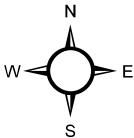
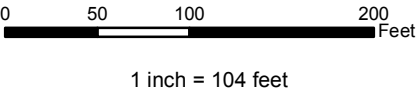


aerial imagery: NAIP 2013

Legend

- Soil Sample Location
- Spill Path Area



PROJECT NO:	013-3287
DRAWN BY:	SBS
DATE:	07/18/2014

UNION PACIFIC 69-27
 SPILL RESPONSE
 CHEVRON USA, INC
 RIO BLANCO COUNTY, COLORADO
 SESW S27 T2N R102W



760 HORIZON DRIVE, SUITE 102
 GRAND JUNCTION, CO 81506
 TEL 970.263.7800
 FAX 970.263.7456

FIGURE

1

Table 1
UP 69-27
Soil Data Summary

SAMPLE SUMMARY	
Location Description	UP 69-27
Sample Type	Soil

LABORATORY DATA SUMMARY												
Sample ID	UP69-27-SS1	UP69-27-SS1	UP69-27-SS2	UP69-27-SS2	UP69-27-SS3	UP69-27-SS3	UP69-27-SS4	UP69-27-SS4	UP69-27-BG1	UP69-27-BG2	COGCC TABLE 910-1 CONCENTRATION LEVELS	UNITS
Depth	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"	0-6"		
Sample Date	7/8/2014	5/11/2016	7/8/2014	5/11/2016	7/8/2014	5/11/2016	7/8/2014	5/11/2016	7/8/2014	7/8/2014		
Analytical Parameters												
TPH												
TPH Gasoline Range Organics	<2.5	NT	<2.9	NT	<2.9	NT	<2.8	NT	NT	NT	500	mg/kg
TPH Diesel Range Organics	63	NT	41	NT	16.0	NT	16	NT	NT	NT		
BTEX												
Benzene	<0.031	NT	<0.035	NT	<0.0050	NT	<0.038	NT	NT	NT	0.17	mg/kg
Toluene	<0.031	NT	<0.035	NT	<0.0050	NT	<0.038	NT	NT	NT	85	mg/kg
Ethylbenzene	<0.031	NT	<0.035	NT	<0.0050	NT	<0.038	NT	NT	NT	100	mg/kg
Total Xylene	<0.092	NT	<0.10	NT	<0.010	NT	<0.110	NT	NT	NT	175	mg/kg
Metals												
Arsenic	4.5	NT	5.5	NT	3.8	NT	5.2	NT	6.1	5.4	0.39	mg/kg
Barium	140	NT	180	NT	150	NT	140	NT	96	NT	15,000	mg/kg
Cadmium	<0.65	NT	<0.91	NT	<0.75	NT	<0.72	NT	<0.70	NT	70	mg/kg
Chromium	7.60	NT	12	NT	8.3	NT	10	NT	12	NT	NA	mg/kg
Copper	7.9	NT	15	NT	10	NT	13	NT	16	NT	3,100	mg/kg
Lead	8.6	NT	19	NT	14	NT	16	NT	18	NT	400	mg/kg
Mercury	0.016	NT	0.035	NT	0.035	NT	0.028	NT	0.048	NT	23	mg/kg
Nickel	12	NT	20	NT	14	NT	18	NT	21	NT	1,600	mg/kg
Selenium	<1.6	NT	<2.3	NT	<1.9	NT	<1.8	NT	2	NT	390	mg/kg
Silver	<1.6	NT	<2.3	NT	<1.9	NT	<1.8	NT	<1.7	NT	390	mg/kg
Zinc	35	NT	88	NT	57	NT	74	NT	82	NT	23,000	mg/kg
SAR Metals Analysis												
Calcium	400	NT	950	1400	1100	1700	1500	600	530	NT	NA	mg/L
Magnesium	99	NT	210	72	96	49	100	16	54	NT	NA	mg/L
Sodium	280	NT	9100	180	4400	110	4600	82	1400	NT	NA	mg/L
Sodium Adsorption Ratio	3.2	NT	70	1.3	35	0.73	31	0.90	15	NT	<12	ratio
Polynuclear Aromatic Hyrdrocarbons												
Acenaphthene	<0.0067	NT	<0.0076	NT	<0.0077	NT	<0.0074	NT	NT	NT	1,000	mg/kg
Anthracene	0.015	NT	0.016	NT	0.013	NT	<0.0074	NT	NT	NT	1,000	mg/kg
Benzo(a)anthracene	0.019	NT	0.023	NT	<0.0077	NT	<0.0074	NT	NT	NT	0.22	mg/kg
Benzo(a)pyrene	0.032	<0.016	0.036	<0.016	<0.0077	NT	<0.0074	NT	NT	NT	0.022	mg/kg
Benzo(b)fluoranthene	0.023	NT	0.023	NT	<0.0077	NT	<0.0074	NT	NT	NT	0.22	mg/kg
Benzo(k)fluoranthene	0.026	NT	0.028	NT	<0.0077	NT	<0.0074	NT	NT	NT	2.2	mg/kg
Chrysene	0.0083	NT	0.008	NT	<0.0077	NT	<0.0074	NT	NT	NT	22	mg/kg
Dibenzo(a,h)anthracene	<0.0067	NT	<0.0076	NT	<0.0077	NT	<0.0074	NT	NT	NT	0.022	mg/kg
Fluoranthene	0.02	NT	0.019	NT	0.018	NT	0.017	NT	NT	NT	1,000	mg/kg
Fluorene	<0.0067	NT	<0.0076	NT	<0.0077	NT	<0.0074	NT	NT	NT	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	0.029	NT	0.035	NT	<0.0077	NT	<0.0074	NT	NT	NT	0.22	mg/kg
Napthalene	<0.0067	NT	<0.0076	NT	<0.0077	NT	<0.0074	NT	NT	NT	23	mg/kg
Pyrene	0.01	NT	<0.0076	NT	<0.0077	NT	<0.0074	NT	NT	NT	1,000	mg/kg
General Chemistry												
Chromium, Hexavalent	<0.51	NT	<0.56	NT	<0.0098	NT	<0.55	NT	<0.51	NT	23	mg/kg
Chromium, Trivalent	7.6	NT	12	NT	<0.0098	NT	10	NT	12	NT	120,000	mg/kg
Specific Conductivity	6.6	NT	60	9.3	32.1	9.4	36	4.2	8.8	NT	<4 or 2 x the background	mmhos/cm
pH	8.3	NT	8.20	NT	7.24	NT	8.1	NT	8.2	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



17-Jul-2014

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

Re: **Chevron UP 69-27 Spill 7.8.14**

Work Order: **1407525**

Dear Tim,

ALS Environmental received 6 samples on 10-Jul-2014 09:30 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 31.

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

Sincerely,

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

Electronically approved by: Ann Preston

Ann Preston
Project Manager



Certificate No: MN 532786

Report of Laboratory Analysis

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

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Olsson Associates
Project: Chevron UP 69-27 Spill 7.8.14
Work Order: 1407525

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>
1407525-01	UP69-27-SS1	Soil		7/8/2014 14:55	7/10/2014 09:30	<input type="checkbox"/>
1407525-02	UP69-27-SS2	Soil		7/8/2014 15:05	7/10/2014 09:30	<input type="checkbox"/>
1407525-03	UP69-27-BG1	Soil		7/8/2014 15:15	7/10/2014 09:30	<input type="checkbox"/>
1407525-04	UP69-27-SS3	Soil		7/8/2014 15:20	7/10/2014 09:30	<input type="checkbox"/>
1407525-05	UP69-27-SS4	Soil		7/8/2014 15:33	7/10/2014 09:30	<input type="checkbox"/>
1407525-06	UP69-27-BG2	Soil		7/8/2014 15:40	7/10/2014 09:30	<input type="checkbox"/>

Client: Olsson Associates
Project: Chevron UP 69-27 Spill 7.8.14
Work Order: 1407525

Case Narrative

Batch 60583 sample UP69-27-BG1 MS/MSD recoveries for Chromium were above the upper control limit. The corresponding result in the parent sample may be biased high for Chromium. The MS/MSD recoveries for Barium and Ms recovery for Zinc were above control limits, however, the results in the parent sample were greater than 4x the spiked amount. No qualification is required for Barium and Zinc. The RPD between the MS/MSD recoveries for Selenium was above control limits. The individual MS/MSD recoveries met quality control criteria. No data requires qualification for Selenium.

Batch 60583 samples 1407525-01 through 1407525-06 reporting limits for Metals were elevated due to dilution for high concentrations of non-target analytes.

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

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

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

ALS Group USA, Corp

Date: 17-Jul-14

Client: Olsson Associates
Project: Chevron UP 69-27 Spill 7.8.14
Sample ID: UP69-27-SS1
Collection Date: 7/8/2014 02:55 PM

Work Order: 1407525
Lab ID: 1407525-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	63		SW8015M		Prep: SW3541 / 7/14/14	Analyst: IT
Surr: 4-Terphenyl-d14	82.1		4.2	mg/Kg-dry	1	7/15/2014 06:21 PM
			39-133	%REC	1	7/15/2014 06:21 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015		Prep: SW5035 / 7/11/14	Analyst: IT
Surr: Toluene-d8	104		2.5	mg/Kg-dry	1	7/12/2014 12:22 PM
			50-150	%REC	1	7/12/2014 12:22 PM
MERCURY BY CVAA						
Mercury	0.016		SW7471		Prep: SW7471 / 7/14/14	Analyst: JEJ
			0.015	mg/Kg-dry	1	7/15/2014 01:28 PM
METALS BY ICP-MS						
Arsenic	4.5		SW6020A		Prep: SW3050B / 7/14/14	Analyst: ML
Barium	140		1.6	mg/Kg-dry	5	7/15/2014 03:04 AM
Cadmium	ND		1.6	mg/Kg-dry	5	7/15/2014 03:04 AM
Chromium	7.6		0.65	mg/Kg-dry	5	7/15/2014 03:04 AM
Copper	7.9		1.6	mg/Kg-dry	5	7/15/2014 03:04 AM
Lead	8.6		1.6	mg/Kg-dry	5	7/15/2014 03:04 AM
Nickel	12		1.6	mg/Kg-dry	5	7/15/2014 03:04 AM
Selenium	ND		1.6	mg/Kg-dry	5	7/15/2014 03:04 AM
Silver	ND		1.6	mg/Kg-dry	5	7/15/2014 03:04 AM
Zinc	35		3.2	mg/Kg-dry	5	7/15/2014 03:04 AM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 7/14/14	Analyst: RH
Calcium	400		10	mg/L	20	7/14/2014 05:00 PM
Magnesium	99		4.0	mg/L	20	7/14/2014 05:00 PM
Sodium	280		4.0	mg/L	20	7/14/2014 05:00 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 7/14/14	Analyst: ML
Sodium Adsorption Ratio	3.2		0.010	none	1	7/15/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW8270		Prep: SW3541 / 7/14/14	Analyst: RM
Acenaphthene	ND		6.7	µg/Kg-dry	1	7/15/2014 10:21 PM
Anthracene	15		6.7	µg/Kg-dry	1	7/15/2014 10:21 PM
Benzo(a)anthracene	19		6.7	µg/Kg-dry	1	7/15/2014 10:21 PM
Benzo(a)pyrene	32		6.7	µg/Kg-dry	1	7/15/2014 10:21 PM
Benzo(b)fluoranthene	23		6.7	µg/Kg-dry	1	7/15/2014 10:21 PM
Benzo(k)fluoranthene	26		6.7	µg/Kg-dry	1	7/15/2014 10:21 PM
Chrysene	8.3		6.7	µg/Kg-dry	1	7/15/2014 10:21 PM
Dibenzo(a,h)anthracene	ND		6.7	µg/Kg-dry	1	7/15/2014 10:21 PM
Fluoranthene	20		6.7	µg/Kg-dry	1	7/15/2014 10:21 PM

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

ALS Group USA, Corp

Date: 17-Jul-14

Client: Olsson Associates
Project: Chevron UP 69-27 Spill 7.8.14
Sample ID: UP69-27-SS1
Collection Date: 7/8/2014 02:55 PM

Work Order: 1407525
Lab ID: 1407525-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		6.7	µg/Kg-dry	1	7/15/2014 10:21 PM
Indeno(1,2,3-cd)pyrene	29		6.7	µg/Kg-dry	1	7/15/2014 10:21 PM
Naphthalene	ND		6.7	µg/Kg-dry	1	7/15/2014 10:21 PM
Pyrene	10		6.7	µg/Kg-dry	1	7/15/2014 10:21 PM
Surr: 2-Fluorobiphenyl	65.8		12-100	%REC	1	7/15/2014 10:21 PM
Surr: 4-Terphenyl-d14	98.3		25-137	%REC	1	7/15/2014 10:21 PM
Surr: Nitrobenzene-d5	57.2		37-107	%REC	1	7/15/2014 10:21 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 7/11/14		Analyst: AK
Benzene	ND		31	µg/Kg-dry	1	7/12/2014 08:02 AM
Ethylbenzene	ND		31	µg/Kg-dry	1	7/12/2014 08:02 AM
m,p-Xylene	ND		61	µg/Kg-dry	1	7/12/2014 08:02 AM
o-Xylene	ND		31	µg/Kg-dry	1	7/12/2014 08:02 AM
Toluene	ND		31	µg/Kg-dry	1	7/12/2014 08:02 AM
Xylenes, Total	ND		92	µg/Kg-dry	1	7/12/2014 08:02 AM
Surr: 1,2-Dichloroethane-d4	96.0		70-130	%REC	1	7/12/2014 08:02 AM
Surr: 4-Bromofluorobenzene	102		70-130	%REC	1	7/12/2014 08:02 AM
Surr: Dibromofluoromethane	94.9		70-130	%REC	1	7/12/2014 08:02 AM
Surr: Toluene-d8	94.0		70-130	%REC	1	7/12/2014 08:02 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 7/14/14		Analyst: MELB
Electrical Conductivity @ Saturation	6.6		0.050	mmhos/cm @25	10	7/15/2014 03:32 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	7.6		0.51	mg/Kg-dry	1	7/16/2014 03:20 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 7/12/14		Analyst: JI
Chromium, Hexavalent	ND		0.51	mg/Kg-dry	1	7/13/2014 03:30 PM
MOISTURE			A2540 G			Analyst: TM
Moisture	1.8		0.050	% of sample	1	7/11/2014 09:36 AM
PH			SW9045D	Prep: EXTRACT / 7/11/14		Analyst: TM
pH	8.3			s.u.	1	7/11/2014 05:19 PM

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

ALS Group USA, Corp

Date: 17-Jul-14

Client: Olsson Associates
Project: Chevron UP 69-27 Spill 7.8.14
Sample ID: UP69-27-SS2
Collection Date: 7/8/2014 03:05 PM

Work Order: 1407525
Lab ID: 1407525-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	41		SW8015M		Prep: SW3541 / 7/14/14	Analyst: IT
Surr: 4-Terphenyl-d14	71.3		4.8	mg/Kg-dry	1	7/14/2014 05:39 PM
			39-133	%REC	1	7/14/2014 05:39 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015		Prep: SW5035 / 7/11/14	Analyst: IT
Surr: Toluene-d8	106		2.9	mg/Kg-dry	1	7/12/2014 12:48 PM
			50-150	%REC	1	7/12/2014 12:48 PM
MERCURY BY CVAA						
Mercury	0.035		SW7471		Prep: SW7471 / 7/14/14	Analyst: JEJ
			0.016	mg/Kg-dry	1	7/15/2014 01:31 PM
METALS BY ICP-MS						
Arsenic	5.5		SW6020A		Prep: SW3050B / 7/14/14	Analyst: ML
Barium	180		2.3	mg/Kg-dry	5	7/15/2014 03:10 AM
Cadmium	ND		2.3	mg/Kg-dry	5	7/15/2014 03:10 AM
Chromium	12		0.91	mg/Kg-dry	5	7/15/2014 03:10 AM
Copper	15		2.3	mg/Kg-dry	5	7/15/2014 03:10 AM
Lead	19		2.3	mg/Kg-dry	5	7/15/2014 03:10 AM
Nickel	20		2.3	mg/Kg-dry	5	7/15/2014 03:10 AM
Selenium	ND		2.3	mg/Kg-dry	5	7/15/2014 03:10 AM
Silver	ND		2.3	mg/Kg-dry	5	7/15/2014 03:10 AM
Zinc	88		4.5	mg/Kg-dry	5	7/15/2014 03:10 AM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 7/14/14	Analyst: RH
Calcium	950		10	mg/L	20	7/14/2014 05:06 PM
Magnesium	210		4.0	mg/L	20	7/14/2014 05:06 PM
Sodium	9,100		40	mg/L	200	7/15/2014 03:53 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 7/14/14	Analyst: ML
Sodium Adsorption Ratio	70		0.010	none	1	7/15/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW8270		Prep: SW3541 / 7/14/14	Analyst: RM
Acenaphthene	ND		7.6	µg/Kg-dry	1	7/15/2014 10:41 PM
Anthracene	16		7.6	µg/Kg-dry	1	7/15/2014 10:41 PM
Benzo(a)anthracene	23		7.6	µg/Kg-dry	1	7/15/2014 10:41 PM
Benzo(a)pyrene	36		7.6	µg/Kg-dry	1	7/15/2014 10:41 PM
Benzo(b)fluoranthene	23		7.6	µg/Kg-dry	1	7/15/2014 10:41 PM
Benzo(k)fluoranthene	28		7.6	µg/Kg-dry	1	7/15/2014 10:41 PM
Chrysene	8.0		7.6	µg/Kg-dry	1	7/15/2014 10:41 PM
Dibenzo(a,h)anthracene	ND		7.6	µg/Kg-dry	1	7/15/2014 10:41 PM
Fluoranthene	19		7.6	µg/Kg-dry	1	7/15/2014 10:41 PM

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

ALS Group USA, Corp

Date: 17-Jul-14

Client: Olsson Associates
Project: Chevron UP 69-27 Spill 7.8.14
Sample ID: UP69-27-SS2
Collection Date: 7/8/2014 03:05 PM

Work Order: 1407525
Lab ID: 1407525-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		7.6	µg/Kg-dry	1	7/15/2014 10:41 PM
Indeno(1,2,3-cd)pyrene	35		7.6	µg/Kg-dry	1	7/15/2014 10:41 PM
Naphthalene	ND		7.6	µg/Kg-dry	1	7/15/2014 10:41 PM
Pyrene	ND		7.6	µg/Kg-dry	1	7/15/2014 10:41 PM
Surr: 2-Fluorobiphenyl	64.5		12-100	%REC	1	7/15/2014 10:41 PM
Surr: 4-Terphenyl-d14	96.1		25-137	%REC	1	7/15/2014 10:41 PM
Surr: Nitrobenzene-d5	64.7		37-107	%REC	1	7/15/2014 10:41 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 7/11/14		Analyst: AK
Benzene	ND		35	µg/Kg-dry	1	7/12/2014 08:26 AM
Ethylbenzene	ND		35	µg/Kg-dry	1	7/12/2014 08:26 AM
m,p-Xylene	ND		70	µg/Kg-dry	1	7/12/2014 08:26 AM
o-Xylene	ND		35	µg/Kg-dry	1	7/12/2014 08:26 AM
Toluene	ND		35	µg/Kg-dry	1	7/12/2014 08:26 AM
Xylenes, Total	ND		100	µg/Kg-dry	1	7/12/2014 08:26 AM
Surr: 1,2-Dichloroethane-d4	95.7		70-130	%REC	1	7/12/2014 08:26 AM
Surr: 4-Bromofluorobenzene	103		70-130	%REC	1	7/12/2014 08:26 AM
Surr: Dibromofluoromethane	94.9		70-130	%REC	1	7/12/2014 08:26 AM
Surr: Toluene-d8	93.9		70-130	%REC	1	7/12/2014 08:26 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 7/14/14		Analyst: MELB
Electrical Conductivity @ Saturation	60		0.050	mmhos/cm @25	10	7/15/2014 03:32 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	12		0.58	mg/Kg-dry	1	7/16/2014 03:20 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 7/12/14		Analyst: JI
Chromium, Hexavalent	ND		0.56	mg/Kg-dry	1	7/13/2014 03:30 PM
MOISTURE			A2540 G			Analyst: TM
Moisture	14		0.050	% of sample	1	7/11/2014 09:36 AM
PH			SW9045D	Prep: EXTRACT / 7/11/14		Analyst: TM
pH	8.2			s.u.	1	7/11/2014 05:19 PM

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

ALS Group USA, Corp

Date: 17-Jul-14

Client: Olsson Associates
Project: Chevron UP 69-27 Spill 7.8.14
Sample ID: UP69-27-BG1
Collection Date: 7/8/2014 03:15 PM

Work Order: 1407525
Lab ID: 1407525-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA						
Mercury	0.048		SW7471 0.018	mg/Kg-dry	Prep: SW7471 / 7/14/14 1	Analyst: JEJ 7/15/2014 01:33 PM
METALS BY ICP-MS						
Arsenic	6.1		SW6020A 1.7	mg/Kg-dry	Prep: SW3050B / 7/14/14 5	Analyst: ML 7/15/2014 03:16 AM
Barium	96		1.7	mg/Kg-dry	5	7/15/2014 03:16 AM
Cadmium	ND		0.70	mg/Kg-dry	5	7/15/2014 03:16 AM
Chromium	12		1.7	mg/Kg-dry	5	7/15/2014 03:16 AM
Copper	16		1.7	mg/Kg-dry	5	7/15/2014 03:16 AM
Lead	18		1.7	mg/Kg-dry	5	7/15/2014 03:16 AM
Nickel	21		1.7	mg/Kg-dry	5	7/15/2014 03:16 AM
Selenium	2.0		1.7	mg/Kg-dry	5	7/15/2014 03:16 AM
Silver	ND		1.7	mg/Kg-dry	5	7/15/2014 03:16 AM
Zinc	82		3.5	mg/Kg-dry	5	7/15/2014 03:16 AM
SOLUBLE CATIONS FOR SAR						
Calcium	530		SW6020A 10	mg/L	Prep: USDA Method 20B / 7/14/14 20	Analyst: RH 7/14/2014 05:13 PM
Magnesium	54		4.0	mg/L	20	7/14/2014 05:13 PM
Sodium	1,400		4.0	mg/L	20	7/14/2014 05:13 PM
SODIUM ADSORPTION RATIO						
Sodium Adsorption Ratio	15		USDA H60 METHOD 0.010	none	Prep: USDA Method 20B / 7/14/14 1	Analyst: ML 7/15/2014
ELECTRICAL CONDUCTIVITY (SAR)						
Electrical Conductivity @ Saturation	8.8		USDA H60 METHOD 0.050	mmhos/cm @25	Prep: USDA Method 20B / 7/14/14 10	Analyst: MELB 7/15/2014 03:32 PM
CHROMIUM, TRIVALENT						
Chromium, Trivalent	12		CALCULATION 0.52	mg/Kg-dry	1	Analyst: MB 7/16/2014 03:20 PM
CHROMIUM, HEXAVALENT						
Chromium, Hexavalent	ND		SW7196A 0.51	mg/Kg-dry	Prep: SW3060A / 7/12/14 1	Analyst: JI 7/13/2014 03:30 PM
MOISTURE						
Moisture	3.3		A2540 G 0.050	% of sample	1	Analyst: TM 7/11/2014 09:36 AM
PH						
pH	8.2		SW9045D	s.u.	Prep: EXTRACT / 7/11/14 1	Analyst: TM 7/11/2014 05:19 PM

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

ALS Group USA, Corp

Date: 17-Jul-14

Client: Olsson Associates
Project: Chevron UP 69-27 Spill 7.8.14
Sample ID: UP69-27-SS3
Collection Date: 7/8/2014 03:20 PM

Work Order: 1407525
Lab ID: 1407525-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	16		SW8015M		Prep: SW3541 / 7/14/14	Analyst: IT
<i>Surr: 4-Terphenyl-d14</i>	73.9		4.8	mg/Kg-dry	1	7/14/2014 06:09 PM
			39-133	%REC	1	7/14/2014 06:09 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015		Prep: SW5035 / 7/11/14	Analyst: IT
<i>Surr: Toluene-d8</i>	110		2.9	mg/Kg-dry	1	7/12/2014 01:13 AM
			50-150	%REC	1	7/12/2014 01:13 AM
MERCURY BY CVAA						
Mercury	0.035		SW7471		Prep: SW7471 / 7/14/14	Analyst: JEJ
			0.021	mg/Kg-dry	1	7/15/2014 01:35 PM
METALS BY ICP-MS						
Arsenic	3.8		SW6020A		Prep: SW3050B / 7/14/14	Analyst: ML
Barium	150		1.9	mg/Kg-dry	5	7/15/2014 03:41 AM
Cadmium	ND		1.9	mg/Kg-dry	5	7/15/2014 03:41 AM
Chromium	8.3		0.75	mg/Kg-dry	5	7/15/2014 03:41 AM
Copper	10		1.9	mg/Kg-dry	5	7/15/2014 03:41 AM
Lead	14		1.9	mg/Kg-dry	5	7/15/2014 03:41 AM
Nickel	14		1.9	mg/Kg-dry	5	7/15/2014 03:41 AM
Selenium	ND		1.9	mg/Kg-dry	5	7/15/2014 03:41 AM
Silver	ND		1.9	mg/Kg-dry	5	7/15/2014 03:41 AM
Zinc	57		3.7	mg/Kg-dry	5	7/15/2014 03:41 AM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 7/14/14	Analyst: RH
Calcium	1,100		10	mg/L	20	7/14/2014 05:44 PM
Magnesium	96		4.0	mg/L	20	7/14/2014 05:44 PM
Sodium	4,400		40	mg/L	200	7/15/2014 03:59 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 7/14/14	Analyst: ML
Sodium Adsorption Ratio	35		0.010	none	1	7/15/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW8270		Prep: SW3541 / 7/14/14	Analyst: RM
Acenaphthene	ND		7.7	µg/Kg-dry	1	7/15/2014 11:01 PM
Anthracene	13		7.7	µg/Kg-dry	1	7/15/2014 11:01 PM
Benzo(a)anthracene	ND		7.7	µg/Kg-dry	1	7/15/2014 11:01 PM
Benzo(a)pyrene	ND		7.7	µg/Kg-dry	1	7/15/2014 11:01 PM
Benzo(b)fluoranthene	ND		7.7	µg/Kg-dry	1	7/15/2014 11:01 PM
Benzo(k)fluoranthene	ND		7.7	µg/Kg-dry	1	7/15/2014 11:01 PM
Chrysene	ND		7.7	µg/Kg-dry	1	7/15/2014 11:01 PM
Dibenzo(a,h)anthracene	ND		7.7	µg/Kg-dry	1	7/15/2014 11:01 PM
Fluoranthene	18		7.7	µg/Kg-dry	1	7/15/2014 11:01 PM

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

ALS Group USA, Corp

Date: 17-Jul-14

Client: Olsson Associates
Project: Chevron UP 69-27 Spill 7.8.14
Sample ID: UP69-27-SS3
Collection Date: 7/8/2014 03:20 PM

Work Order: 1407525
Lab ID: 1407525-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		7.7	µg/Kg-dry	1	7/15/2014 11:01 PM
Indeno(1,2,3-cd)pyrene	ND		7.7	µg/Kg-dry	1	7/15/2014 11:01 PM
Naphthalene	ND		7.7	µg/Kg-dry	1	7/15/2014 11:01 PM
Pyrene	ND		7.7	µg/Kg-dry	1	7/15/2014 11:01 PM
Surr: 2-Fluorobiphenyl	62.1		12-100	%REC	1	7/15/2014 11:01 PM
Surr: 4-Terphenyl-d14	99.2		25-137	%REC	1	7/15/2014 11:01 PM
Surr: Nitrobenzene-d5	64.7		37-107	%REC	1	7/15/2014 11:01 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 7/11/14		Analyst: AK
Benzene	ND		35	µg/Kg-dry	1	7/15/2014 07:45 AM
Ethylbenzene	ND		35	µg/Kg-dry	1	7/15/2014 07:45 AM
m,p-Xylene	ND		71	µg/Kg-dry	1	7/15/2014 07:45 AM
o-Xylene	ND		35	µg/Kg-dry	1	7/15/2014 07:45 AM
Toluene	ND		35	µg/Kg-dry	1	7/15/2014 07:45 AM
Xylenes, Total	ND		110	µg/Kg-dry	1	7/15/2014 07:45 AM
Surr: 1,2-Dichloroethane-d4	94.3		70-130	%REC	1	7/15/2014 07:45 AM
Surr: 4-Bromofluorobenzene	105		70-130	%REC	1	7/15/2014 07:45 AM
Surr: Dibromofluoromethane	95.3		70-130	%REC	1	7/15/2014 07:45 AM
Surr: Toluene-d8	91.0		70-130	%REC	1	7/15/2014 07:45 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 7/14/14		Analyst: MELB
Electrical Conductivity @ Saturation	33		0.050	mmhos/cm @25	10	7/15/2014 03:32 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	8.3		0.59	mg/Kg-dry	1	7/16/2014 03:20 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 7/12/14		Analyst: JI
Chromium, Hexavalent	ND		0.59	mg/Kg-dry	1	7/13/2014 03:30 PM
MOISTURE			A2540 G			Analyst: TM
Moisture	15		0.050	% of sample	1	7/11/2014 09:36 AM
PH			SW9045D	Prep: EXTRACT / 7/11/14		Analyst: TM
pH	8.1			s.u.	1	7/11/2014 05:19 PM

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

ALS Group USA, Corp

Date: 17-Jul-14

Client: Olsson Associates
Project: Chevron UP 69-27 Spill 7.8.14
Sample ID: UP69-27-SS4
Collection Date: 7/8/2014 03:33 PM

Work Order: 1407525
Lab ID: 1407525-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	16		SW8015M		Prep: SW3541 / 7/14/14	Analyst: IT
Surr: 4-Terphenyl-d14	80.0		4.6	mg/Kg-dry	1	7/14/2014 06:39 PM
			39-133	%REC	1	7/14/2014 06:39 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015		Prep: SW5035 / 7/11/14	Analyst: IT
Surr: Toluene-d8	104		2.8	mg/Kg-dry	1	7/12/2014 01:38 AM
			50-150	%REC	1	7/12/2014 01:38 AM
MERCURY BY CVAA						
Mercury	0.028		SW7471		Prep: SW7471 / 7/14/14	Analyst: JEJ
			0.021	mg/Kg-dry	1	7/15/2014 01:38 PM
METALS BY ICP-MS						
Arsenic	5.2		SW6020A		Prep: SW3050B / 7/14/14	Analyst: ML
Barium	140		1.8	mg/Kg-dry	5	7/15/2014 03:47 AM
Cadmium	ND		1.8	mg/Kg-dry	5	7/15/2014 03:47 AM
Chromium	10		0.72	mg/Kg-dry	5	7/15/2014 03:47 AM
Copper	13		1.8	mg/Kg-dry	5	7/15/2014 03:47 AM
Lead	16		1.8	mg/Kg-dry	5	7/15/2014 03:47 AM
Nickel	18		1.8	mg/Kg-dry	5	7/15/2014 03:47 AM
Selenium	ND		1.8	mg/Kg-dry	5	7/15/2014 03:47 AM
Silver	ND		1.8	mg/Kg-dry	5	7/15/2014 03:47 AM
Zinc	74		3.6	mg/Kg-dry	5	7/15/2014 03:47 AM
SOLUBLE CATIONS FOR SAR						
			SW6020A		Prep: USDA Method 20B / 7/14/14	Analyst: RH
Calcium	1,500		10	mg/L	20	7/14/2014 05:50 PM
Magnesium	100		4.0	mg/L	20	7/14/2014 05:50 PM
Sodium	4,600		40	mg/L	200	7/15/2014 04:24 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 7/14/14	Analyst: ML
Sodium Adsorption Ratio	31		0.010	none	1	7/15/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW8270		Prep: SW3541 / 7/14/14	Analyst: RM
Acenaphthene	ND		7.4	µg/Kg-dry	1	7/15/2014 11:21 PM
Anthracene	ND		7.4	µg/Kg-dry	1	7/15/2014 11:21 PM
Benzo(a)anthracene	ND		7.4	µg/Kg-dry	1	7/15/2014 11:21 PM
Benzo(a)pyrene	ND		7.4	µg/Kg-dry	1	7/15/2014 11:21 PM
Benzo(b)fluoranthene	ND		7.4	µg/Kg-dry	1	7/15/2014 11:21 PM
Benzo(k)fluoranthene	ND		7.4	µg/Kg-dry	1	7/15/2014 11:21 PM
Chrysene	ND		7.4	µg/Kg-dry	1	7/15/2014 11:21 PM
Dibenzo(a,h)anthracene	ND		7.4	µg/Kg-dry	1	7/15/2014 11:21 PM
Fluoranthene	17		7.4	µg/Kg-dry	1	7/15/2014 11:21 PM

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

ALS Group USA, Corp

Date: 17-Jul-14

Client: Olsson Associates
Project: Chevron UP 69-27 Spill 7.8.14
Sample ID: UP69-27-SS4
Collection Date: 7/8/2014 03:33 PM

Work Order: 1407525
Lab ID: 1407525-05
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		7.4	µg/Kg-dry	1	7/15/2014 11:21 PM
Indeno(1,2,3-cd)pyrene	ND		7.4	µg/Kg-dry	1	7/15/2014 11:21 PM
Naphthalene	ND		7.4	µg/Kg-dry	1	7/15/2014 11:21 PM
Pyrene	ND		7.4	µg/Kg-dry	1	7/15/2014 11:21 PM
Surr: 2-Fluorobiphenyl	68.0		12-100	%REC	1	7/15/2014 11:21 PM
Surr: 4-Terphenyl-d14	88.7		25-137	%REC	1	7/15/2014 11:21 PM
Surr: Nitrobenzene-d5	71.6		37-107	%REC	1	7/15/2014 11:21 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 7/11/14		Analyst: AK
Benzene	ND		34	µg/Kg-dry	1	7/15/2014 08:10 AM
Ethylbenzene	ND		34	µg/Kg-dry	1	7/15/2014 08:10 AM
m,p-Xylene	ND		68	µg/Kg-dry	1	7/15/2014 08:10 AM
o-Xylene	ND		34	µg/Kg-dry	1	7/15/2014 08:10 AM
Toluene	ND		34	µg/Kg-dry	1	7/15/2014 08:10 AM
Xylenes, Total	ND		100	µg/Kg-dry	1	7/15/2014 08:10 AM
Surr: 1,2-Dichloroethane-d4	94.1		70-130	%REC	1	7/15/2014 08:10 AM
Surr: 4-Bromofluorobenzene	104		70-130	%REC	1	7/15/2014 08:10 AM
Surr: Dibromofluoromethane	96.6		70-130	%REC	1	7/15/2014 08:10 AM
Surr: Toluene-d8	91.2		70-130	%REC	1	7/15/2014 08:10 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 7/14/14		Analyst: MELB
Electrical Conductivity @ Saturation	36		0.050	mmhos/cm @25	10	7/15/2014 03:32 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: MB
Chromium, Trivalent	10		0.56	mg/Kg-dry	1	7/16/2014 03:20 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 7/12/14		Analyst: JI
Chromium, Hexavalent	ND		0.55	mg/Kg-dry	1	7/13/2014 03:30 PM
MOISTURE			A2540 G			Analyst: TM
Moisture	11		0.050	% of sample	1	7/11/2014 09:36 AM
PH			SW9045D	Prep: EXTRACT / 7/11/14		Analyst: TM
pH	8.1			s.u.	1	7/11/2014 05:19 PM

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

ALS Group USA, Corp

Date: 17-Jul-14

Client: Olsson Associates

Project: Chevron UP 69-27 Spill 7.8.14

Sample ID: UP69-27-BG2

Collection Date: 7/8/2014 03:40 PM

Work Order: 1407525

Lab ID: 1407525-06

Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>						
METALS BY ICP-MS			SW6020A		Prep: SW3050B / 7/14/14	Analyst: ML
Arsenic	5.4		2.1	mg/Kg-dry	5	7/15/2014 03:53 AM
MOISTURE			A2540 G			Analyst: TM
Moisture	0.63		0.050	% of sample	1	7/11/2014 09:36 AM

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

Client: Olsson Associates

QC BATCH REPORT

Work Order: 1407525

Project: Chevron UP 69-27 Spill 7.8.14

Batch ID: 60543

Instrument ID GC8

Method: SW8015M

MBLK		Sample ID: DBLKS1-60543-60543				Units: mg/Kg		Analysis Date: 7/15/2014 12:33 PM		
Client ID:		Run ID: GC8_140715B				SeqNo: 2849163		Prep Date: 7/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	4.2								
Surr: 4-Terphenyl-d14	1.539	0	1.667	0	92.4	39-133	0			

LCS		Sample ID: DLCSS1-60543-60543				Units: mg/Kg		Analysis Date: 7/15/2014 01:03 PM		
Client ID:		Run ID: GC8_140715B				SeqNo: 2849166		Prep Date: 7/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	128.8	4.2	166.7	0	77.3	61-109	0			
Surr: 4-Terphenyl-d14	1.362	0	1.667	0	81.7	39-133	0			

MS		Sample ID: 1407456-10B MS				Units: mg/Kg		Analysis Date: 7/15/2014 01:33 PM		
Client ID:		Run ID: GC8_140715B				SeqNo: 2849167		Prep Date: 7/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	285.9	7.9	316.5	34.56	79.4	48-110	0			
Surr: 4-Terphenyl-d14	3.073	0	3.165	0	97.1	39-133	0			

MSD		Sample ID: 1407456-10B MSD				Units: mg/Kg		Analysis Date: 7/15/2014 02:03 PM		
Client ID:		Run ID: GC8_140715B				SeqNo: 2849169		Prep Date: 7/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	275.2	8.1	324.7	34.56	74.1	48-110	285.9	3.81	30	
Surr: 4-Terphenyl-d14	3.034	0	3.247	0	93.4	39-133	3.073	1.29	30	

The following samples were analyzed in this batch:

1407525-01A
1407525-05A

1407525-02A

1407525-04A

Client: Olsson Associates
 Work Order: 1407525
 Project: Chevron UP 69-27 Spill 7.8.14

QC BATCH REPORT

Batch ID: **60497** Instrument ID **GC9** Method: **SW8015**

MBLK		Sample ID: MBLK-60497-60497				Units: µg/Kg		Analysis Date: 7/11/2014 05:36 PM		
Client ID:		Run ID: GC9_140711A				SeqNo: 2846079		Prep Date: 7/11/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	ND	2,500								
Surr: Toluene-d8	4748	0	5000	0	95	50-150	0			

LCS		Sample ID: LCS-60497-60497				Units: µg/Kg		Analysis Date: 7/11/2014 05:10 PM		
Client ID:		Run ID: GC9_140711A				SeqNo: 2846078		Prep Date: 7/11/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	514600	2,500	500000	0	103	70-130	0			
Surr: Toluene-d8	4322	0	5000	0	86.4	50-150	0			

MS		Sample ID: 1407456-04A MS				Units: µg/Kg		Analysis Date: 7/11/2014 06:27 PM		
Client ID:		Run ID: GC9_140711A				SeqNo: 2846081		Prep Date: 7/11/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	545500	2,500	500000	0	109	70-130	0			
Surr: Toluene-d8	4636	0	5000	0	92.7	50-150	0			

MSD		Sample ID: 1407456-04A MSD				Units: µg/Kg		Analysis Date: 7/11/2014 06:53 PM		
Client ID:		Run ID: GC9_140711A				SeqNo: 2846082		Prep Date: 7/11/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	554900	2,500	500000	0	111	70-130	545500	1.7	30	
Surr: Toluene-d8	4678	0	5000	0	93.6	50-150	4636	0.913	30	

The following samples were analyzed in this batch:

1407525-01A	1407525-02A	1407525-04A
1407525-05A		

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

Client: Olsson Associates
Work Order: 1407525
Project: Chevron UP 69-27 Spill 7.8.14

QC BATCH REPORT

Batch ID: **60562** Instrument ID **HG1** Method: **SW7471**

MBLK		Sample ID: MBLK-60562-60562				Units: mg/Kg		Analysis Date: 7/15/2014 09:32 AM		
Client ID:		Run ID: HG1_140715A				SeqNo: 2848211		Prep Date: 7/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.002667	0.020								J

LCS		Sample ID: LCS-60562-60562				Units: mg/Kg		Analysis Date: 7/15/2014 09:34 AM		
Client ID:		Run ID: HG1_140715A				SeqNo: 2848212		Prep Date: 7/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1812	0.020	0.1665		0	109	80-120	0		

MS		Sample ID: 1407667-03AMS				Units: mg/Kg		Analysis Date: 7/15/2014 09:52 AM		
Client ID:		Run ID: HG1_140715A				SeqNo: 2848219		Prep Date: 7/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.16	0.016	0.1363	0.0152	106	75-125		0		

MSD		Sample ID: 1407667-03AMSD				Units: mg/Kg		Analysis Date: 7/15/2014 09:54 AM		
Client ID:		Run ID: HG1_140715A				SeqNo: 2848220		Prep Date: 7/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1631	0.017	0.1378		0	118	75-125	0		

The following samples were analyzed in this batch:

1407525-01A	1407525-02A	1407525-03A
1407525-04A	1407525-05A	

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

Client: Olsson Associates
Work Order: 1407525
Project: Chevron UP 69-27 Spill 7.8.14

QC BATCH REPORT

Batch ID: **60465** Instrument ID **ICPMS2** Method: **SW6020A**

DUP				Sample ID: 1407525-03B DUP			Units: mg/L		Analysis Date: 7/14/2014 05:19 PM	
Client ID: UP69-27-BG1				Run ID: ICPMS2_140714A			SeqNo: 2847553		Prep Date: 7/14/2014	
									DF: 20	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	494.2	10	0	0	0	0-0	531.4	7.25		
Magnesium	47.26	4.0	0	0	0	0-0	53.64	12.6		
Sodium	1186	4.0	0	0	0	0-0	1376	14.8		

DUP				Sample ID: 1407525-03B DUP			Units: none		Analysis Date: 7/15/2014	
Client ID: UP69-27-BG1				Run ID: SAR_140715A			SeqNo: 2850815		Prep Date: 7/14/2014	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	13.65	0.010	0	0	0		15.22	10.8	50	

The following samples were analyzed in this batch:

1407525-01B	1407525-02B	1407525-03B
1407525-04B	1407525-05B	

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

Client: Olsson Associates
Work Order: 1407525
Project: Chevron UP 69-27 Spill 7.8.14

QC BATCH REPORT

Batch ID: **60583** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-60583-60583				Units: mg/Kg		Analysis Date: 7/14/2014 11:59 PM		
Client ID:		Run ID: ICPMS1_140714A				SeqNo: 2847694		Prep Date: 7/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.10								
Chromium	ND	0.25								
Copper	ND	0.25								
Lead	0.001369	0.25								J
Nickel	ND	0.25								
Silver	ND	0.25								
Zinc	0.04628	0.50								J

LCS		Sample ID: LCS-60583-60583				Units: mg/Kg		Analysis Date: 7/15/2014 12:05 AM		
Client ID:		Run ID: ICPMS1_140714A				SeqNo: 2847695		Prep Date: 7/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.727	0.25	5	0	94.5	80-120	0			
Barium	4.963	0.25	5	0	99.3	80-120	0			
Cadmium	4.675	0.10	5	0	93.5	80-120	0			
Chromium	4.84	0.25	5	0	96.8	80-120	0			
Copper	4.754	0.25	5	0	95.1	80-120	0			
Lead	4.863	0.25	5	0	97.3	80-120	0			
Nickel	4.682	0.25	5	0	93.6	80-120	0			
Silver	4.657	0.25	5	0	93.1	80-120	0			
Zinc	4.727	0.50	5	0	94.5	80-120	0			

MS		Sample ID: 1407525-03AMS				Units: mg/Kg		Analysis Date: 7/15/2014 03:22 AM		
Client ID: UP69-27-BG1		Run ID: ICPMS1_140714A				SeqNo: 2847727		Prep Date: 7/14/2014		DF: 5
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	12.51	1.6	6.57	5.866	101	75-125	0			
Barium	104.4	1.6	6.57	93.33	168	75-125	0			SO
Cadmium	7.217	0.66	6.57	0.3008	105	75-125	0			
Chromium	21.34	1.6	6.57	11.83	145	75-125	0			S
Copper	21.38	1.6	6.57	15.32	92.3	75-125	0			
Lead	24.67	1.6	6.57	17.5	109	75-125	0			
Nickel	26.77	1.6	6.57	20.41	96.7	75-125	0			
Selenium	9.139	1.6	6.57	1.921	110	75-125	0			
Silver	6.258	1.6	6.57	0.1002	93.7	75-125	0			
Zinc	87.68	3.3	6.57	79.41	126	75-125	0			SO

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

Client: Olsson Associates
Work Order: 1407525
Project: Chevron UP 69-27 Spill 7.8.14

QC BATCH REPORT

Batch ID: **60583** Instrument ID **ICPMS1** Method: **SW6020A**

MSD				Sample ID: 1407525-03AMSD			Units: mg/Kg		Analysis Date: 7/15/2014 03:28 AM	
Client ID: UP69-27-BG1				Run ID: ICPMS1_140714A			SeqNo: 2847728		Prep Date: 7/14/2014	
							DF: 5			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	12.07	1.6	6.596	5.866	94.1	75-125	12.51	3.59	25	
Barium	102.5	1.6	6.596	93.33	139	75-125	104.4	1.83	25	SO
Cadmium	7.028	0.66	6.596	0.3008	102	75-125	7.217	2.65	25	
Chromium	20.88	1.6	6.596	11.83	137	75-125	21.34	2.15	25	S
Copper	20.8	1.6	6.596	15.32	83.1	75-125	21.38	2.76	25	
Lead	24.16	1.6	6.596	17.5	101	75-125	24.67	2.1	25	
Nickel	26.31	1.6	6.596	20.41	89.3	75-125	26.77	1.75	25	
Selenium	7.068	1.6	6.596	1.921	78	75-125	9.139	25.6	25	R
Silver	6.253	1.6	6.596	0.1002	93.3	75-125	6.258	0.0786	25	
Zinc	85.49	3.3	6.596	79.41	92.1	75-125	87.68	2.53	25	O

The following samples were analyzed in this batch:

1407525-01A	1407525-02A	1407525-03A
1407525-04A	1407525-05A	1407525-06A

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

Client: Olsson Associates
Work Order: 1407525
Project: Chevron UP 69-27 Spill 7.8.14

QC BATCH REPORT

Batch ID: **60542** Instrument ID **SVMS8** Method: **SW8270**

MBLK		Sample ID: SBLKS1-60542-60542				Units: µg/Kg		Analysis Date: 7/14/2014 05:10 PM		
Client ID:		Run ID: SVMS8_140714A				SeqNo: 2849286		Prep Date: 7/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	ND	6.7								
Anthracene	ND	6.7								
Benzo(a)anthracene	ND	6.7								
Benzo(a)pyrene	ND	6.7								
Benzo(b)fluoranthene	ND	6.7								
Benzo(k)fluoranthene	ND	6.7								
Chrysene	ND	6.7								
Dibenzo(a,h)anthracene	ND	6.7								
Fluoranthene	ND	6.7								
Fluorene	ND	6.7								
Indeno(1,2,3-cd)pyrene	ND	6.7								
Naphthalene	ND	6.7								
Pyrene	ND	6.7								
<i>Surr: 2-Fluorobiphenyl</i>	1139	0	1667	0	68.4	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1808	0	1667	0	108	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1213	0	1667	0	72.8	37-107	0			

LCS		Sample ID: SLCSS1-60542-60542				Units: µg/Kg		Analysis Date: 7/14/2014 05:30 PM		
Client ID:		Run ID: SVMS8_140714A				SeqNo: 2849287		Prep Date: 7/14/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	441.7	6.7	666.7	0	66.2	45-110	0			
Anthracene	558.7	6.7	666.7	0	83.8	55-105	0			
Benzo(a)anthracene	577.7	6.7	666.7	0	86.6	50-110	0			
Benzo(a)pyrene	627	6.7	666.7	0	94	50-110	0			
Benzo(b)fluoranthene	636.3	6.7	666.7	0	95.4	45-115	0			
Benzo(k)fluoranthene	620.3	6.7	666.7	0	93	45-115	0			
Chrysene	576.3	6.7	666.7	0	86.4	55-110	0			
Dibenzo(a,h)anthracene	524.3	6.7	666.7	0	78.6	40-125	0			
Fluoranthene	591	6.7	666.7	0	88.6	55-115	0			
Fluorene	492.7	6.7	666.7	0	73.9	50-110	0			
Indeno(1,2,3-cd)pyrene	573	6.7	666.7	0	85.9	40-120	0			
Naphthalene	373	6.7	666.7	0	55.9	40-105	0			
Pyrene	685.7	6.7	666.7	0	103	45-125	0			
<i>Surr: 2-Fluorobiphenyl</i>	1018	0	1667	0	61.1	12-100	0			
<i>Surr: 4-Terphenyl-d14</i>	1793	0	1667	0	108	25-137	0			
<i>Surr: Nitrobenzene-d5</i>	1058	0	1667	0	63.5	37-107	0			

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

Client: Olsson Associates
 Work Order: 1407525
 Project: Chevron UP 69-27 Spill 7.8.14

QC BATCH REPORT

Batch ID: **60542** Instrument ID **SVMS8** Method: **SW8270**

MS				Sample ID: 1407456-10B MS			Units: µg/Kg		Analysis Date: 7/15/2014 06:41 PM		
Client ID:		Run ID: SVMS8_140715A			SeqNo:2850940		Prep Date: 7/14/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	965.3	13	1308	0	73.8	45-110	0				
Anthracene	1126	13	1308	15.27	84.9	55-105	0				
Benzo(a)anthracene	1247	13	1308	35.85	92.6	50-110	0				
Benzo(a)pyrene	1379	13	1308	54.1	101	50-110	0				
Benzo(b)fluoranthene	1394	13	1308	60.08	102	45-115	0				
Benzo(k)fluoranthene	1195	13	1308	35.52	88.7	45-115	0				
Chrysene	1221	13	1308	29.21	91.1	55-110	0				
Dibenzo(a,h)anthracene	1243	13	1308	15.27	93.9	40-125	0				
Fluoranthene	1316	13	1308	61.74	95.9	55-115	0				
Fluorene	1062	13	1308	0	81.2	50-110	0				
Indeno(1,2,3-cd)pyrene	1503	13	1308	53.77	111	40-120	0				
Naphthalene	719.4	13	1308	0	55	40-105	0				
Pyrene	1472	13	1308	41.82	109	45-125	0				
Surr: 2-Fluorobiphenyl	2128	0	3270	0	65.1	12-100	0				
Surr: 4-Terphenyl-d14	3552	0	3270	0	109	25-137	0				
Surr: Nitrobenzene-d5	2021	0	3270	0	61.8	37-107	0				

MSD				Sample ID: 1407456-10B MSD			Units: µg/Kg		Analysis Date: 7/15/2014 07:01 PM	
Client ID:			Run ID: SVMS8_140715A		SeqNo:2850941		Prep Date: 7/14/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	942.8	13	1312	0	71.8	45-110	965.3	2.36	30	
Anthracene	1096	13	1312	15.27	82.4	55-105	1126	2.69	30	
Benzo(a)anthracene	1228	13	1312	35.85	90.9	50-110	1247	1.53	30	
Benzo(a)pyrene	1400	13	1312	54.1	103	50-110	1379	1.55	30	
Benzo(b)fluoranthene	1371	13	1312	60.08	99.9	45-115	1394	1.72	30	
Benzo(k)fluoranthene	1146	13	1312	35.52	84.6	45-115	1195	4.27	30	
Chrysene	1193	13	1312	29.21	88.7	55-110	1221	2.28	30	
Dibenzo(a,h)anthracene	1202	13	1312	15.27	90.4	40-125	1243	3.38	30	
Fluoranthene	1264	13	1312	61.74	91.6	55-115	1316	4.1	30	
Fluorene	1029	13	1312	0	78.4	50-110	1062	3.19	30	
Indeno(1,2,3-cd)pyrene	1517	13	1312	53.77	111	40-120	1503	0.885	30	
Naphthalene	703.3	13	1312	0	53.6	40-105	719.4	2.26	30	
Pyrene	1354	13	1312	41.82	100	45-125	1472	8.35	30	
Surr: 2-Fluorobiphenyl	2265	0	3280	0	69.1	12-100	2128	6.25	40	
Surr: 4-Terphenyl-d14	3181	0	3280	0	97	25-137	3552	11	40	
Surr: Nitrobenzene-d5	1943	0	3280	0	59.2	37-107	2021	3.91	40	

The following samples were analyzed in this batch:

1407525-01A	1407525-02A	1407525-04A
1407525-05A		

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

Client: Olsson Associates
 Work Order: 1407525
 Project: Chevron UP 69-27 Spill 7.8.14

QC BATCH REPORT

Batch ID: **60496** Instrument ID **VMS8** Method: **SW8260B**

MBLK Sample ID: MBLK-60496-60496				Units: µg/Kg			Analysis Date: 7/11/2014 05:25 PM			
Client ID:		Run ID: VMS8_140711A		SeqNo: 2846373		Prep Date: 7/11/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	30								
Ethylbenzene	ND	30								
m,p-Xylene	ND	60								
o-Xylene	ND	30								
Toluene	ND	30								
Xylenes, Total	ND	90								
Surr: 1,2-Dichloroethane-d4	973	0	1000	0	97.3	70-130	0			
Surr: 4-Bromofluorobenzene	992.5	0	1000	0	99.2	70-130	0			
Surr: Dibromofluoromethane	970.5	0	1000	0	97	70-130	0			
Surr: Toluene-d8	945.5	0	1000	0	94.6	70-130	0			

LCS Sample ID: LCS-60496-60496				Units: µg/Kg			Analysis Date: 7/11/2014 02:31 PM			
Client ID:		Run ID: VMS8_140711A		SeqNo: 2846370		Prep Date: 7/11/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	952	30	1000	0	95.2	75-125	0			
Ethylbenzene	1008	30	1000	0	101	75-125	0			
m,p-Xylene	1991	60	2000	0	99.6	80-125	0			
o-Xylene	997.5	30	1000	0	99.8	75-125	0			
Toluene	968.5	30	1000	0	96.8	70-125	0			
Xylenes, Total	2988	90	3000	0	99.6	75-125	0			
Surr: 1,2-Dichloroethane-d4	965.5	0	1000	0	96.6	70-130	0			
Surr: 4-Bromofluorobenzene	997.5	0	1000	0	99.8	70-130	0			
Surr: Dibromofluoromethane	989	0	1000	0	98.9	70-130	0			
Surr: Toluene-d8	989.5	0	1000	0	99	70-130	0			

MS Sample ID: 1407342-05A MS				Units: µg/Kg			Analysis Date: 7/15/2014 09:42 AM			
Client ID:		Run ID: VMS8_140714B		SeqNo: 2848545		Prep Date: 7/11/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1005	30	1000	0	100	75-125	0			
Ethylbenzene	999.5	30	1000	0	100	75-125	0			
m,p-Xylene	1972	60	2000	0	98.6	80-125	0			
o-Xylene	993	30	1000	0	99.3	75-125	0			
Toluene	966.5	30	1000	0	96.6	70-125	0			
Xylenes, Total	2964	90	3000	0	98.8	75-125	0			
Surr: 1,2-Dichloroethane-d4	919	0	1000	0	91.9	70-130	0			
Surr: 4-Bromofluorobenzene	1036	0	1000	0	104	70-130	0			
Surr: Dibromofluoromethane	971	0	1000	0	97.1	70-130	0			
Surr: Toluene-d8	943	0	1000	0	94.3	70-130	0			

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

Client: Olsson Associates
Work Order: 1407525
Project: Chevron UP 69-27 Spill 7.8.14

QC BATCH REPORT

Batch ID: **60496** Instrument ID **VMS8** Method: **SW8260B**

MSD				Sample ID: 1407342-05A MSD				Units: µg/Kg		Analysis Date: 7/15/2014 10:07 AM	
Client ID:			Run ID: VMS8_140714B			SeqNo: 2848546		Prep Date: 7/11/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	995.5	30	1000	0	99.6	75-125	1005	0.95	30		
Ethylbenzene	987	30	1000	0	98.7	75-125	999.5	1.26	30		
m,p-Xylene	1944	60	2000	0	97.2	80-125	1972	1.38	30		
o-Xylene	983	30	1000	0	98.3	75-125	993	1.01	30		
Toluene	950	30	1000	0	95	70-125	966.5	1.72	30		
Xylenes, Total	2928	90	3000	0	97.6	75-125	2964	1.26	30		
Surr: 1,2-Dichloroethane-d4	925	0	1000	0	92.5	70-130	919	0.651	30		
Surr: 4-Bromofluorobenzene	1020	0	1000	0	102	70-130	1036	1.56	30		
Surr: Dibromofluoromethane	960	0	1000	0	96	70-130	971	1.14	30		
Surr: Toluene-d8	949	0	1000	0	94.9	70-130	943	0.634	30		

The following samples were analyzed in this batch:

1407525-01A	1407525-02A	1407525-04A
1407525-05A		

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

Client: Olsson Associates
Work Order: 1407525
Project: Chevron UP 69-27 Spill 7.8.14

QC BATCH REPORT

Batch ID: **60465** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP		Sample ID: 1407525-03B DUP				Units: mmhos/cm @25°C		Analysis Date: 7/15/2014 03:32 PM		
Client ID: UP69-27-BG1		Run ID: WETCHEM_140715F				SeqNo: 2849217		Prep Date: 7/14/2014		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	9.23	0.050	0	0	0		8.85	4.2	50	

The following samples were analyzed in this batch:

1407525-01B	1407525-02B	1407525-03B
1407525-04B	1407525-05B	

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

Client: Olsson Associates
Work Order: 1407525
Project: Chevron UP 69-27 Spill 7.8.14

QC BATCH REPORT

Batch ID: **60513** Instrument ID **WETCHEM** Method: **SW9045D**

LCS					Sample ID: LCS-60513-60513					Units:s.u.			Analysis Date: 7/11/2014 05:19 PM				
Client ID:					Run ID: WETCHEM_140711H					SeqNo:2845231			Prep Date: 7/11/2014			DF: 1	
Analyte					Result		PQL	SPK Val	SPK Ref Value	%REC		Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
pH					3.95		0	4	0	98.8		90-110	0				

DUP					Sample ID: 1407515-01A DUP					Units:s.u.			Analysis Date: 7/11/2014 05:19 PM				
Client ID:					Run ID: WETCHEM_140711H					SeqNo:2845239			Prep Date: 7/11/2014			DF: 1	
Analyte					Result		PQL	SPK Val	SPK Ref Value	%REC		Control Limit	RPD Ref Value		%RPD	RPD Limit	Qual
pH					11.87		0	0	0	0		0-0	11.85		0.169	20	

DUP				Sample ID: 1407528-01A DUP				Units: s.u.		Analysis Date: 7/11/2014 05:19 PM			
Client ID:				Run ID: WETCHEM_140711H				SeqNo: 2845246		Prep Date: 7/11/2014		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
pH		8.1	0	0	0	0	0-0	8.16	0.738	20			

The following samples were analyzed in this batch:

1407525-01A	1407525-02A	1407525-03A
1407525-04A	1407525-05A	

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

Client: Olsson Associates
 Work Order: 1407525
 Project: Chevron UP 69-27 Spill 7.8.14

QC BATCH REPORT

Batch ID: **60517** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-60517-60517				Units: mg/Kg		Analysis Date: 7/13/2014 03:30 PM		
Client ID:		Run ID: WETCHEM_140713C				SeqNo: 2845514		Prep Date: 7/12/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 0.50

LCS		Sample ID: LCS-60517-60517				Units: mg/Kg		Analysis Date: 7/13/2014 03:30 PM		
Client ID:		Run ID: WETCHEM_140713C				SeqNo: 2845515		Prep Date: 7/12/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.949 0.49 1.976 0 98.6 80-120 0

MS		Sample ID: 1407462-01BMS				Units: mg/Kg		Analysis Date: 7/13/2014 03:30 PM		
Client ID:		Run ID: WETCHEM_140713C				SeqNo: 2845518		Prep Date: 7/12/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 2.024 0.50 2 0.3755 82.4 75-125 0

MS		Sample ID: 1407462-01BMSI				Units: mg/Kg		Analysis Date: 7/13/2014 03:30 PM		
Client ID:		Run ID: WETCHEM_140713C				SeqNo: 2845520		Prep Date: 7/12/2014		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1395 50 1287 0.3755 108 75-125 0

MSD		Sample ID: 1407462-01BMSD				Units: mg/Kg		Analysis Date: 7/13/2014 03:30 PM		
Client ID:		Run ID: WETCHEM_140713C				SeqNo: 2845519		Prep Date: 7/12/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.933 0.49 1.961 0.3755 79.4 75-125 2.024 4.58 20

The following samples were analyzed in this batch:

1407525-01A	1407525-02A	1407525-03A
1407525-04A	1407525-05A	

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

Client: Olsson Associates
 Work Order: 1407525
 Project: Chevron UP 69-27 Spill 7.8.14

QC BATCH REPORT

Batch ID: **R144364** Instrument ID **MOIST** Method: **A2540 G**

MBLK				Sample ID: WBLKS-R144364				Units: % of sample			Analysis Date: 7/11/2014 09:36 AM			
Client ID:				Run ID: MOIST_140711A				SeqNo: 2847200			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-R144364				Units: % of sample			Analysis Date: 7/11/2014 09:36 AM			
Client ID:				Run ID: MOIST_140711A				SeqNo: 2847199		Prep Date:		DF: 1		
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 99.99 0.050 100 0 100 99.5-100.5 0

DUP				Sample ID: 1407477-01A DUP				Units: % of sample			Analysis Date: 7/11/2014 09:36 AM												
Client ID:				Run ID: MOIST_140711A				SeqNo: 2847178		Prep Date:		DF: 1											
Analyte				Result		PQL		SPK Val		SPK Ref Value		%REC		Control Limit		RPD Ref Value		%RPD		RPD Limit		Qual	

Moisture 10.93 0.050 0 0 0 0-0 10.58 3.25 20

DUP				Sample ID: 1407515-01A DUP				Units: % of sample			Analysis Date: 7/11/2014 09:36 AM			
Client ID:				Run ID: MOIST_140711A				SeqNo: 2847180		Prep Date:		DF: 1		
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 43.98 0.050 0 0 0 0-0 43.98 0 20

The following samples were analyzed in this batch:

1407525-01A	1407525-02A	1407525-03A
1407525-04A	1407525-05A	1407525-06A

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 3336

☐ Everett, WA
+1 425 356 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 #

1407525

Customer Information

Purchase Order
Work Order
Company Name Olsson Associates
Send Report To Tim Dobransky
Address 780 Horizon Drive, Ste. 102
City/State/Zip Grand Junction, CO 81506
Phone 970.263.7800
Fax 970.263.7456
e-Mail Address tdobransky@olssonconsulting.com

Project Information

Project Name Chevron UP 69-27 Spill
Project Number 013.3287.100.100004
Bill To Company Olsson Associates
Invoice Attn Tim Dobransky
Address 780 Horizon Drive, Ste. 102
City/State/Zip Grand Junction, CO 81506
Phone 970.263.7800
Fax 970.263.7456
e-Mail Address

Parameter/Method Request for Analysis

A TPH (GRO & DRO)
B BTEX
C PAH (See Attached List) CO Table 910
D Electrical Conductivity
E Sodium Adsorption Ratio
F pH
G Metals (See Attached List) CO Table 910
H Arsenic Only
I
J

No.	Sample Description	Date	Time	Matrix	Pres.	# Batches	A	B	C	D	E	F	G	H	I	J	Field
1	UP6927-SS1	07/08/14	1455	Soil	8	2	X	X	X	X	X	X	X				
2	UP6927-SS2	07/08/14	1505	Soil	8	2	X	X	X	X	X	X	X				
3	UP6927-BG1	07/08/14	1515	Soil	8	2				X	X	X	X				
4	UP6927-SS3	07/08/14	1520	Soil	8	2	X	X	X	X	X	X	X				
5	UP6927-SS4	07/08/14	1530	Soil	8	2	X	X	X	X	X	X	X				
6	UP6927-BG2	07/08/14	1540	Soil	8	1								X			

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"/> 3 Wk Days <input type="checkbox"/> 24 Hour		Results Due Date:	
Relinquished by: [Signature]		Date: 7/9/14	Time: 1630	Received by: [Signature]		Notes: Chevron Pricing Applies - Per Bruce Schlatter	
Relinquished by: [Signature]		Date: 7/10/14	Time: 0930	Received by (Laboratory): [Signature]		QC Package: (Check Box Below)	
Logged by (Laboratory): [Signature]		Date: 7/10/14	Time: 1521	Checked by (Laboratory): [Signature]		Cooler Temp: 36C	
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035				<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Std QC + Raw Data <input type="checkbox"/> Level IV: SW846 CLP-Like <input type="checkbox"/> 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: **OLSSON**

Date/Time Received: **10-Jul-14 09:30**

Work Order: **1407525**

Received by: **BAB**

Checklist completed by *Daylan Brewster*
eSignature

10-Jul-14

Date

Reviewed by: *Ann Preston*
eSignature

11-Jul-14

Date

Matrices: **SOIL**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.6°C</u> <u>C</u>		
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>7/10/2014 3:21:34 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:

Dated:



24-May-2016

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

Re: **Chevron UP 69-27 Spill**

Work Order: **1605873**

Dear Tim,

ALS Environmental received 4 samples on 16-May-2016 09:45 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 15.

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 A small version of the ALS logo.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Olsson Associates
Project: Chevron UP 69-27 Spill
Work Order: 1605873

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>
1605873-01	UP6927-SS1	Soil		5/11/2016 12:00	5/16/2016 09:45	<input type="checkbox"/>
1605873-02	UP6927-SS2	Soil		5/11/2016 12:05	5/16/2016 09:45	<input type="checkbox"/>
1605873-03	UP6927-SS3	Soil		5/11/2016 12:15	5/16/2016 09:45	<input type="checkbox"/>
1605873-04	UP6927-SS4	Soil		5/11/2016 12:25	5/16/2016 09:45	<input type="checkbox"/>

<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 PQL, 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	

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

Client: Olsson Associates
Project: Chevron UP 69-27 Spill
Sample ID: UP6927-SS1
Collection Date: 5/11/2016 12:00 PM

Work Order: 1605873
Lab ID: 1605873-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3546 / 5/17/16		Analyst: RS
Benzo(a)pyrene	ND		0.016	mg/Kg-dry	1	5/18/2016 01:12 AM
Surr: 2,4,6-Tribromophenol	76.5		34-140	%REC	1	5/18/2016 01:12 AM
Surr: 2-Fluorobiphenyl	60.1		12-100	%REC	1	5/18/2016 01:12 AM
Surr: 2-Fluorophenol	68.0		33-117	%REC	1	5/18/2016 01:12 AM
Surr: 4-Terphenyl-d14	89.5		25-137	%REC	1	5/18/2016 01:12 AM
Surr: Nitrobenzene-d5	61.4		37-107	%REC	1	5/18/2016 01:12 AM
Surr: Phenol-d6	70.5		40-106	%REC	1	5/18/2016 01:12 AM
MOISTURE			SW3550C			Analyst: EDL
Moisture	15		0.050	% of sample	1	5/16/2016 05:38 PM

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

ALS Group USA, Corp

Date: 24-May-16

Client: Olsson Associates
Project: Chevron UP 69-27 Spill
Sample ID: UP6927-SS2
Collection Date: 5/11/2016 12:05 PM

Work Order: 1605873
Lab ID: 1605873-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SOLUBLE CATIONS FOR SAR			SW846 6010C		Prep: USDA Method 20B / 5/18/16	Analyst: JEC
Calcium	1,400		5.0	mg/L	10	5/18/2016 11:47 AM
Magnesium	72		2.0	mg/L	10	5/18/2016 11:47 AM
Sodium	180		2.0	mg/L	10	5/18/2016 11:47 AM
SODIUM ADSORPTION RATIO			USDA H60 METHO		Prep: USDA Method 20B / 5/18/16	Analyst: JEC
Sodium Adsorption Ratio	1.3		0.010	none	1	5/18/2016
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3546 / 5/17/16	Analyst: RS
Benzo(a)pyrene	ND		0.016	mg/Kg-dry	1	5/18/2016 01:33 AM
Surr: 2,4,6-Tribromophenol	86.1		34-140	%REC	1	5/18/2016 01:33 AM
Surr: 2-Fluorobiphenyl	59.4		12-100	%REC	1	5/18/2016 01:33 AM
Surr: 2-Fluorophenol	69.2		33-117	%REC	1	5/18/2016 01:33 AM
Surr: 4-Terphenyl-d14	96.0		25-137	%REC	1	5/18/2016 01:33 AM
Surr: Nitrobenzene-d5	60.0		37-107	%REC	1	5/18/2016 01:33 AM
Surr: Phenol-d6	71.6		40-106	%REC	1	5/18/2016 01:33 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO		Prep: USDA Method 20B / 5/18/16	Analyst: JB
Electrical Conductivity @ Saturation	9.3		0.050	mmhos/cm @2	10	5/18/2016 01:50 PM
MOISTURE			SW3550C			Analyst: EDL
Moisture	17		0.050	% of sample	1	5/16/2016 05:38 PM

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

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

Client: Olsson Associates
Project: Chevron UP 69-27 Spill
Sample ID: UP6927-SS3
Collection Date: 5/11/2016 12:15 PM

Work Order: 1605873
Lab ID: 1605873-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SOLUBLE CATIONS FOR SAR			SW846 6010C		Prep: USDA Method 20B / 5/18/16	Analyst: JEC
Calcium	1,700		5.0	mg/L	10	5/18/2016 11:51 AM
Magnesium	49		2.0	mg/L	10	5/18/2016 11:51 AM
Sodium	110		2.0	mg/L	10	5/18/2016 11:51 AM
SODIUM ADSORPTION RATIO			USDA H60 METHO		Prep: USDA Method 20B / 5/18/16	Analyst: JEC
Sodium Adsorption Ratio	0.73		0.010	none	1	5/18/2016
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO		Prep: USDA Method 20B / 5/18/16	Analyst: JB
Electrical Conductivity @ Saturation	9.4		0.050	mmhos/cm @2	10	5/18/2016 01:50 PM

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

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

Client: Olsson Associates
Project: Chevron UP 69-27 Spill
Sample ID: UP6927-SS4
Collection Date: 5/11/2016 12:25 PM

Work Order: 1605873
Lab ID: 1605873-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SOLUBLE CATIONS FOR SAR			SW846 6010C		Prep: USDA Method 20B / 5/18/16	Analyst: JEC
Calcium	600		5.0	mg/L	10	5/18/2016 11:56 AM
Magnesium	16		2.0	mg/L	10	5/18/2016 11:56 AM
Sodium	82		2.0	mg/L	10	5/18/2016 11:56 AM
SODIUM ADSORPTION RATIO			USDA H60 METHO		Prep: USDA Method 20B / 5/18/16	Analyst: JEC
Sodium Adsorption Ratio	0.90		0.010	none	1	5/18/2016
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO		Prep: USDA Method 20B / 5/18/16	Analyst: JB
Electrical Conductivity @ Saturation	4.2		0.050	mmhos/cm @2	10	5/18/2016 01:50 PM

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

ALS Group USA, Corp

Date: 24-May-16

Client: Olsson Associates

Work Order: 1605873

Project: Chevron UP 69-27 Spill

QC BATCH REPORT

Batch ID: **86100**

Instrument ID **ICP2**

Method: **SW846 6010C**

DUP	Sample ID: 1605870-01ADUP					Units: mg/L	Analysis Date: 5/18/2016 11:32 AM			
Client ID:	Run ID: ICP2_160518A				SeqNo: 3834237		Prep Date: 5/18/2016		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	180.3	5.0	0	0	0	0-0	177.6	1.51		
Magnesium	8.103	2.0	0	0	0	0-0	8.024	0.978		
Sodium	24.16	2.0	0	0	0	0-0	23.82	1.41		

DUP	Sample ID: 1605870-01ADUP					Units: none	Analysis Date: 5/18/2016			
Client ID:	Run ID: SAR_160518A				SeqNo: 3834365		Prep Date: 5/18/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	0.4782	0.010	0	0	0		0.4749	0.677	50	

The following samples were analyzed in this batch:

1605873-02B	1605873-03A	1605873-04A
-------------	-------------	-------------

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

Client: Olsson Associates
 Work Order: 1605873
 Project: Chevron UP 69-27 Spill

QC BATCH REPORT

Batch ID: **86140** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK		Sample ID: SBLKS1-86140-86140				Units: µg/Kg		Analysis Date: 5/18/2016 12:58 PM		
Client ID:		Run ID: SVMS5_160518A				SeqNo: 3834575		Prep Date: 5/17/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)pyrene	ND	13								
Surr: 2,4,6-Tribromophenol	2623	0	3333	0	78.7	34-140	0			
Surr: 2-Fluorobiphenyl	2687	0	3333	0	80.6	12-100	0			
Surr: 2-Fluorophenol	3105	0	3333	0	93.2	33-117	0			
Surr: 4-Terphenyl-d14	3282	0	3333	0	98.5	25-137	0			
Surr: Nitrobenzene-d5	2883	0	3333	0	86.5	37-107	0			
Surr: Phenol-d6	2895	0	3333	0	86.9	40-106	0			

LCS		Sample ID: SLCSS1-86140-86140				Units: µg/Kg		Analysis Date: 5/18/2016 01:21 PM		
Client ID:		Run ID: SVMS5_160518A				SeqNo: 3834576		Prep Date: 5/17/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)pyrene	1278	13	1333	0	95.8	50-110	0			
Surr: 2,4,6-Tribromophenol	2900	0	3333	0	87	34-140	0			
Surr: 2-Fluorobiphenyl	2553	0	3333	0	76.6	12-100	0			
Surr: 2-Fluorophenol	2749	0	3333	0	82.5	33-117	0			
Surr: 4-Terphenyl-d14	3270	0	3333	0	98.1	25-137	0			
Surr: Nitrobenzene-d5	2803	0	3333	0	84.1	37-107	0			
Surr: Phenol-d6	2634	0	3333	0	79	40-106	0			

MS		Sample ID: 1605824-05B MS				Units: µg/Kg		Analysis Date: 5/17/2016 09:46 PM		
Client ID:		Run ID: SVMS5_160517A				SeqNo: 3834462		Prep Date: 5/17/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzo(a)pyrene	1223	13	1313	0	93.1	50-110	0			
Surr: 2,4,6-Tribromophenol	2818	0	3283	0	85.8	34-140	0			
Surr: 2-Fluorobiphenyl	2417	0	3283	0	73.6	12-100	0			
Surr: 2-Fluorophenol	2667	0	3283	0	81.2	33-117	0			
Surr: 4-Terphenyl-d14	3158	0	3283	0	96.2	25-137	0			
Surr: Nitrobenzene-d5	2888	0	3283	0	88	37-107	0			
Surr: Phenol-d6	2666	0	3283	0	81.2	40-106	0			

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

Client: Olsson Associates
Work Order: 1605873
Project: Chevron UP 69-27 Spill

QC BATCH REPORT

Batch ID: **86140** Instrument ID **SVMS5** Method: **SW846 8270D**

MSD				Sample ID: 1605824-05B MSD			Units: µg/Kg		Analysis Date: 5/17/2016 10:09 PM		
Client ID:			Run ID: SVMS5_160517A			SeqNo: 3834463		Prep Date: 5/17/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzo(a)pyrene	1115	13	1300	0	85.7	50-110	1223	9.26	30		
Surr: 2,4,6-Tribromophenol	2486	0	3250	0	76.5	34-140	2818	12.5	40		
Surr: 2-Fluorobiphenyl	2178	0	3250	0	67	12-100	2417	10.4	40		
Surr: 2-Fluorophenol	2346	0	3250	0	72.2	33-117	2667	12.8	40		
Surr: 4-Terphenyl-d14	2798	0	3250	0	86.1	25-137	3158	12.1	40		
Surr: Nitrobenzene-d5	2505	0	3250	0	77.1	37-107	2888	14.2	40		
Surr: Phenol-d6	2359	0	3250	0	72.6	40-106	2666	12.2	40		

The following samples were analyzed in this batch:

1605873-01A 1605873-02A

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

Client: Olsson Associates
Work Order: 1605873
Project: Chevron UP 69-27 Spill

QC BATCH REPORT

Batch ID: **86100** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP		Sample ID: 1605870-01A DUP				Units: mmhos/cm @25°		Analysis Date: 5/18/2016 01:50 PM		
Client ID:		Run ID: WETCHEM_160518K			SeqNo: 3834547		Prep Date: 5/18/2016		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.198	0.050	0	0	0		1.186	1.01	50	

The following samples were analyzed in this batch:

1605873-02B	1605873-03A	1605873-04A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1605873
Project: Chevron UP 69-27 Spill

QC BATCH REPORT

Batch ID: **R187651** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R187651				Units: % of sample		Analysis Date: 5/16/2016 05:38 PM		
Client ID:		Run ID: MOIST_160516A				SeqNo: 3830956		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-R187651				Units: % of sample		Analysis Date: 5/16/2016 05:38 PM		
Client ID:		Run ID: MOIST_160516A				SeqNo: 3830955		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: 1605864-04B DUP				Units: % of sample			Analysis Date: 5/16/2016 05:38 PM			
Client ID:				Run ID: MOIST_160516A				SeqNo: 3830946			Prep Date:		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			

Moisture 18.62 0.050 0 0 0 20.59 10 20

The following samples were analyzed in this batch:

1605873-01A 1605873-02A

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



Chain of Custody Form

Page 1 of 1

COC ID: 123456

- | | | |
|---|--|---|
| <ul style="list-style-type: none"> <div> <div> <div></div> <div>Cincinnati, OH</div> <div>+1 513 733 5336</div> </div> </div> <div> <div> <div></div> <div>Everett, WA</div> <div>+1 425 358 2600</div> </div> </div> <div> <div> <div></div> <div>Fort Collins, CO</div> <div>+1 970 490 1511</div> </div> </div> | <ul style="list-style-type: none"> <div> <div> <div></div> <div>Holland, MI</div> <div>+1 616 399 6070</div> </div> </div> <div> <div> <div></div> <div>Houston, TX</div> <div>+1 281 530 5856</div> </div> </div> <div> <div> <div></div> <div>Middletown, PA</div> <div>+1 717 944 5541</div> </div> </div> | <ul style="list-style-type: none"> <div> <div> <div></div> <div>Salt Lake City, UT</div> <div>+1 801 266 7700</div> </div> </div> <div> <div> <div></div> <div>Spring City, PA</div> <div>+1 610 948 4903</div> </div> </div> <div> <div> <div></div> <div>York, PA</div> <div>+1 717 505 5280</div> </div> </div> |
|---|--|---|

[illegible]

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

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ORIGIN ID: RILA (816) 298-1033
 NICK MARTINEZ
 ALS ENVIRONMENTAL PARACHUTE
 PARACHUTE SERVICE CENTER
 127 EAST 1ST ST
 PARACHUTE, CO 81835
 UNITED STATES US

SHIP DATE: 13MAY16
 ACTWGT: 65.00 LB
 CAD: 22648401 NET 3730
 DIMS: 14x26x15 IN

BILL SENDER

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

HOLLAND MI 49424

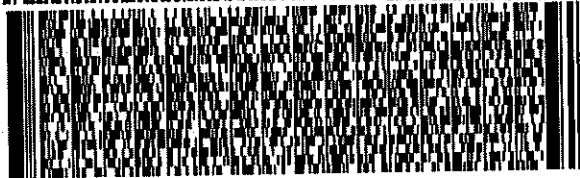
(816) 399-6070

REF: 051316-1

INV

DEPT:

PO: PARACHUTE



FedEx
Express



REL#
3785346

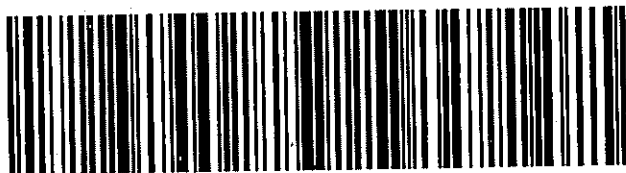
SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK#
0201

7763 4205 1742

X0 HLMA

49424
MI-US GRR



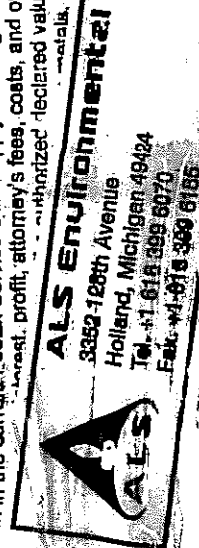
540,115323/27F

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 Services 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 of liability in the current FedEx Services Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the actual declared value. Recovery cannot exceed actual documented loss. Maximum for items of declared value. Recoverable instruments and other items listed in our Services Guide. Written



CUSTOMER SEAL

Date: 5-13-16
 Name: J. M. D. D.
 Company:

Sample Receipt Checklist

Client Name: **OLSSON**

Date/Time Received: **16-May-16 09:45**

Work Order: **1605873**

Received by: **KRW**

Checklist completed by Keith Wurenga 16-May-16 Reviewed by: Chad Whelton 16-May-16
eSignature Date eSignature Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>5.8/5.8 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>5/16/2016 10:57:37 AM</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: