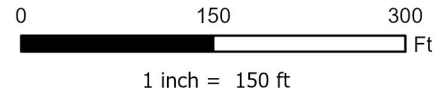




Legend
 ● Spill Origin ● Soil Sample Location ~ Spill Path



Project No: 018-065
 Map By: NDB
 Date: 8/28/2020

FV Larson B4 Spill
 Chevron USA, Inc.
 Rio Blanco County, Colorado
 NWNW Section 36 T2S R102W



330 Grand Avenue, Unit C
 Grand Junction, CO 81501
 970-549-1015

Figure

1

**Table 1
Chevron FV Larson B4
Soil Data Summary**

SAMPLE SUMMARY	
Location Description	FV Larson B4 Spill
Sample Type	Grab Soil

LABORATORY DATA SUMMARY																	
Sample ID	FVLARB4-SS1	FVLARB4-SS1	FVLARB4-SS2	FVLARB4-SS2	FVLARB4-SS3	FVLARB4-SS3	FVLARB4-SS4	FVLARB4-SS4	FVLARB4-SS5	FVLARB4-SS5	FVLARB4-SS6	FVLARB4-SS6	FVLARB4-BG1	FVLARB4-BG2	FVLARB4-BG3	COGCC TABLE 910-1 CONCENTRATION LEVELS	UNITS
Depth	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"		
Sample Date	10/5/2016	5/7/2020	10/5/2016	5/7/2020	10/5/2016	5/7/2020	10/5/2016	5/7/2020	10/5/2016	5/7/2020	10/5/2016	5/7/2020	10/5/2016	10/5/2016	10/5/2016		
Analytical Parameters																	
TPH																	
TPH Gasoline Range Organics	<3.2	NT	<3.5	NT	<3.6	NT	<3.2	NT	<3.7	NT	<3.2	NT	NT	NT	NT	500	mg/kg
TPH Diesel Range Organics	230	NT	51	NT	22	NT	35	NT	41	NT	25	NT	NT	NT	NT		
BTEX																	
Benzene	<0.039	NT	<0.041	NT	<0.043	NT	<0.038	NT	<0.044	NT	<0.039	NT	NT	NT	NT	0.17	mg/kg
Toluene	<0.039	NT	<0.041	NT	<0.043	NT	<0.038	NT	<0.044	NT	<0.039	NT	NT	NT	NT	85	mg/kg
Ethylbenzene	<0.039	NT	<0.041	NT	<0.043	NT	<0.038	NT	<0.044	NT	<0.039	NT	NT	NT	NT	100	mg/kg
Total Xylene	<0.12	NT	<0.12	NT	<0.13	NT	<0.11	NT	<0.13	NT	<0.12	NT	NT	NT	NT	175	mg/kg
Metals																	
Arsenic	9.9	NT	9.7	NT	8.7	NT	9.4	NT	9.4	NT	9.7	NT	11	9.6	7.5	0.39	mg/kg
Barium	180	NT	210	NT	120	NT	170	NT	180	NT	200	NT	240	NT	NT	15,000	mg/kg
Cadmium	0.51	NT	0.45	NT	<0.41	NT	<0.43	NT	<0.41	NT	<0.41	NT	<0.38	NT	NT	70	mg/kg
Chromium	13	NT	13	NT	9.7	NT	9.3	NT	12	NT	12	NT	11	NT	NT	NA	mg/kg
Copper	20	NT	18	NT	13	NT	12	NT	14	NT	15	NT	11	NT	NT	3,100	mg/kg
Lead	26	NT	20	NT	15	NT	14	NT	16	NT	16	NT	11	NT	NT	400	mg/kg
Mercury	0.070	NT	0.053	NT	0.020	NT	0.018	NT	0.026	NT	0.027	NT	0.019	NT	NT	23	mg/kg
Nickel	26	NT	23	NT	17	NT	19	NT	19	NT	20	NT	16	NT	NT	1,600	mg/kg
Selenium	1.9	NT	1.7	NT	<0.82	NT	1.6	NT	0.88	NT	1.2	NT	<0.76	NT	NT	390	mg/kg
Silver	<0.44	NT	<0.44	NT	<0.41	NT	<0.36	NT	0.41	NT	<0.41	NT	<0.38	NT	NT	390	mg/kg
Zinc	110	NT	94	NT	71	NT	76	NT	80	NT	86	NT	49	NT	NT	23,000	mg/kg
SAR Metals Analysis																	
Calcium	510	61	210	80	660	78	580	54	680	120	380	NT	140	NT	NT	NA	mg/L
Magnesium	230	9.7	36	12	4000	11	2800	9.2	3600	12	100	NT	15	NT	NT	NA	mg/L
Sodium	1300	40	1100	20	17000	6.7	17000	69	17000	3.7	410	NT	8.3	NT	NT	NA	mg/L
Sodium Adsorption Ratio	25	1.2	19	0.54	54	0.19	66	2.3	58	0.086	4.8	NT	0.18	NT	NT	<12	ratio
Polynuclear Aromatic Hydrocarbons																	
Acenaphthene	<0.0074	NT	<0.0078	NT	<0.0081	NT	<0.0073	NT	<0.0081	NT	<0.0076	NT	NT	NT	NT	1,000	mg/kg
Anthracene	<0.0074	NT	<0.0078	NT	<0.0081	NT	<0.0073	NT	<0.0081	NT	<0.0076	NT	NT	NT	NT	1,000	mg/kg
Benzo(a)anthracene	<0.0074	NT	<0.0078	NT	<0.0081	NT	<0.0073	NT	<0.0081	NT	<0.0076	NT	NT	NT	NT	0.22	mg/kg
Benzo(a)pyrene	<0.0074	NT	<0.0078	NT	<0.0081	NT	<0.0073	NT	<0.0081	NT	<0.0076	NT	NT	NT	NT	0.022	mg/kg
Benzo(b)fluoranthene	<0.0074	NT	<0.0078	NT	<0.0081	NT	<0.0073	NT	<0.0081	NT	<0.0076	NT	NT	NT	NT	0.22	mg/kg
Benzo(k)fluoranthene	<0.0074	NT	<0.0078	NT	<0.0081	NT	<0.0073	NT	<0.0081	NT	<0.0076	NT	NT	NT	NT	2.2	mg/kg
Chrysene	<0.0074	NT	<0.0078	NT	<0.0081	NT	<0.0073	NT	<0.0081	NT	<0.0076	NT	NT	NT	NT	22	mg/kg
Dibenzo(a,h)anthracene	<0.0074	NT	<0.0078	NT	<0.0081	NT	<0.0073	NT	<0.0081	NT	<0.0076	NT	NT	NT	NT	0.022	mg/kg
Fluoranthene	<0.0074	NT	<0.0078	NT	<0.0081	NT	<0.0073	NT	<0.0081	NT	<0.0076	NT	NT	NT	NT	1,000	mg/kg
Fluorene	<0.0074	NT	<0.0078	NT	<0.0081	NT	<0.0073	NT	<0.0081	NT	<0.0076	NT	NT	NT	NT	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	<0.0074	NT	<0.0078	NT	<0.0081	NT	<0.0073	NT	<0.0081	NT	<0.0076	NT	NT	NT	NT	0.22	mg/kg
Napthalene	<0.0074	NT	<0.0078	NT	<0.0081	NT	<0.0073	NT	<0.0081	NT	<0.0076	NT	NT	NT	NT	23	mg/kg
Pyrene	<0.0074	NT	<0.0078	NT	<0.0081	NT	<0.0073	NT	<0.0081	NT	<0.0076	NT	NT	NT	NT	1,000	mg/kg
General Chemistry																	
Chromium, Hexavalent	<1.1	NT	<1.2	NT	<1.2	NT	<1.1	NT	<1.2	NT	<1.1	NT	<1.1	NT	NT	23	mg/kg
Chromium, Trivalent	12	NT	13	NT	9.7	NT	9.3	NT	12	NT	12	NT	11	NT	NT	120,000	mg/kg
Specific Conductivity	16	0.53	8.0	0.55	120	0.47	120	0.61	110	0.63	8.2	0.40	1.2	NT	NT	<4 or 2 x the background	mmhos/cm
pH	7.5	NT	9.1	NT	8.4	NT	8.4	NT	8.5	NT	8.1	NT	8.6	NT	NT	6-9	su

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

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



25-Oct-2016

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

Re: **Chevron FV Larson B4 Spill**

Work Order: **1610391**

Dear Tim,

ALS Environmental received 9 samples on 07-Oct-2016 09:00 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 39.

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

Sincerely,

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

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager



Certificate No: MN 998501

Report of Laboratory Analysis

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

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Environmental ALS Environmental logo icon.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Olsson Associates
Project: Chevron FV Larson B4 Spill
Work Order: 1610391

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>
1610391-01	FVLARB4-SS1	Soil		10/5/2016 14:00	10/7/2016 09:00	<input type="checkbox"/>
1610391-02	FVLARB4-BG1	Soil		10/5/2016 14:10	10/7/2016 09:00	<input type="checkbox"/>
1610391-03	FVLARB4-SS2	Soil		10/5/2016 14:25	10/7/2016 09:00	<input type="checkbox"/>
1610391-04	FVLARB4-BG2	Soil		10/5/2016 14:35	10/7/2016 09:00	<input type="checkbox"/>
1610391-05	FVLARB4-SS3	Soil		10/5/2016 14:45	10/7/2016 09:00	<input type="checkbox"/>
1610391-06	FVLARB4-SS4	Soil		10/5/2016 14:55	10/7/2016 09:00	<input type="checkbox"/>
1610391-07	FVLARB4-BG3	Soil		10/5/2016 15:05	10/7/2016 09:00	<input type="checkbox"/>
1610391-08	FVLARB4-SS5	Soil		10/5/2016 15:15	10/7/2016 09:00	<input type="checkbox"/>
1610391-09	FVLARB4-SS6	Soil		10/5/2016 15:30	10/7/2016 09:00	<input type="checkbox"/>

Client: Olsson Associates
Project: Chevron FV Larson B4 Spill
Work Order: 1610391

Case Narrative

Batch 92733, Method CR6_7196_S, Sample 1610391-02A MS/MSD: The MS and MSD recovery was below the lower control limit for Hexavalent Chromium. The corresponding result in the parent sample may be biased low.

Batch 92968, Method ICP_6010_S, Sample 1610391-06A MS/MSD: The MS and MSD recoveries were outside of the control limits for Barium and Zinc; however, the results in the parent sample are greater than 4x the spike amount. No qualification is required.

Batch 92968, Method ICP_6010_S, Sample 1610391-06A MS/MSD: The MS and MSD recovery was above the upper control limit for Chromium. The corresponding result in the parent sample 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
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<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
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

Client: Olsson Associates
 Project: Chevron FV Larson B4 Spill
 Sample ID: FVLARB4-SS1
 Collection Date: 10/5/2016 02:00 PM

Work Order: 1610391
 Lab ID: 1610391-01
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			SW8015M		Prep: SW3546 / 10/17/16	Analyst: IT
DRO (C10-C28)	230		5.5	mg/Kg-dry	1	10/17/2016 07:43 PM
Surr: 4-Terphenyl-d14	65.8		39-133	%REC	1	10/17/2016 07:43 PM
GASOLINE RANGE ORGANICS BY GC-FID			SW8015D		Prep: SW5035 / 10/10/16	Analyst: IT
GRO (C6-C10)	ND		3.2	mg/Kg-dry	1	10/11/2016 12:16 PM
Surr: Toluene-d8	94.4		50-150	%REC	1	10/11/2016 12:16 PM
MERCURY BY CVAA			SW7471B		Prep: SW7471 / 10/19/16	Analyst: LR
Mercury	0.070		0.017	mg/Kg-dry	1	10/19/2016 07:12 PM
METALS ANALYSIS BY ICP			SW846 6010C		Prep: SW3050B / 10/15/16	Analyst: RH
Arsenic	9.9		0.44	mg/Kg-dry	1	10/18/2016 04:57 AM
Barium	180		0.44	mg/Kg-dry	1	10/18/2016 04:57 AM
Cadmium	0.51		0.44	mg/Kg-dry	1	10/18/2016 04:57 AM
Chromium	13		0.44	mg/Kg-dry	1	10/18/2016 04:57 AM
Copper	20		0.44	mg/Kg-dry	1	10/18/2016 04:57 AM
Lead	26		0.44	mg/Kg-dry	1	10/18/2016 04:57 AM
Nickel	26		0.44	mg/Kg-dry	1	10/18/2016 04:57 AM
Selenium	1.9		0.89	mg/Kg-dry	1	10/19/2016 10:06 AM
Silver	ND		0.44	mg/Kg-dry	1	10/18/2016 06:41 PM
Zinc	110		0.89	mg/Kg-dry	1	10/18/2016 04:57 AM
SOLUBLE CATIONS FOR SAR			SW846 6010C		Prep: USDA Method 20B / 10/19/16	Analyst: RH
Calcium	510		5.0	mg/L	10	10/21/2016 01:21 AM
Magnesium	230		2.0	mg/L	10	10/21/2016 01:21 AM
Sodium	1,300		2.0	mg/L	10	10/21/2016 01:21 AM
SODIUM ADSORPTION RATIO			USDA H60 METHO		Prep: USDA Method 20B / 10/19/16	Analyst: RH
Sodium Adsorption Ratio	12		0.010	none	1	10/20/2016
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3546 / 10/17/16	Analyst: RS
Acenaphthene	ND		0.0074	mg/Kg-dry	1	10/19/2016 06:45 AM
Anthracene	ND		0.0074	mg/Kg-dry	1	10/19/2016 06:45 AM
Benzo(a)anthracene	ND		0.0074	mg/Kg-dry	1	10/19/2016 06:45 AM
Benzo(a)pyrene	ND		0.0074	mg/Kg-dry	1	10/19/2016 06:45 AM
Benzo(b)fluoranthene	ND		0.0074	mg/Kg-dry	1	10/19/2016 06:45 AM
Benzo(k)fluoranthene	ND		0.0074	mg/Kg-dry	1	10/19/2016 06:45 AM
Chrysene	ND		0.0074	mg/Kg-dry	1	10/19/2016 06:45 AM
Dibenzo(a,h)anthracene	ND		0.0074	mg/Kg-dry	1	10/19/2016 06:45 AM
Fluoranthene	ND		0.0074	mg/Kg-dry	1	10/19/2016 06:45 AM

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

ALS Group USA, Corp

Date: 25-Oct-16

Client: Olsson Associates
Project: Chevron FV Larson B4 Spill
Sample ID: FVLARB4-SS1
Collection Date: 10/5/2016 02:00 PM

Work Order: 1610391
Lab ID: 1610391-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0074	mg/Kg-dry	1	10/19/2016 06:45 AM
Indeno(1,2,3-cd)pyrene	ND		0.0074	mg/Kg-dry	1	10/19/2016 06:45 AM
Naphthalene	ND		0.0074	mg/Kg-dry	1	10/19/2016 06:45 AM
Pyrene	ND		0.0074	mg/Kg-dry	1	10/19/2016 06:45 AM
Surr: 2-Fluorobiphenyl	63.5		12-100	%REC	1	10/19/2016 06:45 AM
Surr: 4-Terphenyl-d14	95.1		25-137	%REC	1	10/19/2016 06:45 AM
Surr: Nitrobenzene-d5	66.8		37-107	%REC	1	10/19/2016 06:45 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 10/10/16	Analyst: LSY
Benzene	ND		0.039	mg/Kg-dry	1	10/16/2016 02:31 PM
Ethylbenzene	ND		0.039	mg/Kg-dry	1	10/16/2016 02:31 PM
m,p-Xylene	ND		0.078	mg/Kg-dry	1	10/16/2016 02:31 PM
o-Xylene	ND		0.039	mg/Kg-dry	1	10/16/2016 02:31 PM
Toluene	ND		0.039	mg/Kg-dry	1	10/16/2016 02:31 PM
Xylenes, Total	ND		0.12	mg/Kg-dry	1	10/16/2016 02:31 PM
Surr: 1,2-Dichloroethane-d4	94.4		70-130	%REC	1	10/16/2016 02:31 PM
Surr: 4-Bromofluorobenzene	93.0		70-130	%REC	1	10/16/2016 02:31 PM
Surr: Dibromofluoromethane	90.2		70-130	%REC	1	10/16/2016 02:31 PM
Surr: Toluene-d8	97.2		70-130	%REC	1	10/16/2016 02:31 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO		Prep: USDA Method 20B / 10/19/16	Analyst: JB
Electrical Conductivity @ Saturation	16		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	12		0.58	mg/Kg-dry	1	10/18/2016 03:30 PM
CHROMIUM, HEXAVALENT			SW7196A		Prep: SW3060A / 10/11/16	Analyst: MB
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	10/12/2016 04:00 PM
MOISTURE			SW3550C			Analyst: EDL
Moisture	13		0.050	% of sample	1	10/11/2016 06:39 PM
PH			SW9045D		Prep: EXTRACT / 10/11/16	Analyst: LW
pH	7.5			s.u.	1	10/11/2016 03:00 PM

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

ALS Group USA, Corp

Date: 25-Oct-16

Client: Olsson Associates
Project: Chevron FV Larson B4 Spill
Sample ID: FVLARB4-BG1
Collection Date: 10/5/2016 02:10 PM

Work Order: 1610391
Lab ID: 1610391-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA			SW7471B		Prep: SW7471 / 10/19/16	Analyst: LR
Mercury	0.019		0.016	mg/Kg-dry	1	10/19/2016 07:15 PM
METALS ANALYSIS BY ICP			SW846 6010C		Prep: SW3050B / 10/15/16	Analyst: RH
Arsenic	11		0.38	mg/Kg-dry	1	10/18/2016 05:03 AM
Barium	240		0.38	mg/Kg-dry	1	10/18/2016 05:03 AM
Cadmium	ND		0.38	mg/Kg-dry	1	10/18/2016 05:03 AM
Chromium	11		0.38	mg/Kg-dry	1	10/18/2016 05:03 AM
Copper	11		0.38	mg/Kg-dry	1	10/18/2016 05:03 AM
Lead	11		0.38	mg/Kg-dry	1	10/18/2016 05:03 AM
Nickel	16		0.38	mg/Kg-dry	1	10/18/2016 05:03 AM
Selenium	ND		0.76	mg/Kg-dry	1	10/18/2016 05:03 AM
Silver	ND		0.38	mg/Kg-dry	1	10/18/2016 06:46 PM
Zinc	49		0.76	mg/Kg-dry	1	10/18/2016 05:03 AM
SOLUBLE CATIONS FOR SAR			SW846 6010C		Prep: USDA Method 20B / 10/19/16	Analyst: RH
Calcium	140		5.0	mg/L	10	10/21/2016 01:27 AM
Magnesium	15		2.0	mg/L	10	10/21/2016 01:27 AM
Sodium	8.3		2.0	mg/L	10	10/21/2016 08:55 PM
SODIUM ADSORPTION RATIO			USDA H60 METHO		Prep: USDA Method 20B / 10/19/16	Analyst: RH
Sodium Adsorption Ratio	0.18		0.010	none	1	10/20/2016
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO		Prep: USDA Method 20B / 10/19/16	Analyst: JB
Electrical Conductivity @ Saturation	1.2		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	11		0.55	mg/Kg-dry	1	10/18/2016 03:30 PM
CHROMIUM, HEXAVALENT			SW7196A		Prep: SW3060A / 10/11/16	Analyst: MB
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	10/12/2016 04:00 PM
MOISTURE			SW3550C			Analyst: EDL
Moisture	9.0		0.050	% of sample	1	10/11/2016 06:39 PM
PH			SW9045D		Prep: EXTRACT / 10/11/16	Analyst: LW
pH	8.6			s.u.	1	10/11/2016 03:00 PM

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

Client: Olsson Associates
 Project: Chevron FV Larson B4 Spill
 Sample ID: FVLARB4-SS2
 Collection Date: 10/5/2016 02:25 PM

Work Order: 1610391
 Lab ID: 1610391-03
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			SW8015M		Prep: SW3546 / 10/17/16	Analyst: IT
DRO (C10-C28)	51		5.9	mg/Kg-dry	1	10/17/2016 08:13 PM
Surr: 4-Terphenyl-d14	68.1		39-133	%REC	1	10/17/2016 08:13 PM
GASOLINE RANGE ORGANICS BY GC-FID			SW8015D		Prep: SW5035 / 10/10/16	Analyst: IT
GRO (C6-C10)	ND		3.5	mg/Kg-dry	1	10/11/2016 12:41 PM
Surr: Toluene-d8	97.9		50-150	%REC	1	10/11/2016 12:41 PM
MERCURY BY CVAA			SW7471B		Prep: SW7471 / 10/19/16	Analyst: LR
Mercury	0.053		0.015	mg/Kg-dry	1	10/19/2016 07:18 PM
METALS ANALYSIS BY ICP			SW846 6010C		Prep: SW3050B / 10/15/16	Analyst: RH
Arsenic	9.7		0.44	mg/Kg-dry	1	10/18/2016 05:09 AM
Barium	210		0.44	mg/Kg-dry	1	10/18/2016 05:09 AM
Cadmium	0.45		0.44	mg/Kg-dry	1	10/18/2016 05:09 AM
Chromium	13		0.44	mg/Kg-dry	1	10/18/2016 05:09 AM
Copper	18		0.44	mg/Kg-dry	1	10/18/2016 05:09 AM
Lead	20		0.44	mg/Kg-dry	1	10/18/2016 05:09 AM
Nickel	23		0.44	mg/Kg-dry	1	10/18/2016 05:09 AM
Selenium	1.7		0.87	mg/Kg-dry	1	10/19/2016 10:12 AM
Silver	ND		0.44	mg/Kg-dry	1	10/18/2016 06:58 PM
Zinc	94		0.87	mg/Kg-dry	1	10/18/2016 05:09 AM
SOLUBLE CATIONS FOR SAR			SW846 6010C		Prep: USDA Method 20B / 10/19/16	Analyst: RH
Calcium	210		5.0	mg/L	10	10/21/2016 01:32 AM
Magnesium	36		2.0	mg/L	10	10/21/2016 01:32 AM
Sodium	1,100		2.0	mg/L	10	10/21/2016 01:32 AM
SODIUM ADSORPTION RATIO			USDA H60 METHO		Prep: USDA Method 20B / 10/19/16	Analyst: RH
Sodium Adsorption Ratio	19		0.010	none	1	10/20/2016
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3546 / 10/17/16	Analyst: JF
Acenaphthene	ND		0.0078	mg/Kg-dry	1	10/20/2016 04:15 AM
Anthracene	ND		0.0078	mg/Kg-dry	1	10/20/2016 04:15 AM
Benzo(a)anthracene	ND		0.0078	mg/Kg-dry	1	10/20/2016 04:15 AM
Benzo(a)pyrene	ND		0.0078	mg/Kg-dry	1	10/20/2016 04:15 AM
Benzo(b)fluoranthene	ND		0.0078	mg/Kg-dry	1	10/20/2016 04:15 AM
Benzo(k)fluoranthene	ND		0.0078	mg/Kg-dry	1	10/20/2016 04:15 AM
Chrysene	ND		0.0078	mg/Kg-dry	1	10/20/2016 04:15 AM
Dibenzo(a,h)anthracene	ND		0.0078	mg/Kg-dry	1	10/20/2016 04:15 AM
Fluoranthene	ND		0.0078	mg/Kg-dry	1	10/20/2016 04:15 AM

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

ALS Group USA, Corp

Date: 25-Oct-16

Client: Olsson Associates
Project: Chevron FV Larson B4 Spill
Sample ID: FVLARB4-SS2
Collection Date: 10/5/2016 02:25 PM

Work Order: 1610391
Lab ID: 1610391-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0078	mg/Kg-dry	1	10/20/2016 04:15 AM
Indeno(1,2,3-cd)pyrene	ND		0.0078	mg/Kg-dry	1	10/20/2016 04:15 AM
Naphthalene	ND		0.0078	mg/Kg-dry	1	10/20/2016 04:15 AM
Pyrene	ND		0.0078	mg/Kg-dry	1	10/20/2016 04:15 AM
Surr: 2-Fluorobiphenyl	79.8		12-100	%REC	1	10/20/2016 04:15 AM
Surr: 4-Terphenyl-d14	81.4		25-137	%REC	1	10/20/2016 04:15 AM
Surr: Nitrobenzene-d5	73.6		37-107	%REC	1	10/20/2016 04:15 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 10/10/16	Analyst: LSY
Benzene	ND		0.041	mg/Kg-dry	1	10/16/2016 02:54 PM
Ethylbenzene	ND		0.041	mg/Kg-dry	1	10/16/2016 02:54 PM
m,p-Xylene	ND		0.083	mg/Kg-dry	1	10/16/2016 02:54 PM
o-Xylene	ND		0.041	mg/Kg-dry	1	10/16/2016 02:54 PM
Toluene	ND		0.041	mg/Kg-dry	1	10/16/2016 02:54 PM
Xylenes, Total	ND		0.12	mg/Kg-dry	1	10/16/2016 02:54 PM
Surr: 1,2-Dichloroethane-d4	98.5		70-130	%REC	1	10/16/2016 02:54 PM
Surr: 4-Bromofluorobenzene	90.7		70-130	%REC	1	10/16/2016 02:54 PM
Surr: Dibromofluoromethane	91.8		70-130	%REC	1	10/16/2016 02:54 PM
Surr: Toluene-d8	99.8		70-130	%REC	1	10/16/2016 02:54 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO		Prep: USDA Method 20B / 10/19/16	Analyst: JB
Electrical Conductivity @ Saturation	8.0		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	13		0.60	mg/Kg-dry	1	10/18/2016 03:30 PM
CHROMIUM, HEXAVALENT			SW7196A		Prep: SW3060A / 10/11/16	Analyst: MB
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	10/12/2016 04:00 PM
MOISTURE			SW3550C			Analyst: EDL
Moisture	16		0.050	% of sample	1	10/11/2016 06:39 PM
PH			SW9045D		Prep: EXTRACT / 10/11/16	Analyst: LW
pH	9.1			s.u.	1	10/11/2016 03:00 PM

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

ALS Group USA, Corp

Date: 25-Oct-16

Client: Olsson Associates
Project: Chevron FV Larson B4 Spill
Sample ID: FVLARB4-BG2
Collection Date: 10/5/2016 02:35 PM

Work Order: 1610391
Lab ID: 1610391-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS ANALYSIS BY ICP			SW846 6010C		Prep: SW3050B / 10/15/16	Analyst: RH
Arsenic	9.6		0.47	mg/Kg-dry	1	10/18/2016 05:15 AM
MOISTURE			SW3550C			Analyst: EDL
Moisture	21		0.050	% of sample	1	10/11/2016 06:39 PM

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

ALS Group USA, Corp

Date: 25-Oct-16

Client: Olsson Associates
Project: Chevron FV Larson B4 Spill
Sample ID: FVLARB4-SS3
Collection Date: 10/5/2016 02:45 PM

Work Order: 1610391
Lab ID: 1610391-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			SW8015M		Prep: SW3546 / 10/17/16	Analyst: IT
DRO (C10-C28)	22		6.1	mg/Kg-dry	1	10/17/2016 08:42 PM
<i>Surr: 4-Terphenyl-d14</i>	51.6		39-133	%REC	1	10/17/2016 08:42 PM
GASOLINE RANGE ORGANICS BY GC-FID			SW8015D		Prep: SW5035 / 10/10/16	Analyst: IT
GRO (C6-C10)	ND		3.6	mg/Kg-dry	1	10/11/2016 01:06 AM
<i>Surr: Toluene-d8</i>	98.8		50-150	%REC	1	10/11/2016 01:06 AM
MERCURY BY CVAA			SW7471B		Prep: SW7471 / 10/19/16	Analyst: LR
Mercury	0.020		0.015	mg/Kg-dry	1	10/19/2016 07:20 PM
METALS ANALYSIS BY ICP			SW846 6010C		Prep: SW3050B / 10/15/16	Analyst: RH
Arsenic	8.7		0.41	mg/Kg-dry	1	10/18/2016 05:20 AM
Barium	120		0.41	mg/Kg-dry	1	10/18/2016 05:20 AM
Cadmium	ND		0.41	mg/Kg-dry	1	10/18/2016 05:20 AM
Chromium	9.7		0.41	mg/Kg-dry	1	10/18/2016 05:20 AM
Copper	13		0.41	mg/Kg-dry	1	10/18/2016 05:20 AM
Lead	15		0.41	mg/Kg-dry	1	10/18/2016 05:20 AM
Nickel	17		0.41	mg/Kg-dry	1	10/18/2016 05:20 AM
Selenium	ND		0.82	mg/Kg-dry	1	10/18/2016 05:20 AM
Silver	ND		0.41	mg/Kg-dry	1	10/18/2016 07:03 PM
Zinc	71		0.82	mg/Kg-dry	1	10/18/2016 05:20 AM
SOLUBLE CATIONS FOR SAR			SW846 6010C		Prep: USDA Method 20B / 10/19/16	Analyst: RH
Calcium	660		5.0	mg/L	10	10/21/2016 01:38 AM
Magnesium	4,000		2.0	mg/L	10	10/21/2016 01:38 AM
Sodium	17,000		20	mg/L	100	10/21/2016 09:01 PM
SODIUM ADSORPTION RATIO			USDA H60 METHO		Prep: USDA Method 20B / 10/19/16	Analyst: RH
Sodium Adsorption Ratio	54		0.010	none	1	10/20/2016
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3546 / 10/17/16	Analyst: RM
Acenaphthene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:14 AM
Anthracene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:14 AM
Benzo(a)anthracene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:14 AM
Benzo(a)pyrene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:14 AM
Benzo(b)fluoranthene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:14 AM
Benzo(k)fluoranthene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:14 AM
Chrysene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:14 AM
Dibenzo(a,h)anthracene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:14 AM
Fluoranthene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:14 AM

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

ALS Group USA, Corp

Date: 25-Oct-16

Client: Olsson Associates
Project: Chevron FV Larson B4 Spill
Sample ID: FVLARB4-SS3
Collection Date: 10/5/2016 02:45 PM

Work Order: 1610391
Lab ID: 1610391-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:14 AM
Indeno(1,2,3-cd)pyrene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:14 AM
Naphthalene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:14 AM
Pyrene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:14 AM
Surr: 2-Fluorobiphenyl	58.8		12-100	%REC	1	10/18/2016 04:14 AM
Surr: 4-Terphenyl-d14	55.2		25-137	%REC	1	10/18/2016 04:14 AM
Surr: Nitrobenzene-d5	51.1		37-107	%REC	1	10/18/2016 04:14 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 10/10/16	Analyst: LSY
Benzene	ND		0.043	mg/Kg-dry	1	10/16/2016 03:18 PM
Ethylbenzene	ND		0.043	mg/Kg-dry	1	10/16/2016 03:18 PM
m,p-Xylene	ND		0.086	mg/Kg-dry	1	10/16/2016 03:18 PM
o-Xylene	ND		0.043	mg/Kg-dry	1	10/16/2016 03:18 PM
Toluene	ND		0.043	mg/Kg-dry	1	10/16/2016 03:18 PM
Xylenes, Total	ND		0.13	mg/Kg-dry	1	10/16/2016 03:18 PM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	10/16/2016 03:18 PM
Surr: 4-Bromofluorobenzene	90.2		70-130	%REC	1	10/16/2016 03:18 PM
Surr: Dibromofluoromethane	90.4		70-130	%REC	1	10/16/2016 03:18 PM
Surr: Toluene-d8	99.6		70-130	%REC	1	10/16/2016 03:18 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO		Prep: USDA Method 20B / 10/19/16	Analyst: JB
Electrical Conductivity @ Saturation	120		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	9.7		0.61	mg/Kg-dry	1	10/18/2016 03:30 PM
CHROMIUM, HEXAVALENT			SW7196A		Prep: SW3060A / 10/11/16	Analyst: MB
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	10/12/2016 04:00 PM
MOISTURE			SW3550C			Analyst: EDL
Moisture	18		0.050	% of sample	1	10/11/2016 06:39 PM
PH			SW9045D		Prep: EXTRACT / 10/11/16	Analyst: LW
pH	8.4			s.u.	1	10/11/2016 03:00 PM

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

Client: Olsson Associates
 Project: Chevron FV Larson B4 Spill
 Sample ID: FVLARB4-SS4
 Collection Date: 10/5/2016 02:55 PM

Work Order: 1610391
 Lab ID: 1610391-06
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			SW8015M		Prep: SW3546 / 10/17/16	Analyst: IT
DRO (C10-C28)	35		5.5	mg/Kg-dry	1	10/17/2016 09:12 PM
Surr: 4-Terphenyl-d14	59.1		39-133	%REC	1	10/17/2016 09:12 PM
GASOLINE RANGE ORGANICS BY GC-FID			SW8015D		Prep: SW5035 / 10/10/16	Analyst: IT
GRO (C6-C10)	ND		3.2	mg/Kg-dry	1	10/11/2016 01:31 AM
Surr: Toluene-d8	97.0		50-150	%REC	1	10/11/2016 01:31 AM
MERCURY BY CVAA			SW7471B		Prep: SW7471 / 10/19/16	Analyst: LR
Mercury	0.018		0.015	mg/Kg-dry	1	10/19/2016 03:02 PM
METALS ANALYSIS BY ICP			SW846 6010C		Prep: SW3050B / 10/15/16	Analyst: RH
Arsenic	9.4		0.43	mg/Kg-dry	1	10/18/2016 05:26 AM
Barium	170		0.43	mg/Kg-dry	1	10/18/2016 05:26 AM
Cadmium	ND		0.43	mg/Kg-dry	1	10/18/2016 05:26 AM
Chromium	9.3		0.43	mg/Kg-dry	1	10/18/2016 05:26 AM
Copper	12		0.43	mg/Kg-dry	1	10/18/2016 05:26 AM
Lead	14		0.43	mg/Kg-dry	1	10/18/2016 05:26 AM
Nickel	19		0.43	mg/Kg-dry	1	10/18/2016 05:26 AM
Selenium	1.6		0.86	mg/Kg-dry	1	10/18/2016 05:26 AM
Silver	ND		0.43	mg/Kg-dry	1	10/18/2016 07:09 PM
Zinc	76		0.86	mg/Kg-dry	1	10/18/2016 05:26 AM
SOLUBLE CATIONS FOR SAR			SW846 6010C		Prep: USDA Method 20B / 10/19/16	Analyst: RH
Calcium	580		5.0	mg/L	10	10/21/2016 01:43 AM
Magnesium	2,800		2.0	mg/L	10	10/21/2016 01:43 AM
Sodium	17,000		20	mg/L	100	10/21/2016 09:07 PM
SODIUM ADSORPTION RATIO			USDA H60 METHO		Prep: USDA Method 20B / 10/19/16	Analyst: RH
Sodium Adsorption Ratio	66		0.010	none	1	10/20/2016
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3546 / 10/17/16	Analyst: RM
Acenaphthene	ND		0.0073	mg/Kg-dry	1	10/18/2016 04:35 AM
Anthracene	ND		0.0073	mg/Kg-dry	1	10/18/2016 04:35 AM
Benzo(a)anthracene	ND		0.0073	mg/Kg-dry	1	10/18/2016 04:35 AM
Benzo(a)pyrene	ND		0.0073	mg/Kg-dry	1	10/18/2016 04:35 AM
Benzo(b)fluoranthene	ND		0.0073	mg/Kg-dry	1	10/18/2016 04:35 AM
Benzo(k)fluoranthene	ND		0.0073	mg/Kg-dry	1	10/18/2016 04:35 AM
Chrysene	ND		0.0073	mg/Kg-dry	1	10/18/2016 04:35 AM
Dibenzo(a,h)anthracene	ND		0.0073	mg/Kg-dry	1	10/18/2016 04:35 AM
Fluoranthene	ND		0.0073	mg/Kg-dry	1	10/18/2016 04:35 AM

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

ALS Group USA, Corp

Date: 25-Oct-16

Client: Olsson Associates
Project: Chevron FV Larson B4 Spill
Sample ID: FVLARB4-SS4
Collection Date: 10/5/2016 02:55 PM

Work Order: 1610391
Lab ID: 1610391-06
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0073	mg/Kg-dry	1	10/18/2016 04:35 AM
Indeno(1,2,3-cd)pyrene	ND		0.0073	mg/Kg-dry	1	10/18/2016 04:35 AM
Naphthalene	ND		0.0073	mg/Kg-dry	1	10/18/2016 04:35 AM
Pyrene	ND		0.0073	mg/Kg-dry	1	10/18/2016 04:35 AM
Surr: 2-Fluorobiphenyl	57.5		12-100	%REC	1	10/18/2016 04:35 AM
Surr: 4-Terphenyl-d14	63.6		25-137	%REC	1	10/18/2016 04:35 AM
Surr: Nitrobenzene-d5	45.6		37-107	%REC	1	10/18/2016 04:35 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 10/10/16	Analyst: LSY
Benzene	ND		0.038	mg/Kg-dry	1	10/16/2016 03:42 PM
Ethylbenzene	ND		0.038	mg/Kg-dry	1	10/16/2016 03:42 PM
m,p-Xylene	ND		0.076	mg/Kg-dry	1	10/16/2016 03:42 PM
o-Xylene	ND		0.038	mg/Kg-dry	1	10/16/2016 03:42 PM
Toluene	ND		0.038	mg/Kg-dry	1	10/16/2016 03:42 PM
Xylenes, Total	ND		0.11	mg/Kg-dry	1	10/16/2016 03:42 PM
Surr: 1,2-Dichloroethane-d4	96.4		70-130	%REC	1	10/16/2016 03:42 PM
Surr: 4-Bromofluorobenzene	86.8		70-130	%REC	1	10/16/2016 03:42 PM
Surr: Dibromofluoromethane	91.8		70-130	%REC	1	10/16/2016 03:42 PM
Surr: Toluene-d8	99.6		70-130	%REC	1	10/16/2016 03:42 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO		Prep: USDA Method 20B / 10/19/16	Analyst: JB
Electrical Conductivity @ Saturation	120		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	9.3		0.57	mg/Kg-dry	1	10/18/2016 03:30 PM
CHROMIUM, HEXAVALENT			SW7196A		Prep: SW3060A / 10/11/16	Analyst: MB
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	10/12/2016 04:00 PM
MOISTURE			SW3550C			Analyst: EDL
Moisture	12		0.050	% of sample	1	10/11/2016 06:39 PM
PH			SW9045D		Prep: EXTRACT / 10/11/16	Analyst: LW
pH	8.4			s.u.	1	10/11/2016 03:00 PM

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

ALS Group USA, Corp

Date: 25-Oct-16

Client: Olsson Associates
Project: Chevron FV Larson B4 Spill
Sample ID: FVLARB4-BG3
Collection Date: 10/5/2016 03:05 PM

Work Order: 1610391
Lab ID: 1610391-07
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS ANALYSIS BY ICP			SW846 6010C	Prep: SW3050B / 10/15/16	Analyst: RH	
Arsenic	7.5		0.44	mg/Kg-dry	1	10/18/2016 06:00 AM
MOISTURE			SW3550C		Analyst: EDL	
Moisture	17		0.050	% of sample	1	10/11/2016 06:39 PM

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

Client: Olsson Associates
 Project: Chevron FV Larson B4 Spill
 Sample ID: FVLARB4-SS5
 Collection Date: 10/5/2016 03:15 PM

Work Order: 1610391
 Lab ID: 1610391-08
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			SW8015M		Prep: SW3546 / 10/17/16	Analyst: IT
DRO (C10-C28)	41		6.1	mg/Kg-dry	1	10/17/2016 10:12 PM
Surr: 4-Terphenyl-d14	53.1		39-133	%REC	1	10/17/2016 10:12 PM
GASOLINE RANGE ORGANICS BY GC-FID			SW8015D		Prep: SW5035 / 10/10/16	Analyst: IT
GRO (C6-C10)	ND		3.7	mg/Kg-dry	1	10/11/2016 01:56 AM
Surr: Toluene-d8	98.2		50-150	%REC	1	10/11/2016 01:56 AM
MERCURY BY CVAA			SW7471B		Prep: SW7471 / 10/19/16	Analyst: LR
Mercury	0.026		0.016	mg/Kg-dry	1	10/19/2016 07:23 PM
METALS ANALYSIS BY ICP			SW846 6010C		Prep: SW3050B / 10/15/16	Analyst: RH
Arsenic	9.4		0.41	mg/Kg-dry	1	10/18/2016 06:05 AM
Barium	180		0.41	mg/Kg-dry	1	10/18/2016 06:05 AM
Cadmium	ND		0.41	mg/Kg-dry	1	10/18/2016 06:05 AM
Chromium	12		0.41	mg/Kg-dry	1	10/18/2016 06:05 AM
Copper	14		0.41	mg/Kg-dry	1	10/18/2016 06:05 AM
Lead	16		0.41	mg/Kg-dry	1	10/18/2016 06:05 AM
Nickel	19		0.41	mg/Kg-dry	1	10/18/2016 06:05 AM
Selenium	0.88		0.83	mg/Kg-dry	1	10/18/2016 06:05 AM
Silver	ND		0.41	mg/Kg-dry	1	10/18/2016 07:48 PM
Zinc	80		0.83	mg/Kg-dry	1	10/18/2016 06:05 AM
SOLUBLE CATIONS FOR SAR			SW846 6010C		Prep: USDA Method 20B / 10/19/16	Analyst: RH
Calcium	680		5.0	mg/L	10	10/21/2016 01:49 AM
Magnesium	3,600		2.0	mg/L	10	10/21/2016 01:49 AM
Sodium	17,000		20	mg/L	100	10/21/2016 09:13 PM
SODIUM ADSORPTION RATIO			USDA H60 METHO		Prep: USDA Method 20B / 10/19/16	Analyst: RH
Sodium Adsorption Ratio	58		0.010	none	1	10/20/2016
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3546 / 10/17/16	Analyst: RM
Acenaphthene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:56 AM
Anthracene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:56 AM
Benzo(a)anthracene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:56 AM
Benzo(a)pyrene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:56 AM
Benzo(b)fluoranthene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:56 AM
Benzo(k)fluoranthene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:56 AM
Chrysene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:56 AM
Dibenzo(a,h)anthracene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:56 AM
Fluoranthene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:56 AM

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

ALS Group USA, Corp

Date: 25-Oct-16

Client: Olsson Associates
Project: Chevron FV Larson B4 Spill
Sample ID: FVLARB4-SS5
Collection Date: 10/5/2016 03:15 PM

Work Order: 1610391
Lab ID: 1610391-08
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:56 AM
Indeno(1,2,3-cd)pyrene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:56 AM
Naphthalene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:56 AM
Pyrene	ND		0.0081	mg/Kg-dry	1	10/18/2016 04:56 AM
Surr: 2-Fluorobiphenyl	69.7		12-100	%REC	1	10/18/2016 04:56 AM
Surr: 4-Terphenyl-d14	66.2		25-137	%REC	1	10/18/2016 04:56 AM
Surr: Nitrobenzene-d5	54.2		37-107	%REC	1	10/18/2016 04:56 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 10/10/16	Analyst: LSY
Benzene	ND		0.044	mg/Kg-dry	1	10/16/2016 04:05 PM
Ethylbenzene	ND		0.044	mg/Kg-dry	1	10/16/2016 04:05 PM
m,p-Xylene	ND		0.088	mg/Kg-dry	1	10/16/2016 04:05 PM
o-Xylene	ND		0.044	mg/Kg-dry	1	10/16/2016 04:05 PM
Toluene	ND		0.044	mg/Kg-dry	1	10/16/2016 04:05 PM
Xylenes, Total	ND		0.13	mg/Kg-dry	1	10/16/2016 04:05 PM
Surr: 1,2-Dichloroethane-d4	97.2		70-130	%REC	1	10/16/2016 04:05 PM
Surr: 4-Bromofluorobenzene	90.5		70-130	%REC	1	10/16/2016 04:05 PM
Surr: Dibromofluoromethane	93.8		70-130	%REC	1	10/16/2016 04:05 PM
Surr: Toluene-d8	98.5		70-130	%REC	1	10/16/2016 04:05 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO		Prep: USDA Method 20B / 10/19/16	Analyst: JB
Electrical Conductivity @ Saturation	110		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	12		0.61	mg/Kg-dry	1	10/18/2016 03:30 PM
CHROMIUM, HEXAVALENT			SW7196A		Prep: SW3060A / 10/11/16	Analyst: MB
Chromium, Hexavalent	ND		1.2	mg/Kg-dry	1	10/12/2016 04:00 PM
MOISTURE			SW3550C			Analyst: EDL
Moisture	19		0.050	% of sample	1	10/13/2016 05:23 PM
PH			SW9045D		Prep: EXTRACT / 10/11/16	Analyst: LW
pH	8.5			s.u.	1	10/11/2016 03:00 PM

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

Client: Olsson Associates
 Project: Chevron FV Larson B4 Spill
 Sample ID: FVLARB4-SS6
 Collection Date: 10/5/2016 03:30 PM

Work Order: 1610391
 Lab ID: 1610391-09
 Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			SW8015M		Prep: SW3546 / 10/17/16	Analyst: IT
DRO (C10-C28)	25		5.7	mg/Kg-dry	1	10/17/2016 10:41 PM
Surr: 4-Terphenyl-d14	61.8		39-133	%REC	1	10/17/2016 10:41 PM
GASOLINE RANGE ORGANICS BY GC-FID			SW8015D		Prep: SW5035 / 10/10/16	Analyst: IT
GRO (C6-C10)	ND		3.2	mg/Kg-dry	1	10/11/2016 02:21 AM
Surr: Toluene-d8	98.9		50-150	%REC	1	10/11/2016 02:21 AM
MERCURY BY CVAA			SW7471B		Prep: SW7471 / 10/19/16	Analyst: LR
Mercury	0.027		0.016	mg/Kg-dry	1	10/19/2016 07:25 PM
METALS ANALYSIS BY ICP			SW846 6010C		Prep: SW3050B / 10/17/16	Analyst: RH
Arsenic	9.7		0.41	mg/Kg-dry	1	10/19/2016 03:30 PM
Barium	200		0.41	mg/Kg-dry	1	10/19/2016 03:30 PM
Cadmium	ND		0.41	mg/Kg-dry	1	10/19/2016 03:30 PM
Chromium	12		0.41	mg/Kg-dry	1	10/19/2016 03:30 PM
Copper	15		0.41	mg/Kg-dry	1	10/19/2016 03:30 PM
Lead	16		0.41	mg/Kg-dry	1	10/19/2016 03:30 PM
Nickel	20		0.41	mg/Kg-dry	1	10/19/2016 03:30 PM
Selenium	1.2		0.82	mg/Kg-dry	1	10/20/2016 01:27 PM
Silver	ND		0.41	mg/Kg-dry	1	10/19/2016 03:30 PM
Zinc	86		0.82	mg/Kg-dry	1	10/19/2016 03:30 PM
SOLUBLE CATIONS FOR SAR			SW846 6010C		Prep: USDA Method 20B / 10/19/16	Analyst: RH
Calcium	380		5.0	mg/L	10	10/21/2016 01:55 AM
Magnesium	100		2.0	mg/L	10	10/21/2016 01:55 AM
Sodium	410		2.0	mg/L	10	10/21/2016 01:55 AM
SODIUM ADSORPTION RATIO			USDA H60 METHO		Prep: USDA Method 20B / 10/19/16	Analyst: RH
Sodium Adsorption Ratio	4.8		0.010	none	1	10/20/2016
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3546 / 10/17/16	Analyst: RM
Acenaphthene	ND		0.0076	mg/Kg-dry	1	10/18/2016 05:17 AM
Anthracene	ND		0.0076	mg/Kg-dry	1	10/18/2016 05:17 AM
Benzo(a)anthracene	ND		0.0076	mg/Kg-dry	1	10/18/2016 05:17 AM
Benzo(a)pyrene	ND		0.0076	mg/Kg-dry	1	10/18/2016 05:17 AM
Benzo(b)fluoranthene	ND		0.0076	mg/Kg-dry	1	10/18/2016 05:17 AM
Benzo(k)fluoranthene	ND		0.0076	mg/Kg-dry	1	10/18/2016 05:17 AM
Chrysene	ND		0.0076	mg/Kg-dry	1	10/18/2016 05:17 AM
Dibenzo(a,h)anthracene	ND		0.0076	mg/Kg-dry	1	10/18/2016 05:17 AM
Fluoranthene	ND		0.0076	mg/Kg-dry	1	10/18/2016 05:17 AM

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

ALS Group USA, Corp

Date: 25-Oct-16

Client: Olsson Associates
Project: Chevron FV Larson B4 Spill
Sample ID: FVLARB4-SS6
Collection Date: 10/5/2016 03:30 PM

Work Order: 1610391
Lab ID: 1610391-09
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		0.0076	mg/Kg-dry	1	10/18/2016 05:17 AM
Indeno(1,2,3-cd)pyrene	ND		0.0076	mg/Kg-dry	1	10/18/2016 05:17 AM
Naphthalene	ND		0.0076	mg/Kg-dry	1	10/18/2016 05:17 AM
Pyrene	ND		0.0076	mg/Kg-dry	1	10/18/2016 05:17 AM
Surr: 2-Fluorobiphenyl	65.6		12-100	%REC	1	10/18/2016 05:17 AM
Surr: 4-Terphenyl-d14	72.2		25-137	%REC	1	10/18/2016 05:17 AM
Surr: Nitrobenzene-d5	53.8		37-107	%REC	1	10/18/2016 05:17 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B		Prep: SW5035 / 10/10/16	Analyst: LSY
Benzene	ND		0.039	mg/Kg-dry	1	10/16/2016 04:29 PM
Ethylbenzene	ND		0.039	mg/Kg-dry	1	10/16/2016 04:29 PM
m,p-Xylene	ND		0.078	mg/Kg-dry	1	10/16/2016 04:29 PM
o-Xylene	ND		0.039	mg/Kg-dry	1	10/16/2016 04:29 PM
Toluene	ND		0.039	mg/Kg-dry	1	10/16/2016 04:29 PM
Xylenes, Total	ND		0.12	mg/Kg-dry	1	10/16/2016 04:29 PM
Surr: 1,2-Dichloroethane-d4	99.9		70-130	%REC	1	10/16/2016 04:29 PM
Surr: 4-Bromofluorobenzene	89.7		70-130	%REC	1	10/16/2016 04:29 PM
Surr: Dibromofluoromethane	88.2		70-130	%REC	1	10/16/2016 04:29 PM
Surr: Toluene-d8	97.8		70-130	%REC	1	10/16/2016 04:29 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO		Prep: USDA Method 20B / 10/19/16	Analyst: JB
Electrical Conductivity @ Saturation	8.2		0.25	mmhos/cm @2	50	10/19/2016 11:00 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	12		0.57	mg/Kg-dry	1	10/20/2016 10:00 AM
CHROMIUM, HEXAVALENT			SW7196A		Prep: SW3060A / 10/11/16	Analyst: MB
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	10/12/2016 04:00 PM
MOISTURE			SW3550C			Analyst: EDL
Moisture	13		0.050	% of sample	1	10/13/2016 05:23 PM
PH			SW9045D		Prep: EXTRACT / 10/11/16	Analyst: LW
pH	8.1			s.u.	1	10/11/2016 03:00 PM

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

Client: Olsson Associates
Work Order: 1610391
Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

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

MBLK		Sample ID: DBLKS1-93000-93000				Units: mg/Kg		Analysis Date: 10/17/2016 04:36 PM		
Client ID:		Run ID: GC8_161017A		SeqNo: 4094272		Prep Date: 10/17/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	5.0								
<i>Surr: 4-Terphenyl-d14</i>	2.201	0	3.33	0	66.1	39-133	0			

LCS		Sample ID: DLCSS1-93000-93000				Units: mg/Kg		Analysis Date: 10/17/2016 05:14 PM		
Client ID:		Run ID: GC8_161017A		SeqNo: 4094273		Prep Date: 10/17/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	285.5	5.0	333	0	85.7	61-109	0			
<i>Surr: 4-Terphenyl-d14</i>	2.043	0	3.33	0	61.3	39-133	0			

MS		Sample ID: 1610429-12A MS				Units: mg/Kg		Analysis Date: 10/17/2016 05:44 PM		
Client ID:		Run ID: GC8_161017A		SeqNo: 4094274		Prep Date: 10/17/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	251.1	4.9	324.1	26.11	69.4	48-110	0			
<i>Surr: 4-Terphenyl-d14</i>	1.663	0	3.241	0	51.3	39-133	0			

MSD		Sample ID: 1610429-12A MSD				Units: mg/Kg		Analysis Date: 10/17/2016 06:14 PM		
Client ID:		Run ID: GC8_161017A		SeqNo: 4094275		Prep Date: 10/17/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	279	4.8	318.8	26.11	79.3	48-110	251.1	10.5	30	
<i>Surr: 4-Terphenyl-d14</i>	2.021	0	3.188	0	63.4	39-133	1.663	19.4	30	

The following samples were analyzed in this batch:

1610391-01A	1610391-03A	1610391-05A
1610391-06A	1610391-08A	1610391-09A

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

Client: Olsson Associates
 Work Order: 1610391
 Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

Batch ID: 92640 Instrument ID GC9 Method: SW8015D

MBLK		Sample ID: MBLK-92640-92640				Units: µg/Kg-dry		Analysis Date: 10/10/2016 11:51 PM		
Client ID:		Run ID: GC9_161010A			SeqNo: 4077823		Prep Date: 10/10/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500	0	0	0	0	0	0		
<i>Surr: Toluene-d8</i>	4636	0	5000	0	92.7	50-150	0			

LCS		Sample ID: LCS-92640-92640				Units: µg/Kg-dry		Analysis Date: 10/10/2016 11:27 PM		
Client ID:		Run ID: GC9_161010A			SeqNo: 4077822		Prep Date: 10/10/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	452400	2,500	500000	0	90.5	70-130	0			
<i>Surr: Toluene-d8</i>	5542	0	5000	0	111	50-150	0			

MS		Sample ID: 1610391-05A MS				Units: µg/Kg-dry		Analysis Date: 10/11/2016 02:45 A		
Client ID: FVLARB4-SS3		Run ID: GC9_161010A			SeqNo: 4077828		Prep Date: 10/10/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	677300	3,600	719500	0	94.1	70-130	0			
<i>Surr: Toluene-d8</i>	7850	0	7195	0	109	50-150	0			

MSD		Sample ID: 1610391-05A MSD				Units: µg/Kg-dry		Analysis Date: 10/11/2016 03:10 A		
Client ID: FVLARB4-SS3		Run ID: GC9_161010A			SeqNo: 4077829		Prep Date: 10/10/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	683800	3,600	719500	0	95	70-130	677300	0.957	30	
<i>Surr: Toluene-d8</i>	7898	0	7195	0	110	50-150	7850	0.612	30	

The following samples were analyzed in this batch:

1610391-01A	1610391-03A	1610391-05A
1610391-06A	1610391-08A	1610391-09A

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

Client: Olsson Associates
 Work Order: 1610391
 Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

Batch ID: 93110 Instrument ID HG1 Method: SW7471B

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

Mercury ND 0.020

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

Mercury 0.1817 0.020 0.1665 0 109 80-120 0

MS		Sample ID: 1610391-06AMS				Units: mg/Kg		Analysis Date: 10/19/2016 03:05 PM		
Client ID: FVLARB4-SS4		Run ID: HG1_161019A		SeqNo: 4097313		Prep Date: 10/19/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1374 0.013 0.1089 0.01551 112 75-125 0

MSD		Sample ID: 1610391-06AMSD				Units: mg/Kg		Analysis Date: 10/19/2016 03:08 PM		
Client ID: FVLARB4-SS4		Run ID: HG1_161019A		SeqNo: 4097314		Prep Date: 10/19/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

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

The following samples were analyzed in this batch:

1610391-01A	1610391-02A	1610391-03A
1610391-05A	1610391-06A	1610391-08A
1610391-09A		

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

Client: Olsson Associates
 Work Order: 1610391
 Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

Batch ID: **92968** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK		Sample ID: MBLK-92968-92968				Units: mg/Kg		Analysis Date: 10/18/2016 04:41 A		
Client ID:		Run ID: ICP2_161017C				SeqNo: 4094375		Prep Date: 10/15/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.50								
Chromium	0.01477	0.25								J
Copper	ND	0.50								
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.50								
Zinc	ND	0.50								

MBLK		Sample ID: MBLK-92968-92968				Units: mg/Kg		Analysis Date: 10/18/2016 06:19 PM		
Client ID:		Run ID: ICP2_161018B				SeqNo: 4095446		Prep Date: 10/15/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Silver	ND	0.25								

LCS		Sample ID: LCS-92968-92968				Units: mg/Kg		Analysis Date: 10/18/2016 04:46 A		
Client ID:		Run ID: ICP2_161017C				SeqNo: 4094376		Prep Date: 10/15/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	5.002	0.25	5	0	100	80-120	0			
Barium	4.917	0.25	5	0	98.3	80-120	0			
Cadmium	4.956	0.50	5	0	99.1	80-120	0			
Chromium	5.076	0.25	5	0	102	80-120	0			
Copper	5.06	0.50	5	0	101	80-120	0			
Lead	4.98	0.25	5	0	99.6	80-120	0			
Nickel	4.968	0.25	5	0	99.4	80-120	0			
Selenium	4.77	0.50	5	0	95.4	80-120	0			
Zinc	4.958	0.50	5	0	99.2	80-120	0			

LCS		Sample ID: LCS-92968-92968				Units: mg/Kg		Analysis Date: 10/18/2016 06:25 PM		
Client ID:		Run ID: ICP2_161018B				SeqNo: 4095447		Prep Date: 10/15/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Silver	5.247	0.25	5	0	105	80-120	0			

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

Client: Olsson Associates
 Work Order: 1610391
 Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

Batch ID: 92968 Instrument ID ICP2 Method: SW846 6010C

MS		Sample ID: 1610391-06AMS				Units: mg/Kg		Analysis Date: 10/18/2016 05:31 A		
Client ID: FVLARB4-SS4		Run ID: ICP2_161017C				SeqNo: 4094384		Prep Date: 10/15/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	17.43	0.38	7.669	8.339	119	75-125	0			
Barium	194.9	0.38	7.669	151	572	75-125	0			SO
Cadmium	8.491	0.77	7.669	0.1347	109	75-125	0			
Chromium	18.29	0.38	7.669	8.201	132	75-125	0			S
Copper	18.07	0.77	7.669	10.71	95.9	75-125	0			
Lead	20.3	0.38	7.669	12.57	101	75-125	0			
Nickel	25.5	0.38	7.669	16.81	113	75-125	0			
Selenium	9.236	0.77	7.669	1.438	102	75-125	0			
Zinc	78.27	0.77	7.669	66.82	149	75-125	0			SO

MS		Sample ID: 1610391-06AMS				Units: mg/Kg		Analysis Date: 10/18/2016 07:31 PM		
Client ID: FVLARB4-SS4		Run ID: ICP2_161018B				SeqNo: 4095459		Prep Date: 10/15/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Silver	8.487	0.38	7.669	-0.08125	112	75-125	0			

MSD		Sample ID: 1610391-06AMSD				Units: mg/Kg		Analysis Date: 10/18/2016 05:54 A		
Client ID: FVLARB4-SS4		Run ID: ICP2_161017C				SeqNo: 4094389		Prep Date: 10/15/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	16.62	0.38	7.587	8.339	109	75-125	17.43	4.78	20	
Barium	198.5	0.38	7.587	151	626	75-125	194.9	1.83	20	SO
Cadmium	8.285	0.76	7.587	0.1347	107	75-125	8.491	2.46	20	
Chromium	18.24	0.38	7.587	8.201	132	75-125	18.29	0.247	20	S
Copper	17.96	0.76	7.587	10.71	95.5	75-125	18.07	0.607	20	
Lead	19.93	0.38	7.587	12.57	97	75-125	20.3	1.86	20	
Nickel	24.9	0.38	7.587	16.81	107	75-125	25.5	2.41	20	
Selenium	8.888	0.76	7.587	1.438	98.2	75-125	9.236	3.84	20	
Zinc	74.61	0.76	7.587	66.82	103	75-125	78.27	4.78	20	O

MSD		Sample ID: 1610391-06AMSD				Units: mg/Kg		Analysis Date: 10/18/2016 07:37 PM		
Client ID: FVLARB4-SS4		Run ID: ICP2_161018B				SeqNo: 4095460		Prep Date: 10/15/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Silver	8.371	0.38	7.587	-0.08125	111	75-125	8.487	1.37	20	

The following samples were analyzed in this batch:

1610391-01A	1610391-02A	1610391-03A
1610391-04A	1610391-05A	1610391-06A
1610391-07A	1610391-08A	

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

Client: Olsson Associates
 Work Order: 1610391
 Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

Batch ID: 93020 Instrument ID ICP2 Method: SW846 6010C

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

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

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

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

Client: Olsson Associates
Work Order: 1610391
Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

Batch ID: **93020** Instrument ID **ICP2** Method: **SW846 6010C**

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

The following samples were analyzed in this batch: 1610391-09A

Client: Olsson Associates
Work Order: 1610391
Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

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

DUP	Sample ID: 1610391-09BDUP					Units: none	Analysis Date: 10/20/2016			
Client ID: FVLARB4-SS6		Run ID: SAR_161020A			SeqNo: 4103215		Prep Date: 10/19/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	4.76	0.010	0	0	0		4.81	1.04	50	

The following samples were analyzed in this batch:

1610391-01B	1610391-02B	1610391-03B
1610391-05B	1610391-06B	1610391-08B
1610391-09B		

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

Client: Olsson Associates
 Work Order: 1610391
 Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

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

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

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

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

Client: Olsson Associates
 Work Order: 1610391
 Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

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

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

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

The following samples were analyzed in this batch:

1610391-01A	1610391-03A	1610391-05A
1610391-06A	1610391-08A	1610391-09A

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

Client: Olsson Associates
 Work Order: 1610391
 Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

Batch ID: **92662** Instrument ID **VMS6** Method: **SW8260B**

MBLK		Sample ID: MBLK-92662-92662				Units: µg/Kg-dry		Analysis Date: 10/10/2016 12:04 PM		
Client ID:		Run ID: VMS6_161010A			SeqNo: 4077142		Prep Date: 10/10/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
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>	1016	0	1000	0	102	70-130	0			
<i>Surr: 4-Bromofluorobenzene</i>	983	0	1000	0	98.3	70-130	0			
<i>Surr: Dibromofluoromethane</i>	954	0	1000	0	95.4	70-130	0			
<i>Surr: Toluene-d8</i>	1022	0	1000	0	102	70-130	0			

LCS		Sample ID: LCS-92662-92662				Units: µg/Kg-dry		Analysis Date: 10/10/2016 10:45 A		
Client ID:		Run ID: VMS6_161010A			SeqNo: 4077141		Prep Date: 10/10/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1087	30	1000	0	109	75-125	0			
Ethylbenzene	1114	30	1000	0	111	75-125	0			
m,p-Xylene	2214	60	2000	0	111	80-125	0			
o-Xylene	1110	30	1000	0	111	75-125	0			
Toluene	1095	30	1000	0	110	70-125	0			
Xylenes, Total	3324	90	3000	0	111	75-125	0			
<i>Surr: 1,2-Dichloroethane-d4</i>	1023	0	1000	0	102	70-130	0			
<i>Surr: 4-Bromofluorobenzene</i>	995.5	0	1000	0	99.6	70-130	0			
<i>Surr: Dibromofluoromethane</i>	1022	0	1000	0	102	70-130	0			
<i>Surr: Toluene-d8</i>	1026	0	1000	0	103	70-130	0			

MS		Sample ID: 1610539-03A MS				Units: µg/Kg-dry		Analysis Date: 10/12/2016 12:18 PM		
Client ID:		Run ID: VMS6_161011B			SeqNo: 4080836		Prep Date: 10/10/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1620	44	1469	0	110	75-125	0			
Ethylbenzene	1647	44	1469	0	112	75-125	0			
m,p-Xylene	3291	88	2938	0	112	80-125	0			
o-Xylene	1634	44	1469	0	111	75-125	0			
Toluene	1594	44	1469	0	108	70-125	0			
Xylenes, Total	4925	130	4407	0	112	75-125	0			
<i>Surr: 1,2-Dichloroethane-d4</i>	1547	0	1469	0	105	70-130	0			
<i>Surr: 4-Bromofluorobenzene</i>	1512	0	1469	0	103	70-130	0			
<i>Surr: Dibromofluoromethane</i>	1443	0	1469	0	98.2	70-130	0			
<i>Surr: Toluene-d8</i>	1520	0	1469	0	103	70-130	0			

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

Client: Olsson Associates
Work Order: 1610391
Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

Batch ID: **92662** Instrument ID **VMS6** Method: **SW8260B**

MSD		Sample ID: 1610539-03A MSD				Units: µg/Kg-dry		Analysis Date: 10/12/2016 12:44 PM		
Client ID:		Run ID: VMS6_161011B			SeqNo: 4080837		Prep Date: 10/10/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1660	44	1469	0	113	75-125	1620	2.42	30	
Ethylbenzene	1639	44	1469	0	112	75-125	1647	0.492	30	
m,p-Xylene	3289	88	2938	0	112	80-125	3291	0.0447	30	
o-Xylene	1667	44	1469	0	113	75-125	1634	1.96	30	
Toluene	1603	44	1469	0	109	70-125	1594	0.551	30	
Xylenes, Total	4956	130	4407	0	112	75-125	4925	0.624	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	1516	0	1469	0	103	70-130	1547	2.01	30	
<i>Surr: 4-Bromofluorobenzene</i>	1473	0	1469	0	100	70-130	1512	2.61	30	
<i>Surr: Dibromofluoromethane</i>	1439	0	1469	0	98	70-130	1443	0.255	30	
<i>Surr: Toluene-d8</i>	1482	0	1469	0	101	70-130	1520	2.55	30	

The following samples were analyzed in this batch:

1610391-01A	1610391-03A	1610391-05A
1610391-06A	1610391-08A	1610391-09A

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

Client: Olsson Associates
 Work Order: 1610391
 Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

Batch ID: 92732 Instrument ID WETCHEM Method: SW9045D

LCS		Sample ID: LCS-92732-92732				Units: s.u.		Analysis Date: 10/11/2016 03:00 PM			
Client ID:		Run ID: WETCHEM_161011P		SeqNo: 4078689		Prep Date: 10/11/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH 4.06 0 4 0 102 90-110 0

DUP		Sample ID: 1610391-02A DUP				Units: s.u.		Analysis Date: 10/11/2016 03:00 PM			
Client ID: FVLARB4-BG1		Run ID: WETCHEM_161011P		SeqNo: 4078692		Prep Date: 10/11/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH 8.62 0 0 0 0 0-0 8.56 0.698 20

DUP		Sample ID: 1610514-01A DUP				Units: s.u.		Analysis Date: 10/11/2016 03:00 PM			
Client ID:		Run ID: WETCHEM_161011P		SeqNo: 4078703		Prep Date: 10/11/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH 8.11 0 0 0 0 0-0 8.2 1.1 20

The following samples were analyzed in this batch:

1610391-01A	1610391-02A	1610391-03A
1610391-05A	1610391-06A	1610391-08A
1610391-09A		

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

Client: Olsson Associates
 Work Order: 1610391
 Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

Batch ID: 92733 Instrument ID WETCHEM Method: SW7196A

MBLK		Sample ID: MBLK-92733-92733				Units: mg/Kg		Analysis Date: 10/12/2016 04:00 PM		
Client ID:		Run ID: WETCHEM_161012L		SeqNo: 4081419		Prep Date: 10/11/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.99

LCS		Sample ID: LCS-92733-92733				Units: mg/Kg		Analysis Date: 10/12/2016 04:00 PM		
Client ID:		Run ID: WETCHEM_161012L		SeqNo: 4081418		Prep Date: 10/11/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.75 0.96 4.808 0 98.8 80-120 0

MS		Sample ID: 1610391-02A MS				Units: mg/Kg		Analysis Date: 10/12/2016 04:00 PM		
Client ID: FVLARB4-BG1		Run ID: WETCHEM_161012L		SeqNo: 4081406		Prep Date: 10/11/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 3.762 0.95 4.762 0.2136 74.5 75-125 0 S

MS		Sample ID: 1610391-02A MSI				Units: mg/Kg		Analysis Date: 10/12/2016 04:00 PM		
Client ID: FVLARB4-BG1		Run ID: WETCHEM_161012L		SeqNo: 4081408		Prep Date: 10/11/2016		DF: 100		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 2177 99 2310 0.2136 94.2 75-125 0

MSD		Sample ID: 1610391-02A MSD				Units: mg/Kg		Analysis Date: 10/12/2016 04:00 PM		
Client ID: FVLARB4-BG1		Run ID: WETCHEM_161012L		SeqNo: 4081407		Prep Date: 10/11/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 3.613 0.94 4.717 0.2136 72.1 75-125 3.762 4.03 20 S

The following samples were analyzed in this batch:

1610391-01A	1610391-02A	1610391-03A
1610391-05A	1610391-06A	1610391-08A
1610391-09A		

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

Client: Olsson Associates
Work Order: 1610391
Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

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

DUP		Sample ID: 1610391-09B DUP				Units: mmhos/cm @25°		Analysis Date: 10/19/2016 11:00 PM		
Client ID: FVLARB4-SS6		Run ID: WETCHEM_161019[SeqNo: 4098128		Prep Date: 10/19/2016		DF: 50		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	7.755	0.25	0	0	0		8.195	5.52	50	

The following samples were analyzed in this batch:

1610391-01B	1610391-02B	1610391-03B
1610391-05B	1610391-06B	1610391-08B
1610391-09B		

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

Client: Olsson Associates
 Work Order: 1610391
 Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

Batch ID: **R197906** Instrument ID **MOIST** Method: **SW3550C**

MBLK	Sample ID: WBLKS-R197906		Units: % of sample			Analysis Date: 10/11/2016 06:39 PM				
Client ID:	Run ID: MOIST_161011E		SeqNo: 4080704		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-R197906		Units: % of sample			Analysis Date: 10/11/2016 06:39 PM				
Client ID:	Run ID: MOIST_161011E		SeqNo: 4080703		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: 1610515-02B DUP		Units: % of sample			Analysis Date: 10/11/2016 06:39 PM				
Client ID:	Run ID: MOIST_161011E		SeqNo: 4080692		Prep Date:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 21.77 0.050 0 0 0 18.35 17 20

DUP	Sample ID: 1610515-10B DUP		Units: % of sample			Analysis Date: 10/11/2016 06:39 PM				
Client ID:	Run ID: MOIST_161011E		SeqNo: 4080701		Prep Date:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 18.4 0.050 0 0 0 17.49 5.07 20

The following samples were analyzed in this batch:

1610391-01A	1610391-02A	1610391-03A
1610391-04A	1610391-05A	1610391-06A
1610391-07A		

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

Client: Olsson Associates
 Work Order: 1610391
 Project: Chevron FV Larson B4 Spill

QC BATCH REPORT

Batch ID: **R198129** Instrument ID **MOIST** Method: **SW3550C**

MBLK	Sample ID: WBLKS-R198129		Units: % of sample				Analysis Date: 10/13/2016 05:23 PM			
Client ID:	Run ID: MOIST_161013E		SeqNo: 4086551		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-R198129		Units: % of sample				Analysis Date: 10/13/2016 05:23 PM			
Client ID:	Run ID: MOIST_161013E		SeqNo: 4086550		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: 1610391-08A DUP		Units: % of sample				Analysis Date: 10/13/2016 05:23 PM			
Client ID: FVLARB4-SS5	Run ID: MOIST_161013E		SeqNo: 4086517		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 18.7 0.050 0 0 0 18.52 0.967 20

DUP	Sample ID: 1610795-01A DUP		Units: % of sample				Analysis Date: 10/13/2016 05:23 PM			
Client ID:	Run ID: MOIST_161013E		SeqNo: 4086546		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 20.17 0.050 0 0 0 20.99 3.98 20

The following samples were analyzed in this batch: 1610391-08A 1610391-09A

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 #: 1610391

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	Chevron FV Larson B4 Spill	A	TPH (GRO & DRO)										
Work Order		Project Number	013.3287.300.300004	B	BTEX										
Company Name	Olsson Associates	Bill To Company	Olsson Associates	C	PAH (See Attached List) CO Table 910										
Send Report To	Tim Dobransky	Invoice Attn.	Tim Dobransky	D	Electrical Conductivity										
Address	760 Horizon Drive, Ste. 102	Address	760 Horizon Drive, Ste. 102	E	Sodium Adsorption Ratio										
City/State/Zip	Grand Junction, CO 81506	City/State/Zip	Grand Junction, CO 81506	F	pH										
Phone	970.263.7800	Phone	970.263.7800	G	Metals (See Attached List) CO Table 910										
Fax	970.263.7456	Fax	970.263.7456	H	Arsenic Only										
e-Mail Address	tdobransky@oacsolutions.com	e-Mail Address		I											
				J											

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	FVLARB4-SS1	10/05/16	1400	Soil	8	2	X	X	X	X	X	X	X				
2	FVLARB4-BG1	10/05/16	1410	Soil	8	2				X	X	X	X				
3	FVLARB4-SS2	10/05/16	1425	Soil	8	2	X	X	X	X	X	X	X				
4	FVLARB4-BG2	10/05/16	1435	Soil	8	1								X			
5	FVLARB4-SS3	10/05/16	1445	Soil	8	2	X	X	X	X	X	X	X				
6	FVLARB4-SS4	10/05/16	1455	Soil	8	2	X	X	X	X	X	X	X				
7	FVLARB4-BG3	10/05/16	1505	Soil	8	1								X			
8	FVLARB4-SS5	10/05/16	1515	Soil	8	2	X	X	X	X	X	X	X				
9	FVLARB4-SS6	10/05/16	1530	Soil	8	2	X	X	X	X	X	X	X				
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"/> 24 Hour				Results Due Date:	
Requisitioned by: <i>[Signature]</i>		Date: 10/6/16	Time: 1700	Received by: <i>[Signature]</i>		Notes: Chevron Pricing Applies - Per Bruce Schlatter			
Requisitioned by (Laboratory): <i>[Signature]</i>		Date: 10/6/16	Time: 1700	Received by (Laboratory): <i>[Signature]</i>		Cooler Temp. 2.4°C			
Signed by (Laboratory): DBS		Date: 10/7/16	Time: 0900	Checked by (Laboratory):		QC Package: (Check Box Below)			
Reservative 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.

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ORIGIN ID:RILA (616) 298-1033
NICK MARTINEZ
ALS ENVIRONMENTAL PARACHUTE
PARACHUTE SERVICE CENTER
127 EAST 1ST. ST
PARACHUTE, CO 81635
UNITED STATES US

SHIP DATE: 06OCT16
ACTWGT: 71.00 LB
CAD: 2264840/INET3790
DIMS: 14x26x15 IN

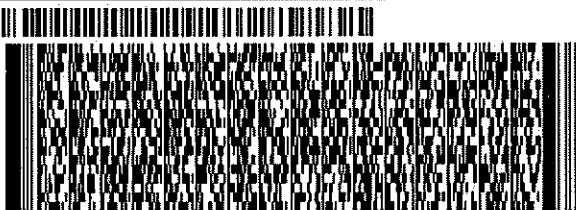
BILL SENDER

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

HOLLAND MI 49424

(616) 399-6070 REF: 100616-1
INV/ DEPT.
PO PARACHUTE

544JITE52E14EB



FedEx Express



Technical Support

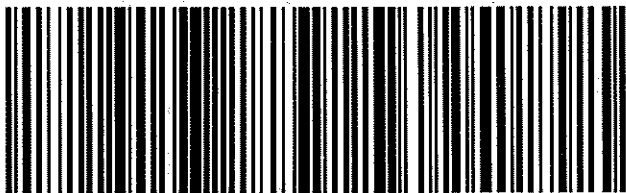
REL#
3785346

FRI - 07 OCT 10:30A
PRIORITY OVERNIGHT

1 of 2
TRK#
0201 7774 1380 2510
MASTER

XX HLMA

49424
MI-US GRR



After printing this label:

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

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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

Sample Receipt Checklist

Client Name: **OLSSON**

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

Work Order: **1610391**

Received by: **DS**

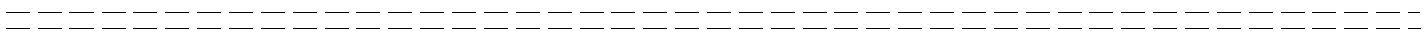
Checklist completed by Diane Shaw 07-Oct-16
eSignature Date

Reviewed by: Chad Whilton 09-Oct-16
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 type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.4/2.4 c</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>10/7/2016 5:46:23 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:



Client Contacted: _____ Date Contacted: _____ Person Contacted: _____

Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction:



26-May-2020

Tim Dobransky
Entrada Consulting Group
240 Mesa Ave.
Grand Junction, CO 81501

Re: **FV Larson B4 Resampling**

Work Order: **20050729**

Dear Tim,

ALS Environmental received 6 samples on 09-May-2020 10:30 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 16.

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

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

Sincerely,

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

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Entrada Consulting Group
Project: FV Larson B4 Resampling
Work Order: 20050729

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>
20050729-01	FVLARB4-SS1	Soil		5/7/2020 07:30	5/9/2020 10:30	<input type="checkbox"/>
20050729-02	FVLARB4-SS2	Soil		5/7/2020 07:35	5/9/2020 10:30	<input type="checkbox"/>
20050729-03	FVLARB4-SS3	Soil		5/7/2020 07:40	5/9/2020 10:30	<input type="checkbox"/>
20050729-04	FVLARB4-SS4	Soil		5/7/2020 07:45	5/9/2020 10:30	<input type="checkbox"/>
20050729-05	FVLARB4-SS5	Soil		5/7/2020 07:50	5/9/2020 10:30	<input type="checkbox"/>
20050729-06	FVLARB4-SS6	Soil		5/7/2020 08:00	5/9/2020 10:30	<input type="checkbox"/>

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

<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>
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	

ALS Group, USA

Date: 26-May-20

Client: Entrada Consulting Group
Project: FV Larson B4 Resampling
Sample ID: FVLARB4-SS1
Collection Date: 5/7/2020 07:30 AM

Work Order: 20050729
Lab ID: 20050729-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SOLUBLE CATIONS FOR SAR			Method: SW6020B		Prep: USDA Method 20B / 5/15/20		Analyst: STP
Calcium	61		2.5	5.0	mg/L	10	5/15/2020 17:09
Magnesium	9.7		0.50	2.0	mg/L	10	5/15/2020 17:09
Sodium	40		0.45	2.0	mg/L	10	5/15/2020 17:09
SODIUM ADSORPTION RATIO			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 5/15/20		Analyst: STP
Sodium Adsorption Ratio	1.2		0.010	0.010	none	1	5/15/2020
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 5/15/20		Analyst: QTN
Electrical Conductivity @ Saturation	0.53		0.011	0.10	mmhos/cm @25°	20	5/18/2020 15:25

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

ALS Group, USA

Date: 26-May-20

Client: Entrada Consulting Group
Project: FV Larson B4 Resampling
Sample ID: FVLARB4-SS2
Collection Date: 5/7/2020 07:35 AM

Work Order: 20050729
Lab ID: 20050729-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SOLUBLE CATIONS FOR SAR			Method: SW6020B		Prep: USDA Method 20B / 5/15/20		Analyst: STP
Calcium	80		2.5	5.0	mg/L	10	5/15/2020 16:44
Magnesium	12		0.50	2.0	mg/L	10	5/15/2020 16:44
Sodium	20		0.45	2.0	mg/L	10	5/15/2020 16:44
SODIUM ADSORPTION RATIO			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 5/15/20		Analyst: STP
Sodium Adsorption Ratio	0.54		0.010	0.010	none	1	5/15/2020
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 5/15/20		Analyst: QTN
Electrical Conductivity @ Saturation	0.55		0.011	0.10	mmhos/cm @25°	20	5/18/2020 15:25

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

ALS Group, USA

Date: 26-May-20

Client: Entrada Consulting Group
Project: FV Larson B4 Resampling
Sample ID: FVLARB4-SS3
Collection Date: 5/7/2020 07:40 AM

Work Order: 20050729
Lab ID: 20050729-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SOLUBLE CATIONS FOR SAR			Method: SW6020B		Prep: USDA Method 20B / 5/15/20		Analyst: STP
Calcium	78		2.5	5.0	mg/L	10	5/15/2020 16:46
Magnesium	11		0.50	2.0	mg/L	10	5/15/2020 16:46
Sodium	6.7		0.45	2.0	mg/L	10	5/15/2020 16:46
SODIUM ADSORPTION RATIO			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 5/15/20		Analyst: STP
Sodium Adsorption Ratio	0.19		0.010	0.010	none	1	5/15/2020
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 5/15/20		Analyst: QTN
Electrical Conductivity @ Saturation	0.47		0.011	0.10	mmhos/cm @25°	20	5/18/2020 15:25

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

ALS Group, USA

Date: 26-May-20

Client: Entrada Consulting Group
Project: FV Larson B4 Resampling
Sample ID: FVLARB4-SS4
Collection Date: 5/7/2020 07:45 AM

Work Order: 20050729
Lab ID: 20050729-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SOLUBLE CATIONS FOR SAR			Method: SW6020B		Prep: USDA Method 20B / 5/15/20		Analyst: STP
Calcium	54		2.5	5.0	mg/L	10	5/15/2020 16:47
Magnesium	9.2		0.50	2.0	mg/L	10	5/15/2020 16:47
Sodium	69		0.45	2.0	mg/L	10	5/15/2020 16:47
SODIUM ADSORPTION RATIO			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 5/15/20		Analyst: STP
Sodium Adsorption Ratio	2.3		0.010	0.010	none	1	5/15/2020
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 5/15/20		Analyst: QTN
Electrical Conductivity @ Saturation	0.61		0.011	0.10	mmhos/cm @25°	20	5/18/2020 15:25

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

ALS Group, USA

Date: 26-May-20

Client: Entrada Consulting Group
Project: FV Larson B4 Resampling
Sample ID: FVLARB4-SS5
Collection Date: 5/7/2020 07:50 AM

Work Order: 20050729
Lab ID: 20050729-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
SOLUBLE CATIONS FOR SAR							
			Method: SW6020B		Prep: USDA Method 20B / 5/18/20		Analyst: DSC
Calcium	120		2.5	5.0	mg/L	10	5/18/2020 17:39
Magnesium	12		0.50	2.0	mg/L	10	5/18/2020 17:39
Sodium	3.7		0.45	2.0	mg/L	10	5/18/2020 17:39
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 5/18/20		Analyst: STP
Sodium Adsorption Ratio	0.086		0.010	0.010	none	1	5/18/2020
ELECTRICAL CONDUCTIVITY (SAR)							
			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 5/18/20		Analyst: QTN
Electrical Conductivity @ Saturation	0.63		0.011	0.10	mmhos/cm @25°	20	5/19/2020 14:21

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

ALS Group, USA

Date: 26-May-20

Client: Entrada Consulting Group
Project: FV Larson B4 Resampling
Sample ID: FVLARB4-SS6
Collection Date: 5/7/2020 08:00 AM

Work Order: 20050729
Lab ID: 20050729-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ELECTRICAL CONDUCTIVITY (SAR)				Method: USDA H60 METHOD 2	Prep: USDA Method 20B / 5/20/20		Analyst: QTN
Electrical Conductivity @ Saturation	0.40		0.011	0.10	mmhos/cm @25°	20	5/21/2020 14:36

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

Client: Entrada Consulting Group
Work Order: 20050729
Project: FV Larson B4 Resampling

QC BATCH REPORT

Batch ID: **156040** Instrument ID **ICPMS3** Method: **SW6020B**

DUP	Sample ID: 20050729-01ADUP				Units: mg/L	Analysis Date: 5/15/2020 04:43 PM				
Client ID: FVLARB4-SS1	Run ID: ICPMS3_200515A			SeqNo: 6418411	Prep Date: 5/15/2020	DF: 10				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	67.39	5.0	0	0	0	0-0	61.2	9.62		
Magnesium	10.45	2.0	0	0	0	0-0	9.661	7.82		
Sodium	43.54	2.0	0	0	0	0-0	39.78	9.04		

The following samples were analyzed in this batch:

20050729-01A	20050729-02A	20050729-03A
20050729-04A		

Client: Entrada Consulting Group
Work Order: 20050729
Project: FV Larson B4 Resampling

QC BATCH REPORT

Batch ID: **156116** Instrument ID **ICPMS4** Method: **SW6020B**

DUP		Sample ID: 20050738-03ADUP				Units: mg/L		Analysis Date: 5/18/2020 05:59 PM		
Client ID:		Run ID: ICPMS4_200518A		SeqNo: 6422812		Prep Date: 5/18/2020		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	68.29	5.0	0	0	0	0-0	60.72	11.7		
Magnesium	14.96	2.0	0	0	0	0-0	13.55	9.9		
Sodium	2.309	2.0	0	0	0	0-0	1.908	19		

The following samples were analyzed in this batch:

20050729-05A

Client: Entrada Consulting Group
Work Order: 20050729
Project: FV Larson B4 Resampling

QC BATCH REPORT

Batch ID: **156040** Instrument ID **SAR** Method: **USDA H60 Metho**

DUP	Sample ID: 20050729-01ADUP					Units: none	Analysis Date: 5/15/2020			
Client ID: FVLARB4-SS1		Run ID: SAR_200515A			SeqNo: 6417975		Prep Date: 5/15/2020		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	1.304	0.010	0	0	0		1.247	4.41	50	

The following samples were analyzed in this batch:

20050729-01A	20050729-02A	20050729-03A
20050729-04A		

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

Client: Entrada Consulting Group
Work Order: 20050729
Project: FV Larson B4 Resampling

QC BATCH REPORT

Batch ID: **156116** Instrument ID **SAR** Method: **USDA H60 Metho**

DUP	Sample ID: 20050738-03ADUP				Units: none		Analysis Date: 5/18/2020			
Client ID:	Run ID: SAR_200518A			SeqNo: 6422864		Prep Date: 5/18/2020		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	0.06594	0.010	0	0	0		0.05764	13.4	50	

The following samples were analyzed in this batch:

20050729-05A

Client: Entrada Consulting Group
Work Order: 20050729
Project: FV Larson B4 Resampling

QC BATCH REPORT

Batch ID: **156040** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP	Sample ID: 20050729-01A DUP		Units: mmhos/cm @25°		Analysis Date: 5/18/2020 03:25 PM					
Client ID: FVLARB4-SS1	Run ID: WETCHEM_200518J		SeqNo: 6422051		Prep Date: 5/15/2020 DF: 20					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	0.558	0.10	0	0	0		0.53	5.15	50	

The following samples were analyzed in this batch:

20050729-01A	20050729-02A	20050729-03A
20050729-04A		

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



Chain of Custody Form

Page 1 of 1

COC ID: 123456

- Cincinnati, OH
+1 513 733 5336
- Everett, WA
+1 425 358 2600
- Fort Collins, CO
+1 970 490 1511
- Holland, MI
+1 616 399 6070
- Houston, TX
+1 281 530 5656
- Middletown, PA
+1 717 944 5541
- Salt Lake City, UT
+1 801 266 7700
- Spring City, PA
+1 610 948 4903
- York, PA
+1 717 505 5280

ALS Project Manager:

Work Order #: 20050729

Customer Information		Project Information			Parameter/Method Request for Analysis												
Purchase Order		Project Name	FV Larson B4 Resampling			A	TPH (GRO & DRO)										
Work Order		Project Number	018-085			B	BTEX										
Company Name	Entrada Consulting Group	Bill To Company	Entrada Consulting Group			C	PAH (See Attached List) CO Table 910										
Send Report To	Tim Dobransky	Invoice Attn:	Tim Dobransky			D	Electrical Conductivity										
Address	330 Grand Ave, STE C Grand Junction, CO 81501 970.283.7800	Address				E	Sodium Adsorption Ratio										
City/State/Zip		City/State/Zip				F	pH										
Phone		Phone				G	Metals (See Attached List) CO Table 910										
Fax		Fax				H	Arsenic Only										
e-Mail Address	tdobransky@entrada.com	e-Mail Address				I											
						J											

No.	Sample Description	Date	Time	Matrix	Prps.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	FVLARB4-SS1	5/7/20	0730	Soil	8	1				X	X						
2	FVLARB4-SS2	5/7/20	0735	Soil	8	1				X	X						
3	FVLARB4-SS3	5/7/20	0740	Soil	8	1				X	X						
4	FVLARB4-SS4	5/7/20	0745	Soil	8	1				X	X						
5	FVLARB4-SS5	5/7/20	0750	Soil	8	1				X	X						
6	FVLARB4-SS6	5/7/20	0800	Soil	8	1				X							
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"/> 24 Hour		Results Due Date:	
Relinquished by:	Date:	Time:	Received by:	Notes: Chevron Pricing Applies - Per Bruce Schletter			
		1700					
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler Temp.	QC Package: (Check Box Below)		
	5-8-20	1830			<input checked="" type="checkbox"/>	Level II: Standard QC	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):		<input type="checkbox"/>	Level III: Std QC + Raw Data	
PFS	5/11/20	1600		SP1 4.0°C	<input type="checkbox"/>	Level IV: SW846 CLP-Like	
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035				Other: _____			

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

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Sample Receipt Checklist

Client Name: **ENTRADA**

Date/Time Received: **09-May-20 10:30**

Work Order: **20050729**

Received by: **DS**

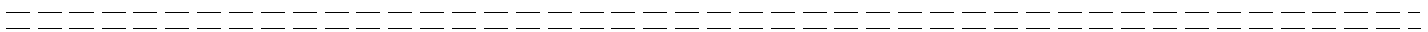
Checklist completed by Diane Shaw 11-May-20
eSignature Date

Reviewed by: Alex J. Csaszar 11-May-20
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 type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>4.0/4.0 c</u>		<u>SR1</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>5/11/2020 4:19:44 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:



Client Contacted: _____ Date Contacted: _____ Person Contacted: _____

Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction: