



29-Sep-2014

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

Re: **Chevron FEE 91X Spill 9.17.14**

Work Order: **1409966**

Dear Tim,

ALS Environmental received 2 samples on 19-Sep-2014 09:00 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 26.

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

Sincerely,

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

Electronically approved by: Ann Preston

Ann Preston
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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Client: Olsson Associates
Project: Chevron FEE 91X Spill 9.17.14
Work Order: 1409966

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>
1409966-01	FEE91X-SS1	Soil		9/17/2014 14:05	9/19/2014 09:00	<input type="checkbox"/>
1409966-02	FEE91X-BG1	Soil		9/17/2014 14:10	9/19/2014 09:00	<input type="checkbox"/>

Client: Olsson Associates
Project: Chevron FEE 91X Spill 9.17.14
Work Order: 1409966

Case Narrative

Batch 63032 MS/MSD data for Metals is not related to this project's samples. No data requires qualification.

Batch 63060 sample FEE91X-BG1 MS/MSD recoveries for Hexavalent Chromium were below the lower control limit. The corresponding result in the parent sample may be biased low for Hexavalent Chromium.

Batch 63087 LCS recovery for Mercury was above the upper control limit. The sample results for Mercury for both samples in this work order may be biased high.

<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 is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

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

ALS Group USA, Corp

Date: 29-Sep-14

Client: Olsson Associates
Project: Chevron FEE 91X Spill 9.17.14
Sample ID: FEE91X-SS1
Collection Date: 9/17/2014 02:05 PM

Work Order: 1409966
Lab ID: 1409966-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			SW8015M		Prep: SW3541 / 9/24/14	Analyst: IT
DRO (C10-C28)	87		22	mg/Kg-dry	5	9/24/2014 08:17 PM
<i>Surr: 4-Terphenyl-d14</i>	62.6		39-133	%REC	5	9/24/2014 08:17 PM
GASOLINE RANGE ORGANICS BY GC-FID			SW8015		Prep: SW5035 / 9/23/14	Analyst: IT
GRO (C6-C10)	ND		2.7	mg/Kg-dry	1	9/23/2014 06:20 PM
<i>Surr: Toluene-d8</i>	122		50-150	%REC	1	9/23/2014 06:20 PM
MERCURY BY CVA			SW7471		Prep: SW7471 / 9/25/14	Analyst: LR
Mercury	0.024		0.013	mg/Kg-dry	1	9/25/2014 05:05 PM
SOLUBLE CATIONS FOR SAR			SW846 6010C		Prep: USDA Method 20B / 9/23/14	Analyst: JEC
Calcium	730		5.0	mg/L	10	9/23/2014 12:43 PM
Magnesium	130		2.0	mg/L	10	9/23/2014 12:43 PM
Sodium	1,900		2.0	mg/L	10	9/23/2014 12:43 PM
METALS BY ICP-MS			SW6020A		Prep: SW3050B / 9/22/14	Analyst: ML
Arsenic	6.7		1.7	mg/Kg-dry	4	9/23/2014 04:33 PM
Barium	1,200		17	mg/Kg-dry	40	9/23/2014 04:27 PM
Cadmium	ND		0.69	mg/Kg-dry	4	9/23/2014 04:33 PM
Chromium	17		1.7	mg/Kg-dry	4	9/23/2014 04:33 PM
Copper	13		1.7	mg/Kg-dry	4	9/23/2014 04:33 PM
Lead	34		1.7	mg/Kg-dry	4	9/23/2014 04:33 PM
Nickel	17		1.7	mg/Kg-dry	4	9/23/2014 04:33 PM
Selenium	2.6		1.7	mg/Kg-dry	4	9/23/2014 04:33 PM
Silver	ND		1.7	mg/Kg-dry	4	9/23/2014 04:33 PM
Zinc	76		3.5	mg/Kg-dry	4	9/23/2014 04:33 PM
SODIUM ADSORPTION RATIO			USDA H60 METHOD		Prep: USDA Method 20B / 9/23/14	Analyst: JEC
Sodium Adsorption Ratio	17		0.010	none	1	9/23/2014
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3541 / 9/24/14	Analyst: RM
Acenaphthene	ND		6.9	µg/Kg-dry	1	9/25/2014 09:30 AM
Anthracene	ND		6.9	µg/Kg-dry	1	9/25/2014 09:30 AM
Benzo(a)anthracene	ND		6.9	µg/Kg-dry	1	9/25/2014 09:30 AM
Benzo(a)pyrene	ND		6.9	µg/Kg-dry	1	9/25/2014 09:30 AM
Benzo(b)fluoranthene	ND		6.9	µg/Kg-dry	1	9/25/2014 09:30 AM
Benzo(k)fluoranthene	ND		6.9	µg/Kg-dry	1	9/25/2014 09:30 AM
Chrysene	ND		6.9	µg/Kg-dry	1	9/25/2014 09:30 AM
Dibenzo(a,h)anthracene	ND		6.9	µg/Kg-dry	1	9/25/2014 09:30 AM
Fluoranthene	ND		6.9	µg/Kg-dry	1	9/25/2014 09:30 AM

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

ALS Group USA, Corp

Date: 29-Sep-14

Client: Olsson Associates
Project: Chevron FEE 91X Spill 9.17.14
Sample ID: FEE91X-SS1
Collection Date: 9/17/2014 02:05 PM

Work Order: 1409966
Lab ID: 1409966-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		6.9	µg/Kg-dry	1	9/25/2014 09:30 AM
Indeno(1,2,3-cd)pyrene	ND		6.9	µg/Kg-dry	1	9/25/2014 09:30 AM
Naphthalene	ND		6.9	µg/Kg-dry	1	9/25/2014 09:30 AM
Pyrene	19		6.9	µg/Kg-dry	1	9/25/2014 09:30 AM
Surr: 2-Fluorobiphenyl	72.1		12-100	%REC	1	9/25/2014 09:30 AM
Surr: 4-Terphenyl-d14	94.2		25-137	%REC	1	9/25/2014 09:30 AM
Surr: Nitrobenzene-d5	58.2		37-107	%REC	1	9/25/2014 09:30 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 9/23/14	Analyst: AK
Benzene	ND		32	µg/Kg-dry	1	9/25/2014 04:16 AM
Ethylbenzene	ND		32	µg/Kg-dry	1	9/25/2014 04:16 AM
m,p-Xylene	ND		64	µg/Kg-dry	1	9/25/2014 04:16 AM
o-Xylene	ND		32	µg/Kg-dry	1	9/25/2014 04:16 AM
Toluene	ND		32	µg/Kg-dry	1	9/25/2014 04:16 AM
Xylenes, Total	ND		96	µg/Kg-dry	1	9/25/2014 04:16 AM
Surr: 1,2-Dichloroethane-d4	102		70-130	%REC	1	9/25/2014 04:16 AM
Surr: 4-Bromofluorobenzene	98.2		70-130	%REC	1	9/25/2014 04:16 AM
Surr: Dibromofluoromethane	97.4		70-130	%REC	1	9/25/2014 04:16 AM
Surr: Toluene-d8	96.0		70-130	%REC	1	9/25/2014 04:16 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD		Prep: USDA Method 20B / 9/23/14	Analyst: JB
Electrical Conductivity @ Saturation	15		0.050	mmhos/cm @25	10	9/23/2014 03:30 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	17		0.53	mg/Kg-dry	1	9/24/2014 03:56 PM
CHROMIUM, HEXAVALENT			SW7196A		Prep: SW3060A / 9/19/14	Analyst: MB
Chromium, Hexavalent	ND		0.52	mg/Kg-dry	1	9/22/2014 03:30 PM
MOISTURE			A2540 G			Analyst: RLM
Moisture	5.8		0.050	% of sample	1	9/23/2014 07:45 PM
PH			SW9045D		Prep: EXTRACT / 9/23/14	Analyst: STP
pH	8.1			s.u.	1	9/23/2014 04:00 PM

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

ALS Group USA, Corp

Date: 29-Sep-14

Client: Olsson Associates
Project: Chevron FEE 91X Spill 9.17.14
Sample ID: FEE91X-BG1
Collection Date: 9/17/2014 02:10 PM

Work Order: 1409966
Lab ID: 1409966-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471		Prep: SW7471 / 9/25/14	Analyst: LR
Mercury	0.11		0.013	mg/Kg-dry	1	9/25/2014 05:07 PM
SOLUBLE CATIONS FOR SAR			SW846 6010C		Prep: USDA Method 20B / 9/23/14	Analyst: JEC
Calcium	57		5.0	mg/L	10	9/23/2014 01:07 PM
Magnesium	9.4		2.0	mg/L	10	9/23/2014 01:07 PM
Sodium	160		2.0	mg/L	10	9/23/2014 01:07 PM
METALS BY ICP-MS			SW6020A		Prep: SW3050B / 9/22/14	Analyst: ML
Arsenic	7.8		1.6	mg/Kg-dry	4	9/23/2014 04:45 PM
Barium	860		16	mg/Kg-dry	40	9/23/2014 04:39 PM
Cadmium	0.69		0.63	mg/Kg-dry	4	9/23/2014 04:45 PM
Chromium	14		1.6	mg/Kg-dry	4	9/23/2014 04:45 PM
Copper	17		1.6	mg/Kg-dry	4	9/23/2014 04:45 PM
Lead	57		1.6	mg/Kg-dry	4	9/23/2014 04:45 PM
Nickel	20		1.6	mg/Kg-dry	4	9/23/2014 04:45 PM
Selenium	3.0		1.6	mg/Kg-dry	4	9/23/2014 04:45 PM
Silver	ND		1.6	mg/Kg-dry	4	9/23/2014 04:45 PM
Zinc	310		3.2	mg/Kg-dry	4	9/23/2014 04:45 PM
SODIUM ADSORPTION RATIO			USDA H60 METHOD		Prep: USDA Method 20B / 9/23/14	Analyst: JEC
Sodium Adsorption Ratio	5.1		0.010	none	1	9/23/2014
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD		Prep: USDA Method 20B / 9/23/14	Analyst: JB
Electrical Conductivity @ Saturation	1.2		0.050	mmhos/cm @25	10	9/23/2014 03:30 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JJG
Chromium, Trivalent	14		0.51	mg/Kg-dry	1	9/24/2014 03:56 PM
CHROMIUM, HEXAVALENT			SW7196A		Prep: SW3060A / 9/19/14	Analyst: MB
Chromium, Hexavalent	ND		0.51	mg/Kg-dry	1	9/22/2014 03:30 PM
MOISTURE			A2540 G			Analyst: RLM
Moisture	2.2		0.050	% of sample	1	9/23/2014 07:45 PM
PH			SW9045D		Prep: EXTRACT / 9/23/14	Analyst: STP
pH	8.6			s.u.	1	9/23/2014 04:00 PM

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

Client: Olsson Associates
Work Order: 1409966
Project: Chevron FEE 91X Spill 9.17.14

QC BATCH REPORT

Batch ID: **63132** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-63132-63132				Units: mg/Kg		Analysis Date: 9/24/2014 04:10 PM			
Client ID:		Run ID: GC8_140924A				SeqNo: 2951554		Prep Date: 9/24/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
DRO (C10-C28)	ND	4.2									
<i>Surr: 4-Terphenyl-d14</i>	1.645	0	1.667	0	98.7	39-133	0				

LCS		Sample ID: DLCSS1-63132-63132				Units: mg/Kg		Analysis Date: 9/24/2014 04:37 PM			
Client ID:		Run ID: GC8_140924A				SeqNo: 2951556		Prep Date: 9/24/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
DRO (C10-C28)	164.5	4.2	166.7	0	98.7	61-109	0				
<i>Surr: 4-Terphenyl-d14</i>	1.197	0	1.667	0	71.8	39-133	0				

MS		Sample ID: 1409922-04B MS				Units: mg/Kg		Analysis Date: 9/24/2014 05:05 PM			
Client ID:		Run ID: GC8_140924A				SeqNo: 2951557		Prep Date: 9/24/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
DRO (C10-C28)	329.8	8.0	321.1	0	103	48-110	0				
<i>Surr: 4-Terphenyl-d14</i>	2.641	0	3.211	0	82.3	39-133	0				

MSD		Sample ID: 1409922-04B MSD				Units: mg/Kg		Analysis Date: 9/24/2014 05:32 PM			
Client ID:		Run ID: GC8_140924A				SeqNo: 2951559		Prep Date: 9/24/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
DRO (C10-C28)	308.5	7.8	313	0	98.6	48-110	329.8	6.65	30		
<i>Surr: 4-Terphenyl-d14</i>	2.302	0	3.13	0	73.6	39-133	2.641	13.7	30		

The following samples were analyzed in this batch: | 1409966-01A |

Client: Olsson Associates
 Work Order: 1409966
 Project: Chevron FEE 91X Spill 9.17.14

QC BATCH REPORT

Batch ID: **63096** Instrument ID **GC9** Method: **SW8015**

MBLK		Sample ID: MBLK-63096-63096				Units: µg/Kg		Analysis Date: 9/23/2014 05:55 PM			
Client ID:		Run ID: GC9_140923A				SeqNo: 2949510		Prep Date: 9/23/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
GRO (C6-C10)	ND	2,500									
<i>Surr: Toluene-d8</i>	5202	0	5000		0	104	50-150	0			

LCS		Sample ID: LCS-63096-63096				Units: µg/Kg		Analysis Date: 9/23/2014 05:29 PM			
Client ID:		Run ID: GC9_140923A				SeqNo: 2949509		Prep Date: 9/23/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
GRO (C6-C10)	484400	2,500	500000		0	96.9	70-130	0			
<i>Surr: Toluene-d8</i>	5678	0	5000		0	114	50-150	0			

MS		Sample ID: 1409966-01A MS				Units: µg/Kg		Analysis Date: 9/23/2014 06:46 PM			
Client ID: FEE91X-SS1		Run ID: GC9_140923A				SeqNo: 2949512		Prep Date: 9/23/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
GRO (C6-C10)	563500	2,500	500000		0	113	70-130	0			
<i>Surr: Toluene-d8</i>	4738	0	5000		0	94.8	50-150	0			

MSD		Sample ID: 1409966-01A MSD				Units: µg/Kg		Analysis Date: 9/23/2014 07:11 PM			
Client ID: FEE91X-SS1		Run ID: GC9_140923A				SeqNo: 2949513		Prep Date: 9/23/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
GRO (C6-C10)	540700	2,500	500000		0	108	70-130	563500	4.13	30	
<i>Surr: Toluene-d8</i>	4674	0	5000		0	93.5	50-150	4738	1.36	30	

The following samples were analyzed in this batch:

Client: Olsson Associates
 Work Order: 1409966
 Project: Chevron FEE 91X Spill 9.17.14

QC BATCH REPORT

Batch ID: **63087** Instrument ID **HG1** Method: **SW7471**

MBLK		Sample ID: MBLK-63087-63087				Units: mg/Kg		Analysis Date: 9/23/2014 06:36 PM		
Client ID:		Run ID: HG1_140923A				SeqNo: 2949434		Prep Date: 9/23/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury ND 0.020

LCS		Sample ID: LCS-63087-63087				Units: mg/Kg		Analysis Date: 9/23/2014 06:38 PM		
Client ID:		Run ID: HG1_140923A				SeqNo: 2949435		Prep Date: 9/23/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.2088 0.020 0.1665 0 125 80-120 0 S

MS		Sample ID: 1409903-13BMS				Units: mg/Kg		Analysis Date: 9/23/2014 06:57 PM		
Client ID:		Run ID: HG1_140923A				SeqNo: 2949455		Prep Date: 9/23/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1157 0.012 0.1019 0.002352 111 75-125 0

MSD		Sample ID: 1409903-13BMSD				Units: mg/Kg		Analysis Date: 9/23/2014 06:59 PM		
Client ID:		Run ID: HG1_140923A				SeqNo: 2949457		Prep Date: 9/23/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1147 0.012 0.1035 0.002352 108 75-125 0.1157 0.912 35

The following samples were analyzed in this batch: 1409966-01A 1409966-02A

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

Client: Olsson Associates
 Work Order: 1409966
 Project: Chevron FEE 91X Spill 9.17.14

QC BATCH REPORT

Batch ID: **63144** Instrument ID **HG1** Method: **SW7471**

MBLK		Sample ID: MBLK-63144-63144				Units: mg/Kg		Analysis Date: 9/25/2014 04:27 PM		
Client ID:		Run ID: HG1_140925A				SeqNo: 2953199		Prep Date: 9/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury ND 0.020

LCS		Sample ID: LCS-63144-63144				Units: mg/Kg		Analysis Date: 9/25/2014 04:32 PM		
Client ID:		Run ID: HG1_140925A				SeqNo: 2953200		Prep Date: 9/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1983 0.020 0.1665 0 119 80-120 0

MS		Sample ID: 1409903-13BMS				Units: mg/Kg		Analysis Date: 9/25/2014 04:39 PM		
Client ID:		Run ID: HG1_140925A				SeqNo: 2953203		Prep Date: 9/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1216 0.013 0.1047 0.0001571 116 75-125 0

MSD		Sample ID: 1409903-13BMSD				Units: mg/Kg		Analysis Date: 9/25/2014 04:41 PM		
Client ID:		Run ID: HG1_140925A				SeqNo: 2953204		Prep Date: 9/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1132 0.012 0.1025 0.0001571 110 75-125 0.1216 7.21 35

The following samples were analyzed in this batch: 1409966-01A 1409966-02A

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

Client: Olsson Associates
Work Order: 1409966
Project: Chevron FEE 91X Spill 9.17.14

QC BATCH REPORT

Batch ID: **62992** Instrument ID **ICP2** Method: **SW846 6010C**

DUP		Sample ID: 1409967-02B DUP				Units: mg/L		Analysis Date: 9/23/2014 01:23 PM		
Client ID:		Run ID: ICP2_140923A				SeqNo: 2948639		Prep Date: 9/23/2014		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	1063	5.0	0	0	0	0-0	0			
Magnesium	186.8	2.0	0	0	0	0-0	0			

DUP		Sample ID: 1409967-02B DUP				Units: mg/L		Analysis Date: 9/23/2014 02:17 PM		
Client ID:		Run ID: ICP2_140923A				SeqNo: 2948647		Prep Date: 9/23/2014		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium	8911	20	0	0	0	0-0	0			

The following samples were analyzed in this batch: 1409966-01B 1409966-02B

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

Client: Olsson Associates
 Work Order: 1409966
 Project: Chevron FEE 91X Spill 9.17.14

QC BATCH REPORT

Batch ID: **63032** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-63032-63032				Units: mg/Kg		Analysis Date: 9/23/2014 03:17 AM		
Client ID:		Run ID: ICPMS1_140922A			SeqNo: 2947805		Prep Date: 9/22/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	0.00759	0.25								J
Cadmium	0.001151	0.10								J
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	0.00767	0.25								J
Nickel	ND	0.25								
Selenium	ND	0.25								
Silver	ND	0.25								
Zinc	0.1374	0.50								J

LCS		Sample ID: LCS-63032-63032				Units: mg/Kg		Analysis Date: 9/23/2014 03:23 AM		
Client ID:		Run ID: ICPMS1_140922A			SeqNo: 2947806		Prep Date: 9/22/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.358	0.25	5	0	87.2	80-120	0			
Barium	4.547	0.25	5	0	90.9	80-120	0			
Cadmium	4.52	0.10	5	0	90.4	80-120	0			
Chromium	4.67	0.25	5	0	93.4	80-120	0			
Copper	4.557	0.25	5	0	91.1	80-120	0			
Lead	4.56	0.25	5	0	91.2	80-120	0			
Nickel	4.622	0.25	5	0	92.4	80-120	0			
Selenium	4.569	0.25	5	0	91.4	80-120	0			
Silver	4.453	0.25	5	0	89.1	80-120	0			
Zinc	4.54	0.50	5	0	90.8	80-120	0			

MS		Sample ID: 1409932-01CMS				Units: mg/Kg		Analysis Date: 9/23/2014 03:31 PM		
Client ID:		Run ID: ICPMS1_140923A			SeqNo: 2949655		Prep Date: 9/22/2014		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.72	1.9	7.429	4.535	83.3	75-125	0			
Barium	13.95	1.9	7.429	6.952	94.1	75-125	0			
Cadmium	7.515	0.74	7.429	0.09073	99.9	75-125	0			
Chromium	11.63	1.9	7.429	3.893	104	75-125	0			
Copper	13.99	1.9	7.429	8.532	73.5	75-125	0			S
Lead	12.58	1.9	7.429	5.912	89.8	75-125	0			
Nickel	13.12	1.9	7.429	6.141	93.9	75-125	0			
Selenium	7.73	1.9	7.429	0.8619	92.4	75-125	0			
Silver	6.779	1.9	7.429	0.02083	91	75-125	0			
Zinc	23.5	3.7	7.429	19.82	49.5	75-125	0			S

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

Client: Olsson Associates
Work Order: 1409966
Project: Chevron FEE 91X Spill 9.17.14

QC BATCH REPORT

Batch ID: **63032** Instrument ID **ICPMS1** Method: **SW6020A**

MSD		Sample ID: 1409932-01CMSD				Units: mg/Kg		Analysis Date: 9/23/2014 03:37 PM		
Client ID:		Run ID: ICPMS1_140923A			SeqNo: 2949657		Prep Date: 9/22/2014		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.84	1.9	7.44	4.535	84.8	75-125	10.72	1.08	25	
Barium	14.94	1.9	7.44	6.952	107	75-125	13.95	6.92	25	
Cadmium	7.656	0.74	7.44	0.09073	102	75-125	7.515	1.86	25	
Chromium	13.8	1.9	7.44	3.893	133	75-125	11.63	17.1	25	S
Copper	14.14	1.9	7.44	8.532	75.4	75-125	13.99	1.07	25	
Lead	13.1	1.9	7.44	5.912	96.5	75-125	12.58	4	25	
Nickel	13.49	1.9	7.44	6.141	98.8	75-125	13.12	2.83	25	
Selenium	9.345	1.9	7.44	0.8619	114	75-125	7.73	18.9	25	
Silver	6.987	1.9	7.44	0.02083	93.6	75-125	6.779	3.01	25	
Zinc	27.82	3.7	7.44	19.82	108	75-125	23.5	16.9	25	

The following samples were analyzed in this batch: | 1409966-01A 1409966-02A |

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

Client: Olsson Associates
 Work Order: 1409966
 Project: Chevron FEE 91X Spill 9.17.14

QC BATCH REPORT

Batch ID: **63130** Instrument ID **SVMS6** Method: **SW846 8270D**

MBLK		Sample ID: SBLKS1-63130-63130				Units: µg/Kg		Analysis Date: 9/24/2014 05:07 PM		
Client ID:		Run ID: SVMS6_140924A		SeqNo: 2952315		Prep Date: 9/24/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
<i>Surr: 2-Fluorobiphenyl</i>	1247	0	1667	0	74.8	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1658	0	1667	0	99.5	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1221	0	1667	0	73.2	37-107	0			

LCS		Sample ID: SLCSS1-63130-63130				Units: µg/Kg		Analysis Date: 9/24/2014 05:27 PM		
Client ID:		Run ID: SVMS6_140924A		SeqNo: 2952317		Prep Date: 9/24/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	528.3	6.7	666.7	0	79.2	45-110	0			
Anthracene	642.7	6.7	666.7	0	96.4	55-105	0			
Benzo(a)anthracene	627.3	6.7	666.7	0	94.1	50-110	0			
Benzo(a)pyrene	654.7	6.7	666.7	0	98.2	50-110	0			
Benzo(b)fluoranthene	593	6.7	666.7	0	88.9	45-115	0			
Benzo(k)fluoranthene	609	6.7	666.7	0	91.3	45-115	0			
Chrysene	654.7	6.7	666.7	0	98.2	55-110	0			
Dibenzo(a,h)anthracene	737	6.7	666.7	0	111	40-125	0			
Fluoranthene	760	6.7	666.7	0	114	55-115	0			
Fluorene	619	6.7	666.7	0	92.8	50-110	0			
Indeno(1,2,3-cd)pyrene	701	6.7	666.7	0	105	40-120	0			
Naphthalene	493.3	6.7	666.7	0	74	40-105	0			
Pyrene	492.3	6.7	666.7	0	73.8	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1100	0	1667	0	66	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1307	0	1667	0	78.4	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1184	0	1667	0	71.1	37-107	0			

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

Client: Olsson Associates
 Work Order: 1409966
 Project: Chevron FEE 91X Spill 9.17.14

QC BATCH REPORT

Batch ID: **63130** Instrument ID **SVMS6** Method: **SW846 8270D**

MS				Sample ID: 1409932-01C MS			Units: µg/Kg		Analysis Date: 9/24/2014 09:31 PM		
Client ID:		Run ID: SVMS6_140924A			SeqNo: 2952319		Prep Date: 9/24/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1083	13	1298	0	83.4	45-110	0				
Anthracene	1248	13	1298	0	96.1	55-105	0				
Benzo(a)anthracene	1294	13	1298	0	99.7	50-110	0				
Benzo(a)pyrene	1344	13	1298	0	104	50-110	0				
Benzo(b)fluoranthene	1385	13	1298	0	107	45-115	0				
Benzo(k)fluoranthene	1320	13	1298	0	102	45-115	0				
Chrysene	1293	13	1298	0	99.5	55-110	0				
Dibenzo(a,h)anthracene	1085	13	1298	0	83.5	40-125	0				
Fluoranthene	1270	13	1298	0	97.8	55-115	0				
Fluorene	1178	13	1298	0	90.7	50-110	0				
Indeno(1,2,3-cd)pyrene	1045	13	1298	33.25	77.9	40-120	0				
Naphthalene	1054	13	1298	0	81.2	40-105	0				
Pyrene	1310	13	1298	0	101	45-125	0				
Surr: 2-Fluorobiphenyl	2661	0	3246	0	82	12-100	0				
Surr: 4-Terphenyl-d14	3437	0	3246	0	106	25-137	0				
Surr: Nitrobenzene-d5	2653	0	3246	0	81.7	37-107	0				

MSD				Sample ID: 1409932-01C MSD			Units: µg/Kg		Analysis Date: 9/24/2014 09:52 PM		
Client ID:		Run ID: SVMS6_140924A			SeqNo: 2952321		Prep Date: 9/24/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1023	13	1325	0	77.2	45-110	1083	5.65	30		
Anthracene	1243	13	1325	0	93.8	55-105	1248	0.415	30		
Benzo(a)anthracene	1288	13	1325	0	97.2	50-110	1294	0.482	30		
Benzo(a)pyrene	1333	13	1325	0	101	50-110	1344	0.834	30		
Benzo(b)fluoranthene	1283	13	1325	0	96.8	45-115	1385	7.68	30		
Benzo(k)fluoranthene	1254	13	1325	0	94.6	45-115	1320	5.18	30		
Chrysene	1282	13	1325	0	96.8	55-110	1293	0.795	30		
Dibenzo(a,h)anthracene	1238	13	1325	0	93.4	40-125	1085	13.2	30		
Fluoranthene	1343	13	1325	0	101	55-115	1270	5.57	30		
Fluorene	1137	13	1325	0	85.8	50-110	1178	3.55	30		
Indeno(1,2,3-cd)pyrene	1172	13	1325	33.25	85.9	40-120	1045	11.4	30		
Naphthalene	997.5	13	1325	0	75.3	40-105	1054	5.54	30		
Pyrene	1147	13	1325	0	86.6	45-125	1310	13.3	30		
Surr: 2-Fluorobiphenyl	2407	0	3312	0	72.7	12-100	2661	10	40		
Surr: 4-Terphenyl-d14	2988	0	3312	0	90.2	25-137	3437	14	40		
Surr: Nitrobenzene-d5	2443	0	3312	0	73.8	37-107	2653	8.23	40		

The following samples were analyzed in this batch:

1409966-01A

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

Client: Olsson Associates
 Work Order: 1409966
 Project: Chevron FEE 91X Spill 9.17.14

QC BATCH REPORT

Batch ID: **63095** Instrument ID **VMS8** Method: **SW8260B**

MBLK		Sample ID: MBLK-63095-63095				Units: µg/Kg		Analysis Date: 9/24/2014 02:51 AM		
Client ID:		Run ID: VMS8_140923A			SeqNo: 2950151		Prep Date: 9/23/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1006</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>978</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.8</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>990.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>99</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>990.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>99</i>	<i>70-130</i>	<i>0</i>			

MBLK		Sample ID: MBLK-63095-63095				Units: µg/Kg		Analysis Date: 9/24/2014 02:51 AM		
Client ID:		Run ID: VMS8_140923A			SeqNo: 2950185		Prep Date: 9/23/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1006</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>978</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.8</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>990.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>99</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>990.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>99</i>	<i>70-130</i>	<i>0</i>			

LCS		Sample ID: LCS-63095-63095				Units: µg/Kg		Analysis Date: 9/23/2014 11:59 PM		
Client ID:		Run ID: VMS8_140923A			SeqNo: 2950146		Prep Date: 9/23/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1054	30	1000	0	105	75-125	0			
Ethylbenzene	1017	30	1000	0	102	75-125	0			
m,p-Xylene	2037	60	2000	0	102	80-125	0			
o-Xylene	1008	30	1000	0	101	75-125	0			
Toluene	1064	30	1000	0	106	70-125	0			
Xylenes, Total	3044	90	3000	0	101	75-125	0			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1024</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>102</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>985</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.5</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Dibromofluoromethane</i>	<i>1042</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>104</i>	<i>70-130</i>	<i>0</i>			
<i>Surr: Toluene-d8</i>	<i>997.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>99.8</i>	<i>70-130</i>	<i>0</i>			

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

Client: Olsson Associates
 Work Order: 1409966
 Project: Chevron FEE 91X Spill 9.17.14

QC BATCH REPORT

Batch ID: **63095** Instrument ID **VMS8** Method: **SW8260B**

LCS		Sample ID: LCS-63095-63095				Units: µg/Kg		Analysis Date: 9/23/2014 11:59 PM		
Client ID:		Run ID: VMS8_140923A			SeqNo: 2950178		Prep Date: 9/23/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1054	30	1000	0	105	75-125	0			
Ethylbenzene	1017	30	1000	0	102	75-125	0			
m,p-Xylene	2037	60	2000	0	102	80-125	0			
o-Xylene	1008	30	1000	0	101	75-125	0			
Toluene	1064	30	1000	0	106	70-125	0			
Xylenes, Total	3044	90	3000	0	101	75-125	0			
<i>Surr: 1,2-Dichloroethane-d4</i>	1024	0	1000	0	102	70-130	0			
<i>Surr: 4-Bromofluorobenzene</i>	985	0	1000	0	98.5	70-130	0			
<i>Surr: Dibromofluoromethane</i>	1042	0	1000	0	104	70-130	0			
<i>Surr: Toluene-d8</i>	997.5	0	1000	0	99.8	70-130	0			

LCSD		Sample ID: LCSD-63095-63095				Units: µg/Kg		Analysis Date: 9/24/2014 12:24 PM		
Client ID:		Run ID: VMS8_140923A			SeqNo: 2950191		Prep Date: 9/23/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	974.5	30	1000	0	97.4	75-125	1054	7.84	25	
Ethylbenzene	983	30	1000	0	98.3	75-125	1017	3.4	25	
m,p-Xylene	1953	60	2000	0	97.6	80-125	2037	4.21	25	
o-Xylene	975	30	1000	0	97.5	75-125	1008	3.28	25	
Toluene	1035	30	1000	0	104	70-125	1064	2.81	25	
Xylenes, Total	2928	90	3000	0	97.6	75-125	3044	3.9	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	997.5	0	1000	0	99.8	70-130	1024	2.57	0	
<i>Surr: 4-Bromofluorobenzene</i>	1003	0	1000	0	100	70-130	985	1.81	0	
<i>Surr: Dibromofluoromethane</i>	1015	0	1000	0	102	70-130	1042	2.58	0	
<i>Surr: Toluene-d8</i>	998.5	0	1000	0	99.8	70-130	997.5	0.1	0	

MS		Sample ID: 14091088-01A MS				Units: µg/Kg		Analysis Date: 9/24/2014 08:57 AM		
Client ID:		Run ID: VMS8_140923A			SeqNo: 2950158		Prep Date: 9/23/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	962.5	30	1000	22	94	75-125	0			
Ethylbenzene	918.5	30	1000	0	91.8	75-125	0			
m,p-Xylene	1843	60	2000	0	92.2	80-125	0			
o-Xylene	940.5	30	1000	0	94	75-125	0			
Toluene	946	30	1000	35	91.1	70-125	0			
Xylenes, Total	2784	90	3000	0	92.8	75-125	0			
<i>Surr: 1,2-Dichloroethane-d4</i>	1011	0	1000	0	101	70-130	0			
<i>Surr: 4-Bromofluorobenzene</i>	1025	0	1000	0	102	70-130	0			
<i>Surr: Dibromofluoromethane</i>	1024	0	1000	0	102	70-130	0			
<i>Surr: Toluene-d8</i>	933	0	1000	0	93.3	70-130	0			

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

Client: Olsson Associates
 Work Order: 1409966
 Project: Chevron FEE 91X Spill 9.17.14

QC BATCH REPORT

Batch ID: **63095** Instrument ID **VMS8** Method: **SW8260B**

MSD		Sample ID: 14091088-01A MSD				Units: µg/Kg		Analysis Date: 9/24/2014 09:22 AM		
Client ID:		Run ID: VMS8_140923A			SeqNo: 2950165		Prep Date: 9/23/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	936.5	30	1000	22	91.4	75-125	962.5	2.74	30	
Ethylbenzene	911.5	30	1000	0	91.2	75-125	918.5	0.765	30	
m,p-Xylene	1839	60	2000	0	92	80-125	1843	0.217	30	
o-Xylene	933	30	1000	0	93.3	75-125	940.5	0.801	30	
Toluene	930.5	30	1000	35	89.6	70-125	946	1.65	30	
Xylenes, Total	2772	90	3000	0	92.4	75-125	2784	0.414	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	983	0	1000	0	98.3	70-130	1011	2.81	30	
<i>Surr: 4-Bromofluorobenzene</i>	1001	0	1000	0	100	70-130	1025	2.37	30	
<i>Surr: Dibromofluoromethane</i>	948	0	1000	0	94.8	70-130	1024	7.76	30	
<i>Surr: Toluene-d8</i>	949	0	1000	0	94.9	70-130	933	1.7	30	

The following samples were analyzed in this batch: | 1409966-01A |

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

Client: Olsson Associates
Work Order: 1409966
Project: Chevron FEE 91X Spill 9.17.14

QC BATCH REPORT

Batch ID: **62992** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP	Sample ID: 1409967-02B DUP		Units: mmhos/cm @25°C		Analysis Date: 9/23/2014 03:30 PM					
Client ID:	Run ID: WETCHEM_140923J		SeqNo: 2948682		Prep Date: 9/23/2014 DF: 10					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	60.9	0.050	0	0	0		60.8	0.164	50	

The following samples were analyzed in this batch: 1409966-01B 1409966-02B

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

Client: Olsson Associates
 Work Order: 1409966
 Project: Chevron FEE 91X Spill 9.17.14

QC BATCH REPORT

Batch ID: **63060** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK	Sample ID: MBLK-63060-63060		Units: mg/Kg		Analysis Date: 9/22/2014 03:30 PM					
Client ID:	Run ID: WETCHEM_140922Q		SeqNo: 2946917		Prep Date: 9/19/2014 DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.50

LCS	Sample ID: LCS-63060-63060		Units: mg/Kg		Analysis Date: 9/22/2014 03:30 PM					
Client ID:	Run ID: WETCHEM_140922Q		SeqNo: 2946916		Prep Date: 9/19/2014 DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.924 0.50 2 0 96.2 80-120 0

MS	Sample ID: 1409966-02A MS		Units: mg/Kg		Analysis Date: 9/22/2014 03:30 PM					
Client ID: FEE91X-BG1	Run ID: WETCHEM_140922Q		SeqNo: 2946898		Prep Date: 9/19/2014 DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 0.1633 0.50 1.992 0.3651 -10.1 75-125 0 JS

MS	Sample ID: 1409966-02A MSI		Units: mg/Kg		Analysis Date: 9/22/2014 03:30 PM					
Client ID: FEE91X-BG1	Run ID: WETCHEM_140922Q		SeqNo: 2946900		Prep Date: 9/19/2014 DF: 100					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1321 50 1352 0.3651 97.7 75-125 0

MSD	Sample ID: 1409966-02A MSD		Units: mg/Kg		Analysis Date: 9/22/2014 03:30 PM					
Client ID: FEE91X-BG1	Run ID: WETCHEM_140922Q		SeqNo: 2946899		Prep Date: 9/19/2014 DF: 1					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 0.2609 0.49 1.976 0.3651 -5.27 75-125 0.1633 0 20 JS

The following samples were analyzed in this batch: 1409966-01A 1409966-02A

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

Client: Olsson Associates
Work Order: 1409966
Project: Chevron FEE 91X Spill 9.17.14

QC BATCH REPORT

Batch ID: **63106** Instrument ID **WETCHEM** Method: **SW9045D**

LCS	Sample ID: LCS-63106-63106				Units: s.u.		Analysis Date: 9/23/2014 04:00 PM			
Client ID:	Run ID: WETCHEM_140923N			SeqNo: 2948794		Prep Date: 9/23/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH 4.01 0 4 0 100 90-110 0

DUP	Sample ID: 1409932-01C DUP				Units: s.u.		Analysis Date: 9/23/2014 04:00 PM			
Client ID:	Run ID: WETCHEM_140923N			SeqNo: 2948799		Prep Date: 9/23/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH 8.21 0 0 0 0 0-0 8.34 1.57 20

DUP	Sample ID: 1409967-03A DUP				Units: s.u.		Analysis Date: 9/23/2014 04:00 PM			
Client ID:	Run ID: WETCHEM_140923N			SeqNo: 2948807		Prep Date: 9/23/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH 8 0 0 0 0 0-0 8 0 20

The following samples were analyzed in this batch: 1409966-01A 1409966-02A

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

Client: Olsson Associates
 Work Order: 1409966
 Project: Chevron FEE 91X Spill 9.17.14

QC BATCH REPORT

Batch ID: **R148814** Instrument ID **MOIST** Method: **A2540 G**

MBLK	Sample ID: WBLKS-R148814		Units: % of sample				Analysis Date: 9/23/2014 07:45 PM			
Client ID:	Run ID: MOIST_140923C		SeqNo: 2950192		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture ND 0.050

LCS	Sample ID: LCS-R148814		Units: % of sample				Analysis Date: 9/23/2014 07:45 PM			
Client ID:	Run ID: MOIST_140923C		SeqNo: 2950189		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP	Sample ID: 14091048-01B DUP		Units: % of sample				Analysis Date: 9/23/2014 07:45 PM			
Client ID:	Run ID: MOIST_140923C		SeqNo: 2950142		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 5.1 0.050 0 0 0 0-0 5.06 0.787 20

DUP	Sample ID: 1409922-01B DUP		Units: % of sample				Analysis Date: 9/23/2014 07:45 PM			
Client ID:	Run ID: MOIST_140923C		SeqNo: 2950150		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 15.32 0.050 0 0 0 0-0 14.94 2.51 20

The following samples were analyzed in this batch: 1409966-01A 1409966-02A

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



Chain of Custody Form

Page 1 of 1

COC ID: 123456

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

ALS Project Manager: _____ Work Order #: 1469966

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	Chevron FEE 81X Spill	A	TPH (GRO & DRO)										
Work Order		Project Number	013.3287.100.100004	B	BTEX										
Company Name	Olsson Associates	Bill To Company	Olsson Associates	C	PAH (See Attached List) CO Table 910										
Send Report To	Tim Dobransky	Invoice Attn	Tim Dobransky	D	Electrical Conductivity										
Address	760 Horizon Drive, Ste. 102	Address	760 Horizon Drive, Ste. 102	E	Sodium Adsorption Ratio										
				F	pH										
City/State/Zip	Grand Junction, CO 81508	City/State/Zip	Grand Junction, CO 81508	G	Metals (See Attached List) CO Table 910										
Phone	870.263.7800	Phone	870.263.7800	H	Arsenic Only										
Fax	870.263.7456	Fax	870.263.7456	I											
e-Mail Address	tdobransky@olsson.com	e-Mail Address		J											

No.	Sample Description	Date	Time	Matrix	Pres.	F Notes	A	B	C	D	E	F	G	H	I	J	Field
1	FEE91X-SS1	09/17/14	1405	Soil	8	2	X	X	X	X	X	X	X				
2	FEE91X-BG1	09/17/14	1410	Soil	8	2				X	X	X	X				
3																	
4																	
5																	
6																	
7																	

Sampler(s): Please Print & Sign: Tim Dobransky Shipment Method: FedEx Required Turnaround Time: STD 10 Wk Days 5 Wk Days 2 Wk Days 24 Hour Other _____ Residue Due Date: _____

Relinquished by: <u>[Signature]</u>	Date: <u>9/18/14</u>	Time: <u>1630</u>	Received by: <u>FedEx</u>	Notes: <u>Chevron Pricing Applies - Per Bruce Schiatter</u>
Relinquished by: <u>FedEx</u>	Date: <u>9/19/14</u>	Time: <u>0900</u>	Received by (Laboratory): <u>[Signature]</u>	Cooler Temp: <u>4.2°C</u>
Logged by (Laboratory): <u>KW</u>	Date: <u>9/19/14</u>	Time: <u>1135</u>	Checked by (Laboratory): <u>[Signature]</u>	QC Package: (Check Box Below)
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035				<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: _____

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental. Copyright 2011 by ALS Group

Sample Receipt Checklist

Client Name: **OLSSON**

Date/Time Received: **19-Sep-14 09:00**

Work Order: **1409966**

Received by: **KRW**

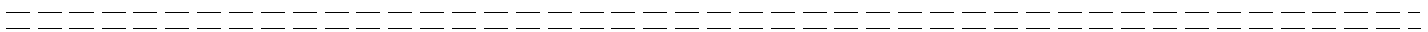
Checklist completed by Keith Warenga 19-Sep-14
eSignature Date

Reviewed by: Ann Preston 22-Sep-14
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"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<input type="text" value="4.2 C"/>		
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<input type="text" value="9/19/2014 12:25:47 PM"/>		
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:	<input type="text"/>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

ALS Environment
Houston, Texas 77099
Phone: 281-530-3030
Client: Olsson
Sample ID:
Date: 9/18/14
Analysis: Preservative Neat
BO Prep'd on: 4/26/01