ID: <b>FID-14_130807A</b>				SeqNo: <b>3315711</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
Gasoline Range Organics	1.034	0.050	1	0	103	70-130	1.097	5.91	30	
<i>Surr: 4-Bromofluorobenzene</i>	0.1073	0.0050	0.1	0	107	70-130	0.1063	0.953	30	

The following samples were analyzed in this batch:

1308146-01B	1308146-03B	1308146-05B
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Olsson Associates  
**Work Order:** 1308146  
**Project:** Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **72088**      Instrument ID **HG02**      Method: **SW7471A**

<b>MBLK</b>	Sample ID: <b>GBLKS2-080613-72088</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/6/2013 02:05 PM</b>			
Client ID:	Run ID: <b>HG02_130806A</b>				SeqNo: <b>3313504</b>		Prep Date: <b>8/6/2013</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	3.32								

<b>LCS</b>	Sample ID: <b>GLCSS2-080613-72088</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/6/2013 02:07 PM</b>			
Client ID:	Run ID: <b>HG02_130806A</b>				SeqNo: <b>3313505</b>		Prep Date: <b>8/6/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	338	3.32	333.3	0	101	85-115				

<b>MS</b>	Sample ID: <b>1308141-03DMS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/6/2013 02:13 PM</b>			
Client ID:	Run ID: <b>HG02_130806A</b>				SeqNo: <b>3313508</b>		Prep Date: <b>8/6/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	356.2	3.48	348.6	8.817	99.7	85-115				

<b>MSD</b>	Sample ID: <b>1308141-03DMSD</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/6/2013 02:15 PM</b>			
Client ID:	Run ID: <b>HG02_130806A</b>				SeqNo: <b>3313509</b>		Prep Date: <b>8/6/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	357.2	3.47	348.2	8.817	100	85-115	356.2	0.286	20	

<b>DUP</b>	Sample ID: <b>1308141-03DDUP</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/6/2013 02:11 PM</b>			
Client ID:	Run ID: <b>HG02_130806A</b>				SeqNo: <b>3313507</b>		Prep Date: <b>8/6/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	8.94	3.48					8.817	1.38	20	

The following samples were analyzed in this batch:

1308146-01C	1308146-02C	1308146-03C
1308146-05C		

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

**Client:** Olsson Associates  
**Work Order:** 1308146  
**Project:** Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **72118**      Instrument ID **ICPMS05**      Method: **SW6020**

<b>MBLK</b>	Sample ID: <b>MBLKS1-080713-72118</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/7/2013 07:08 PM</b>			
Client ID:	Run ID: <b>ICPMS05_130807A</b>				SeqNo: <b>3315466</b>		Prep Date: <b>8/7/2013</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	0.500								
Barium	U	0.500								
Cadmium	U	0.500								
Chromium	U	0.500								
Copper	0.1016	0.500								J
Lead	U	0.500								
Nickel	U	0.500								
Selenium	U	0.500								
Silver	U	0.500								
Zinc	0.5522	1.00								J

<b>LCS</b>	Sample ID: <b>MLCSS1-080713-72118</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/7/2013 07:11 PM</b>			
Client ID:	Run ID: <b>ICPMS05_130807A</b>				SeqNo: <b>3315467</b>		Prep Date: <b>8/7/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.113	0.500	10	0	91.1	80-120				
Barium	9.217	0.500	10	0	92.2	80-120				
Cadmium	9.158	0.500	10	0	91.6	80-120				
Chromium	9.2	0.500	10	0	92	80-120				
Copper	9.264	0.500	10	0	92.6	80-120				
Lead	9.146	0.500	10	0	91.5	80-120				
Nickel	9.049	0.500	10	0	90.5	80-120				
Selenium	8.515	0.500	10	0	85.2	80-120				
Silver	8.79	0.500	10	0	87.9	80-120				
Zinc	9.849	1.00	10	0	98.5	80-120				

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

**Client:** Olsson Associates  
**Work Order:** 1308146  
**Project:** Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **72118**      Instrument ID **ICPMS05**      Method: **SW6020**

MS		Sample ID: 1308176-03AMS				Units: mg/Kg		Analysis Date: 8/7/2013 08:15 PM			
Client ID:		Run ID: ICPMS05_130807A				SeqNo:3315494		Prep Date: 8/7/2013		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	15.52	0.460	9.209	6.333	99.7	75-125					
Barium	299.3	0.460	9.209	218.4	879	75-125				SEO	
Cadmium	8.546	0.460	9.209	0.1983	90.6	75-125					
Chromium	15.76	0.460	9.209	6.505	101	75-125					
Copper	15.47	0.460	9.209	8.353	77.3	75-125					
Lead	19.5	0.460	9.209	9.758	106	75-125					
Nickel	18.03	0.460	9.209	10.34	83.5	75-125					
Selenium	8.079	0.460	9.209	0.7066	80.1	75-125					
Silver	8.262	0.460	9.209	0.04102	89.3	75-125					
Zinc	49.21	0.921	9.209	42.49	73	75-125				SO	

MSD	Sample ID: 1308176-03AMSD					Units: mg/Kg	Analysis Date: 8/7/2013 08:18 PM			
Client ID:	Run ID: ICPMS05_130807A				SeqNo: 3315495	Prep Date: 8/7/2013		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	15.91	0.490	9.803	6.333	97.7	75-125	15.52	2.49	25	
Barium	264.1	0.490	9.803	218.4	466	75-125	299.3	12.5	25	SEO
Cadmium	9.408	0.490	9.803	0.1983	93.9	75-125	8.546	9.61	25	
Chromium	17.41	0.490	9.803	6.505	111	75-125	15.76	9.95	25	
Copper	19.68	0.490	9.803	8.353	116	75-125	15.47	23.9	25	
Lead	19.95	0.490	9.803	9.758	104	75-125	19.5	2.31	25	
Nickel	19.07	0.490	9.803	10.34	89.1	75-125	18.03	5.59	25	
Selenium	9.9	0.490	9.803	0.7066	93.8	75-125	8.079	20.3	25	
Silver	9.101	0.490	9.803	0.04102	92.4	75-125	8.262	9.67	25	
Zinc	51.03	0.980	9.803	42.49	87.1	75-125	49.21	3.63	25	O

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

**Client:** Olsson Associates  
**Work Order:** 1308146  
**Project:** Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **72118**      Instrument ID **ICPMS05**      Method: **SW6020**

<b>DUP</b>	Sample ID: <b>1308176-03ADUP</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/7/2013 08:06 PM</b>			
Client ID:	Run ID: <b>ICPMS05_130807A</b>				SeqNo: <b>3315490</b>		Prep Date: <b>8/7/2013</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	6.498	0.475					6.333	2.57	25	
Cadmium	0.2642	0.475					0.1983	0	25	J
Chromium	6.946	0.475					6.505	6.56	25	
Copper	9.07	0.475					8.353	8.23	25	
Lead	12.5	0.475					9.758	24.6	25	
Nickel	10.86	0.475					10.34	4.93	25	
Selenium	0.6876	0.475					0.7066	2.73	25	
Silver	U	0.475					0.04102	0	25	
Zinc	47.05	0.950					42.49	10.2	25	

<b>DUP</b>	Sample ID: <b>1308176-03ADUP</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>8/8/2013 03:14 PM</b>			
Client ID:	Run ID: <b>ICPMS05_130808A</b>				SeqNo: <b>3316215</b>		Prep Date: <b>8/7/2013</b>		DF: <b>10</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	338.9	4.75					196.5	53.2	25	R

The following samples were analyzed in this batch:

1308146-01C	1308146-02C	1308146-03C
1308146-04A	1308146-05C	1308146-06A

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

**Client:** Olsson Associates  
**Work Order:** 1308146  
**Project:** Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **72128** Instrument ID **ICPMS05** Method: **La29B-6020**

**LCS** Sample ID: **LCS-SAR-080813-72128** Units: **mg/L** Analysis Date: **8/9/2013 01:26 PM**

Client ID: Run ID: **ICPMS05\_130809A** SeqNo: **3317616** Prep Date: **8/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	10.33	0.500	10	0	103	80-120				
Magnesium	10.27	0.500	10	0	103	80-120				
Sodium	10.25	0.500	10	0	102	80-120				

**DUP** Sample ID: **1308164-02DDUP** Units: **mg/L** Analysis Date: **8/9/2013 02:01 PM**

Client ID: Run ID: **ICPMS05\_130809A** SeqNo: **3317631** Prep Date: **8/7/2013** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	1991	49.9					1930	3.12	30	
Magnesium	82.11	49.9					78.52	4.48	30	
Sodium	349.2	49.9					344	1.5	30	

The following samples were analyzed in this batch:

1308146-01D	1308146-02D	1308146-03D
1308146-05D		

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

**Client:** Olsson Associates  
**Work Order:** 1308146  
**Project:** Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **72128A** Instrument ID **MISC-Metals** Method: **La29B SAR**

**DUP** Sample ID: **1308164-02DDUP** Units: **meq/meq** Analysis Date: **8/12/2013**  
Client ID: Run ID: **MISC-METALS\_130812** SeqNo: **3318660** Prep Date: **8/7/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	2.09	0.0100					2.09	0	30	

The following samples were analyzed in this batch:

1308146-01D	1308146-02D	1308146-03D
1308146-05D		

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



Client: Olsson Associates  
 Work Order: 1308146  
 Project: Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **72107** Instrument ID **SV-6** Method: **SW8270**

MBLK		Sample ID: <b>SBLKS1-130807-72107</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/7/2013 02:19 PM</b>		
Client ID:		Run ID: <b>SV-6_130807A</b>				SeqNo: <b>3316057</b>		Prep Date: <b>8/7/2013</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								
<i>Surr: 2-Fluorobiphenyl</i>										
	124.8	6.6	166.7	0	74.9	43-125	0			
<i>Surr: 4-Terphenyl-d14</i>										
	143.5	6.6	166.7	0	86.1	32-125	0			
<i>Surr: Nitrobenzene-d5</i>										
	117.2	6.6	166.7	0	70.3	37-125	0			

LCS		Sample ID: <b>SLCSS1-130807-72107</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/7/2013 02:38 PM</b>		
Client ID:		Run ID: <b>SV-6_130807A</b>				SeqNo: <b>3316058</b>		Prep Date: <b>8/7/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	127.2	6.6	166.7	0	76.3	50-120				
Anthracene	133.7	6.6	166.7	0	80.2	50-123				
Benz(a)anthracene	134	6.6	166.7	0	80.4	50-131				
Benzo(a)pyrene	132.7	6.6	166.7	0	79.6	50-130				
Benzo(b)fluoranthene	143.8	6.6	166.7	0	86.3	50-137				
Benzo(k)fluoranthene	138.9	6.6	166.7	0	83.3	50-143				
Chrysene	131.6	6.6	166.7	0	79	50-130				
Dibenz(a,h)anthracene	135	6.6	166.7	0	81	50-130				
Fluoranthene	134.7	6.6	166.7	0	80.8	50-131				
Fluorene	123.6	6.6	166.7	0	74.2	50-125				
Indeno(1,2,3-cd)pyrene	134.6	6.6	166.7	0	80.8	45-139				
Naphthalene	123.5	6.6	166.7	0	74.1	50-125				
Pyrene	129	6.6	166.7	0	77.4	45-130				
<i>Surr: 2-Fluorobiphenyl</i>										
	123.1	6.6	166.7	0	73.9	43-125	0			
<i>Surr: 4-Terphenyl-d14</i>										
	134.4	6.6	166.7	0	80.7	32-125	0			
<i>Surr: Nitrobenzene-d5</i>										
	124.9	6.6	166.7	0	75	37-125	0			

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

Client: Olsson Associates  
 Work Order: 1308146  
 Project: Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **72107** Instrument ID **SV-6** Method: **SW8270**

MS		Sample ID: <b>1308168-06BMS</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/7/2013 05:35 PM</b>		
Client ID:		Run ID: <b>SV-6_130807A</b>				SeqNo: <b>3316059</b>		Prep Date: <b>8/7/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	119.7	6.6	166.4	0	71.9	50-120				
Anthracene	142.4	6.6	166.4	0	85.6	50-123				
Benz(a)anthracene	136.8	6.6	166.4	0	82.2	50-131				
Benzo(a)pyrene	140.3	6.6	166.4	0	84.3	50-130				
Benzo(b)fluoranthene	160.8	6.6	166.4	0	96.6	50-137				
Benzo(k)fluoranthene	136.8	6.6	166.4	0	82.2	50-143				
Chrysene	140.9	6.6	166.4	11.9	77.5	50-130				
Dibenz(a,h)anthracene	142.7	6.6	166.4	0	85.7	50-130				
Fluoranthene	142.3	6.6	166.4	0	85.5	50-131				
Fluorene	124.9	6.6	166.4	0	75.1	50-125				
Indeno(1,2,3-cd)pyrene	153.4	6.6	166.4	0	92.2	45-139				
Naphthalene	119	6.6	166.4	0	71.5	50-125				
Pyrene	137.7	6.6	166.4	0	82.8	45-130				
<i>Surr: 2-Fluorobiphenyl</i>	115.3	6.6	166.4	0	69.3	43-125		0		
<i>Surr: 4-Terphenyl-d14</i>	141	6.6	166.4	0	84.7	32-125		0		
<i>Surr: Nitrobenzene-d5</i>	116.8	6.6	166.4	0	70.2	37-125		0		

MSD		Sample ID: <b>1308168-06BMSD</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/7/2013 05:54 PM</b>		
Client ID:		Run ID: <b>SV-6_130807A</b>				SeqNo: <b>3316060</b>		Prep Date: <b>8/7/2013</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	115.6	6.6	166.4	0	69.5	50-120	119.7	3.46	30	
Anthracene	135.4	6.6	166.4	0	81.3	50-123	142.4	5.08	30	
Benz(a)anthracene	134.6	6.6	166.4	0	80.9	50-131	136.8	1.56	30	
Benzo(a)pyrene	130.1	6.6	166.4	0	78.2	50-130	140.3	7.55	30	
Benzo(b)fluoranthene	145.3	6.6	166.4	0	87.3	50-137	160.8	10.1	30	
Benzo(k)fluoranthene	131.9	6.6	166.4	0	79.3	50-143	136.8	3.65	30	
Chrysene	146.2	6.6	166.4	11.9	80.7	50-130	140.9	3.68	30	
Dibenz(a,h)anthracene	129	6.6	166.4	0	77.5	50-130	142.7	10.1	30	
Fluoranthene	136.6	6.6	166.4	0	82.1	50-131	142.3	4.08	30	
Fluorene	125.8	6.6	166.4	0	75.6	50-125	124.9	0.666	30	
Indeno(1,2,3-cd)pyrene	136.8	6.6	166.4	0	82.2	45-139	153.4	11.4	30	
Naphthalene	109.9	6.6	166.4	0	66	50-125	119	7.96	30	
Pyrene	134.8	6.6	166.4	0	81	45-130	137.7	2.16	30	
<i>Surr: 2-Fluorobiphenyl</i>	113.8	6.6	166.4	0	68.4	43-125	115.3	1.26	30	
<i>Surr: 4-Terphenyl-d14</i>	133.4	6.6	166.4	0	80.2	32-125	141	5.52	30	
<i>Surr: Nitrobenzene-d5</i>	110.6	6.6	166.4	0	66.5	37-125	116.8	5.4	30	

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

**Client:** Olsson Associates  
**Work Order:** 1308146  
**Project:** Chevron UP 126X32 Spill 9.0082.203.203004

**QC BATCH REPORT**

Batch ID: **72107**      Instrument ID **SV-6**      Method: **SW8270**

The following samples were analyzed in this batch:

1308146-01C	1308146-03C	1308146-05C
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Olsson Associates  
**Work Order:** 1308146  
**Project:** Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **R151840**      Instrument ID **VOA5**      Method: **SW8260**

<b>MBLK</b>		Sample ID: <b>VBLKS1-080813-R151840</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/8/2013 10:09 AM</b>		
Client ID:		Run ID: <b>VOA5_130808A</b>				SeqNo: <b>3315588</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	10								
Surr: 1,2-Dichloroethane-d4	48.23	0	50	0	96.5	70-128	0			
Surr: 4-Bromofluorobenzene	48.58	0	50	0	97.2	73-126	0			
Surr: Dibromofluoromethane	49.11	0	50	0	98.2	71-128	0			
Surr: Toluene-d8	48.97	0	50	0	97.9	73-127	0			

<b>LCS</b>		Sample ID: <b>VLCSS1-080813-R151840</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>8/8/2013 09:22 AM</b>		
Client ID:		Run ID: <b>VOA5_130808A</b>				SeqNo: <b>3315587</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	53.37	5.0	50	0	107	79-120				
Ethylbenzene	53.21	5.0	50	0	106	80-122				
m,p-Xylene	107.4	10	100	0	107	79-122				
o-Xylene	52.24	5.0	50	0	104	80-123				
Toluene	52.25	5.0	50	0	104	79-120				
Xylenes, Total	159.6	10	150	0	106	80-120				
Surr: 1,2-Dichloroethane-d4	52.4	0	50	0	105	70-128	0			
Surr: 4-Bromofluorobenzene	49.45	0	50	0	98.9	73-126	0			
Surr: Dibromofluoromethane	51.65	0	50	0	103	71-128	0			
Surr: Toluene-d8	48.16	0	50	0	96.3	73-127	0			

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

Client: Olsson Associates  
 Work Order: 1308146  
 Project: Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **R151840** Instrument ID **VOA5** Method: **SW8260**

MS	Sample ID: 1308283-01AMS					Units: µg/Kg		Analysis Date: 8/8/2013 12:33 PM		
Client ID:	Run ID: VOA5_130808A				SeqNo:3316044		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	54.98	5.0	50	0	110	79-120				
Ethylbenzene	52.17	5.0	50	0	104	80-122				
m,p-Xylene	102.8	10	100	0	103	79-122				
o-Xylene	52.38	5.0	50	0	105	80-123				
Toluene	51.96	5.0	50	0	104	79-120				
Xylenes, Total	155.1	10	150	0	103	80-120				
Surr: 1,2-Dichloroethane-d4	52.73	0	50	0	105	70-128		0		
Surr: 4-Bromofluorobenzene	49.23	0	50	0	98.5	73-126		0		
Surr: Dibromofluoromethane	52.54	0	50	0	105	71-128		0		
Surr: Toluene-d8	47.28	0	50	0	94.6	73-127		0		

MSD				Sample ID: 1308283-01AMSD			Units: µg/Kg		Analysis Date: 8/8/2013 12:57 PM		
Client ID:		Run ID: VOA5_130808A			SeqNo: 3316048		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	55.73	5.0	50	0	111	79-120	54.98	1.36	30		
Ethylbenzene	55.67	5.0	50	0	111	80-122	52.17	6.49	30		
m,p-Xylene	107.2	10	100	0	107	79-122	102.8	4.24	30		
o-Xylene	54.84	5.0	50	0	110	80-123	52.38	4.6	30		
Toluene	54.5	5.0	50	0	109	79-120	51.96	4.77	30		
Xylenes, Total	162	10	150	0	108	79-123	155.1	4.36	30		
Surr: 1,2-Dichloroethane-d4	51.31	0	50	0	103	70-128	52.73	2.73	30		
Surr: 4-Bromofluorobenzene	48.83	0	50	0	97.7	73-126	49.23	0.823	30		
Surr: Dibromofluoromethane	51.81	0	50	0	104	71-128	52.54	1.41	30		
Surr: Toluene-d8	48.21	0	50	0	96.4	73-127	47.28	1.96	30		

The following samples were analyzed in this batch:

1308146-01A	1308146-03A	1308146-05A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Olsson Associates  
**Work Order:** 1308146  
**Project:** Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **72213** Instrument ID **UV-2450** Method: **SW7196** **(Dissolve)**

**MBLK** Sample ID: **WBLKS1-081213-72213** Units: **mg/kg** Analysis Date: **8/12/2013 12:00 PM**

Client ID: Run ID: **UV-2450\_130812A** SeqNo: **3318886** Prep Date: **8/12/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	U	2.00								

**LCS** Sample ID: **WLCSS1-081213-72213** Units: **mg/kg** Analysis Date: **8/12/2013 12:00 PM**

Client ID: Run ID: **UV-2450\_130812A** SeqNo: **3318887** Prep Date: **8/12/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	9.44	2.00	10	0	94.4	80-120				

**MS** Sample ID: **1308145-01CMS** Units: **mg/kg** Analysis Date: **8/12/2013 12:00 PM**

Client ID: Run ID: **UV-2450\_130812A** SeqNo: **3318899** Prep Date: **8/12/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	7.933	1.98	9.916	0	80	75-125				

**MSD** Sample ID: **1308145-01CMSD** Units: **mg/kg** Analysis Date: **8/12/2013 12:00 PM**

Client ID: Run ID: **UV-2450\_130812A** SeqNo: **3318900** Prep Date: **8/12/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	8.24	1.93	9.671	0	85.2	75-125	7.933	3.79	20	

The following samples were analyzed in this batch:

1308146-01C	1308146-02C	1308146-03C
1308146-05C		

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

**Client:** Olsson Associates  
**Work Order:** 1308146  
**Project:** Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **R151969** Instrument ID **Balance1** Method: **LaDNR-29B SP (Dissolve)**

**DUP** Sample ID: **1308168-10ADUP** Units: **SP as fraction** Analysis Date: **8/8/2013 11:00 AM**

Client ID: Run ID: **BALANCE1\_130808J** SeqNo: **3317960** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Saturation Point	0.643	0.100					0.647	0.62	30	

The following samples were analyzed in this batch:

1308146-01D	1308146-02D	1308146-03D
1308146-05D		

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

**Client:** Olsson Associates  
**Work Order:** 1308146  
**Project:** Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **R151989** Instrument ID **Balance1** Method: **SW3550** **(Dissolve)**

**DUP** Sample ID: **1308168-01ADUP** Units: **wt%** Analysis Date: **8/9/2013 02:05 PM**

Client ID: Run ID: **BALANCE1\_130809B** SeqNo: **3318364** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	2.614	0.0100					2.664	1.92	20	

The following samples were analyzed in this batch:

1308146-01D	1308146-02D	1308146-03D
1308146-05D		

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



**Client:** Olsson Associates  
**Work Order:** 1308146  
**Project:** Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **R152012**      Instrument ID **WetChem**      Method: **SW9045B**      **(Dissolve)**

**LCS**      Sample ID: **WLCSS1-130812-R152012**      Units: **pH Units**      Analysis Date: **8/12/2013 11:15 AM**

Client ID:      Run ID: **WETCHEM\_130812F**      SeqNo: **3318667**      Prep Date:      DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6	0.100	6	0	100	90-110				

**DUP**      Sample ID: **1308145-01DDUP**      Units: **pH Units**      Analysis Date: **8/12/2013 11:15 AM**

Client ID:      Run ID: **WETCHEM\_130812F**      SeqNo: **3318701**      Prep Date:      DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.6	0.100					7.59	0.132	20	

The following samples were analyzed in this batch:

1308146-01D	1308146-02D	1308146-03D
1308146-05D		

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

**Client:** Olsson Associates  
**Work Order:** 1308146  
**Project:** Chevron UP 126X32 Spill 9.0082.203.203004

## QC BATCH REPORT

Batch ID: **R152031**      Instrument ID **WetChem**      Method: **LaDNR-29B EC (Dissolve)**

**MBLK**      Sample ID: **WBLKW1-130809-R152031**      Units: **mmhos/cm @25°C**      Analysis Date: **8/9/2013 02:30 PM**

Client ID:      Run ID: **WETCHEM\_130809H**      SeqNo: **3318932**      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	0.0100								
Electrical Conductivity, 1:1 aqueous	U	0.0100								

**LCS**      Sample ID: **WLCSW1-130809-R152031**      Units: **mmhos/cm @25°C**      Analysis Date: **8/9/2013 02:30 PM**

Client ID:      Run ID: **WETCHEM\_130809H**      SeqNo: **3318933**      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	1.46	0.0100	1.413		0	103	90-110			

**DUP**      Sample ID: **1308168-10ADUP**      Units: **mmhos/cm @25°C**      Analysis Date: **8/9/2013 02:30 PM**

Client ID:      Run ID: **WETCHEM\_130809H**      SeqNo: **3318954**      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	39.8	0.0100					39.89	0.216	20	
Electrical Conductivity, 1:1 aqueous	25.6	0.0100					25.8	0.778	20	

The following samples were analyzed in this batch:

1308146-01D	1308146-02D	1308146-03D
1308146-05D		

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

**Client:** Olsson Associates  
**Project:** Chevron UP 126X32 Spill 9.0082.203.203004  
**WorkOrder:** 1308146

## **QUALIFIERS, ACRONYMS, UNITS**

<b><u>Qualifier</u></b>	<b><u>Description</u></b>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte 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

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

<b><u>Units Reported</u></b>	<b><u>Description</u></b>
meq/meq	
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
mmhos/cm @25°C	
pH Units	
SP as fraction	
wt%	

## Sample Receipt Checklist

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

Date/Time Received: **03-Aug-13 09:35**

Work Order: **1308146**

Received by: **RDH**

Checklist completed by Johanna B. Allen  
eSignature

05-Aug-13  
Date

Reviewed by: Senia West  
eSignature

05-Aug-13  
Date

Matrices: Soil

Carrier name: FedEx Saturday Priority

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):	4.6 C/4.6 C;5.4 C/5.4 C;5.3 C/5.3 C u/c		IR 1
Cooler(s)/Kit(s):	Large Blue/White; Large Blue/White; Medium Blue/White		
Date/Time sample(s) sent to storage:	08/05/13 09:25		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:			

Login Notes:

Client Contacted:

Date Contacted:

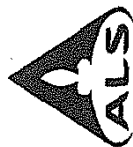
Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



# Chain of Custody Form

Page 1 of 1

COC ID: 123456

**Environmental**

☐ Cincinnati, OH  
+1 513 733 5336

☐ Everett, WA  
+1 425 356 2600

☐ Fort Collins, CO  
+1 970 490 1511

**1308146**  
OLSSON ASSOC - GRAND JUNCTION: Olsson Associates  
Project: Chevron UP 126X32 Spill 9.0082.203.203004



Customer Information				ALS Project Manager:				Parameter/Method Request for Analysis											
Project Information				Project Name				A TPH (GRO & DRO)											
Project Number				9.0082.203.203004				B BTEX											
Bill To Company				Olsson Associates				C PAH (See Attached List) CO Table 910											
Invoice Attn.				Tim Dobransky				D Electrical Conductivity											
Address				760 Horizon Drive, Ste. 102				E Sodium Adsorption Ratio											
City/State/Zip				Grand Junction, CO 81506				F pH											
Phone				970.263.7800				G Metals (See Attached List) CO Table 910											
Fax				970.263.7456				H Arsenic Only											
e-Mail Address				tdobransky@oacconsulting.com				I											
								J											
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	UP126X32-SS1	07/31/13	1100	Soil	8	2	X	X	X	X	X	X	X	X					
2	UP126X32-BG1	07/31/13	1105	Soil	8	2					X	X	X	X					
3	UP126X32-SS2	07/31/13	1120	Soil	8	2	X	X	X	X	X	X	X	X					
4	UP126X32-BG2	07/31/13	1130	Soil	8	1								X					
5	UP126X32-SS3	07/31/13	1145	Soil	8	2	X	X	X	X	X	X	X	X					
6	UP126X32-BG3	07/31/13	1150	Soil	8	1								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:	Date: 8/2/13 Time: 1700	Received by:	Date:	Notes: Chevron Pricing Applies - Per Bruce Schlatter			
Relinquished by:	Date:	Received by (Laboratory):	Date:	QC Package: (Check Box Below)			
Logged by Laboratory:	Date:	Checked by (Laboratory):	Date:	<input checked="" type="checkbox"/> Level II: Standard QC			
				<input type="checkbox"/> Level III: Std QC + Raw Data			
				<input type="checkbox"/> Level IV: SW846 CLP-Like			
				Other:			

Preservative Key: 1-HGL 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.

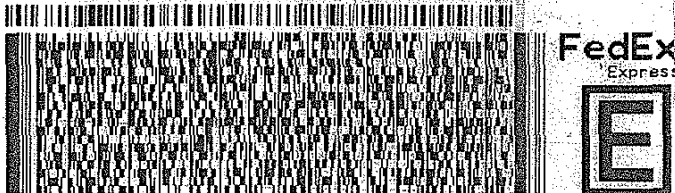
Copyright 2011 by ALS Group

ORIGIN ID: GJTA (970) 270-2986  
TIM DOBRANSKY  
OLSSON ASSOCIATES, INC.  
760 HORIZON DRIVE STE 102  
GRAND JUNCTION, CO 81506  
UNITED STATES US

SHIP DATE: 02AUG13  
ACTWGT: 75.0 LB MAN  
CAD: 390082/CAFE2608  
BILL SENDER

TO SAMPLE RECEIVING  
ALS ENVIRONMENTAL  
10450 STANCLIFF RD. #210

HOUSTON TX 77099  
(281) 530-5656  
PO: 9.0082.203.203004



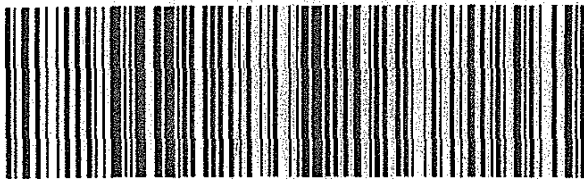
2 of 3  
MPS# 5632 6808 2949  
0263  
Mstr# 5632 6808 2938

SATURDAY 12:00P  
PRIORITY OVERNIGHT

0201

X0 SGRA

77099  
TX-US IAH

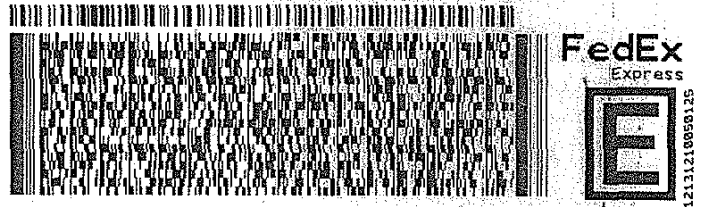


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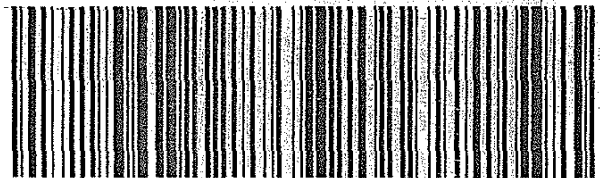
3 of 3  
MPS# 5632 6808 2950  
0263  
Mstr# 5632 6808 2938

SATURDAY 12:00P  
PRIORITY OVERNIGHT

0201

X0 SGRA

77099  
TX-US IAH

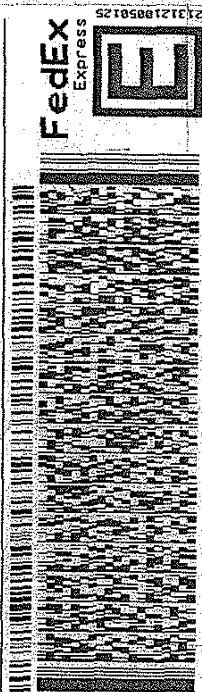


Part #: 156148-434 NRT 06-07

ORIGIN ID: GJTA (970) 270-2986  
TIM DOBRANSKY  
OLSSON ASSOCIATES, INC.  
760 HORIZON DRIVE STE 102  
GRAND JUNCTION, CO 81506  
UNITED STATES US

TO SAMPLE RECEIVING  
ALS ENVIRONMENTAL  
10450 STANCLIFF RD. #210

HOUSTON TX 77099  
(281) 530-5656  
PO: 9.0082.203.203004



SATURDAY 12:00P  
PRIORITY OVERNIGHT

1 of 3

TRK# 5632 6808 2938  
0201  
HH MASTER HH

X0 SGRA

77099  
TX-US IAH



ACCUTEST LABORATORIES  
Signature: *[Signature]*  
Date: 8/2/13  
CUSTODY SEAL  
4/3/13

ACCUTEST LABORATORIES  
Signature: *[Signature]*  
Date: 8/2/13  
CUSTODY SEAL  
4/3/13