

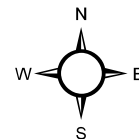


Legend

- Spill Origin
- Soil Sample Location
- Spill Path

0 50 100 200 Feet

1 inch = 97 feet



PROJECT NO:	013-3287
DRAWN BY:	SBS
DATE:	12/16/2014

DRIP TRAP 4
SPILL RESPONSE
CHEVRON USA, INC
RIO BLANCO COUNTY, COLORADO
NENE S31 T2N R102W

OLSSON
ASSOCIATES

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

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Table 1
Drip Trap 4
Soil Data Summary

SAMPLE SUMMARY	
Location Description	Chevron Drip Trap 4 Spill
Sample Type	Soil

LABORATORY DATA SUMMARY					
Sample ID	DT4-SS1	DT4-SS2	DT4-BG1	COGCC TABLE 910-1 CONCENTRATION LEVELS	UNITS
Depth	0"-6"	0"-6"	0"-6"		
Sample Date	11/18/2014	11/18/2014	11/18/2014		
Analytical Parameters					
TPH					
TPH Gasoline Range Organics	240	<2.6	NT	500	mg/kg
TPH Diesel Range Organics	190	21	NT		
BTEX					
Benzene	0.082	<0.031	NT	0.17	mg/kg
Toluene	0.59	<0.031	NT	85	mg/kg
Ethylbenzene	0.49	<0.031	NT	100	mg/kg
Total Xylene	3.6	<0.094	NT	175	mg/kg
Metals					
Arsenic	6.3	7.6	6.8	0.39	mg/kg
Barium	270	180	170	15,000	mg/kg
Cadmium	<0.50	<0.37	<0.40	70	mg/kg
Chromium	12	11	13	NA	mg/kg
Copper	17	19	19	3,100	mg/kg
Lead	20	22	23	400	mg/kg
Mercury	0.46	0.032	0.027	23	mg/kg
Nickel	18	19	19	1,600	mg/kg
Selenium	<2.0	1.7	2.0	390	mg/kg
Silver	<0.50	<0.37	<0.40	390	mg/kg
Zinc	90	99	100	23,000	mg/kg
SAR Metals Analysis					
Calcium	820	1,200	570	NA	mg/L
Magnesium	100	180	79	NA	mg/L
Sodium	290	970	540	NA	mg/L
Sodium Adsorption Ratio	2.5	7.0	5.6	<12	ratio
Polynuclear Aromatic Hydrocarbons					
Acenaphthene	<0.0081	<0.0068	NT	1,000	mg/kg
Anthracene	<0.0081	<0.0068	NT	1,000	mg/kg
Benzo(a)anthracene	<0.0081	0.0085	NT	0.22	mg/kg
Benzo(a)pyrene	<0.0081	<0.0068	NT	0.022	mg/kg
Benzo(b)fluoranthene	<0.0081	<0.0068	NT	0.22	mg/kg
Benzo(k)fluoranthene	<0.0081	<0.0068	NT	2.2	mg/kg
Chrysene	<0.0081	<0.0068	NT	22	mg/kg
Dibenzo(a,h)anthracene	<0.0081	<0.0068	NT	0.022	mg/kg
Fluoranthene	<0.0081	<0.0068	NT	1,000	mg/kg
Fluorene	0.021	<0.0068	NT	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	<0.0081	<0.0068	NT	0.22	mg/kg
Napthalene	0.21	<0.0068	NT	23	mg/kg
Pyrene	<0.0081	<0.0068	NT	1,000	mg/kg
General Chemistry					
Chromium, Hexavalent	<0.62	<0.52	<0.52	23	mg/kg
Chromium, Trivalent	12	11	13	120,000	mg/kg
Specific Conductivity	6.7	13.0	6.5	<4 or 2 x the background	mmhos/cm
pH	8.0	7.9	7.9	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



02-Dec-2014

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

Re: **Chevron Drip Trap 4 Spill 11.18.14**

Work Order: **14111081**

Dear Tim,

ALS Environmental received 3 samples on 20-Nov-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 27.

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 Drip Trap 4 Spill 11.18.14
Work Order: 14111081

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>
14111081-01	DT4-SS1	Soil		11/18/2014 13:35	11/20/2014 09:30	<input type="checkbox"/>
14111081-02	DT4-SS2	Soil		11/18/2014 13:45	11/20/2014 09:30	<input type="checkbox"/>
14111081-03	DT4-BG1	Soil		11/18/2014 13:50	11/20/2014 09:30	<input type="checkbox"/>

Client: Olsson Associates
Project: Chevron Drip Trap 4 Spill 11.18.14
Work Order: 14111081

Case Narrative

Batch 65292 LCS recoveries for Benzo(a)pyrene, Benzo(b)fluoranthene, and Benzo(k)fluoranthene were above the upper control limit. All samples in this quality control batch were non-detect. No data requires qualification for Benzo(a)pyrene, Benzo(b)fluoranthene, and Benzo(k)fluoranthene. The MS/MSD data for PAHs is not related to this project's samples. No data requires qualification.

Batch 65406 MS/MSD data for Hexavalent Chromium is not related to this project's samples. No data requires qualification.

Batch 65301 sample 14111081-01 reporting limit for Selenium was elevated due to dilution for high concentrations of non-target analytes. Sample 14111081-03 MS/MSD recoveries for Chromium and Barium were above control limits. The result for Barium in the parent sample was greater than 4x the spiked amount. No qualification is required for Barium. The corresponding result for Chromium in the parent sample may be biased high due to matrix interference.

<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: 02-Dec-14

Client: Olsson Associates
Project: Chevron Drip Trap 4 Spill 11.18.14
Sample ID: DT4-SS1
Collection Date: 11/18/2014 01:35 PM

Work Order: 14111081
Lab ID: 14111081-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 11/21/14	Analyst: IT
DRO (C10-C28)	190		5.1	mg/Kg-dry	1	11/22/2014 12:09 PM
Surr: 4-Terphenyl-d14	72.5		39-133	%REC	1	11/22/2014 12:09 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015		Prep: SW5035 / 11/21/14	Analyst: IT
GRO (C6-C10)	240		3.1	mg/Kg-dry	1	11/22/2014 10:29 AM
Surr: Toluene-d8	111		50-150	%REC	1	11/22/2014 10:29 AM
MERCURY BY CVAA						
			SW7471		Prep: SW7471 / 12/1/14	Analyst: LR
Mercury	0.46		0.038	mg/Kg-dry	2	12/1/2014 04:49 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B / 11/21/14	Analyst: JEC
Arsenic	6.3		0.50	mg/Kg-dry	1	11/21/2014 05:32 PM
Barium	270		0.50	mg/Kg-dry	1	11/21/2014 05:32 PM
Cadmium	ND		0.50	mg/Kg-dry	1	11/21/2014 05:32 PM
Chromium	12		0.50	mg/Kg-dry	1	11/21/2014 05:32 PM
Copper	17		0.50	mg/Kg-dry	1	11/21/2014 05:32 PM
Lead	20		0.50	mg/Kg-dry	1	11/21/2014 05:32 PM
Nickel	18		0.50	mg/Kg-dry	1	11/21/2014 05:32 PM
Selenium	ND		2.0	mg/Kg-dry	2	11/24/2014 10:08 AM
Silver	ND		0.50	mg/Kg-dry	1	11/21/2014 05:32 PM
Zinc	90		1.0	mg/Kg-dry	1	11/21/2014 05:32 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 11/22/14	Analyst: JEC
Calcium	820		5.0	mg/L	10	11/24/2014 10:36 AM
Magnesium	100		2.0	mg/L	10	11/24/2014 10:36 AM
Sodium	290		2.0	mg/L	10	11/24/2014 10:36 AM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 11/22/14	Analyst: JEC
Sodium Adsorption Ratio	2.5		0.010	none	1	11/24/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 11/25/14	Analyst: JG
Acenaphthene	ND		8.1	µg/Kg-dry	1	11/26/2014 12:47 PM
Anthracene	ND		8.1	µg/Kg-dry	1	11/26/2014 12:47 PM
Benzo(a)anthracene	ND		8.1	µg/Kg-dry	1	11/26/2014 12:47 PM
Benzo(a)pyrene	ND		8.1	µg/Kg-dry	1	11/26/2014 12:47 PM
Benzo(b)fluoranthene	ND		8.1	µg/Kg-dry	1	11/26/2014 12:47 PM
Benzo(k)fluoranthene	ND		8.1	µg/Kg-dry	1	11/26/2014 12:47 PM
Chrysene	ND		8.1	µg/Kg-dry	1	11/26/2014 12:47 PM
Dibenzo(a,h)anthracene	ND		8.1	µg/Kg-dry	1	11/26/2014 12:47 PM
Fluoranthene	ND		8.1	µg/Kg-dry	1	11/26/2014 12:47 PM

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

ALS Group USA, Corp

Date: 02-Dec-14

Client: Olsson Associates
Project: Chevron Drip Trap 4 Spill 11.18.14
Sample ID: DT4-SS1
Collection Date: 11/18/2014 01:35 PM

Work Order: 14111081
Lab ID: 14111081-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	21		8.1	µg/Kg-dry	1	11/26/2014 12:47 PM
Indeno(1,2,3-cd)pyrene	ND		8.1	µg/Kg-dry	1	11/26/2014 12:47 PM
Naphthalene	210		8.1	µg/Kg-dry	1	11/26/2014 12:47 PM
Pyrene	ND		8.1	µg/Kg-dry	1	11/26/2014 12:47 PM
Surr: 2-Fluorobiphenyl	64.9		12-100	%REC	1	11/26/2014 12:47 PM
Surr: 4-Terphenyl-d14	83.2		25-137	%REC	1	11/26/2014 12:47 PM
Surr: Nitrobenzene-d5	67.8		37-107	%REC	1	11/26/2014 12:47 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 11/21/14 Analyst: JDW		
Benzene	82		37	µg/Kg-dry	1	11/23/2014 06:54 PM
Ethylbenzene	490		37	µg/Kg-dry	1	11/23/2014 06:54 PM
m,p-Xylene	2,500		75	µg/Kg-dry	1	11/23/2014 06:54 PM
o-Xylene	1,100		37	µg/Kg-dry	1	11/23/2014 06:54 PM
Toluene	590		37	µg/Kg-dry	1	11/23/2014 06:54 PM
Xylenes, Total	3,600		110	µg/Kg-dry	1	11/23/2014 06:54 PM
Surr: 1,2-Dichloroethane-d4	96.8		70-130	%REC	1	11/23/2014 06:54 PM
Surr: 4-Bromofluorobenzene	105		70-130	%REC	1	11/23/2014 06:54 PM
Surr: Dibromofluoromethane	90.3		70-130	%REC	1	11/23/2014 06:54 PM
Surr: Toluene-d8	103		70-130	%REC	1	11/23/2014 06:54 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 11/22/14 Analyst: JB		
Electrical Conductivity @ Saturation	6.7		0.050	mmhos/cm @25	10	11/24/2014 12:00 PM
CHROMIUM, TRIVALENT			CALCULATION	Analyst: MB		
Chromium, Trivalent	12		0.62	mg/Kg-dry	1	11/25/2014 11:00 AM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 11/21/14 Analyst: MB		
Chromium, Hexavalent	ND		0.62	mg/Kg-dry	1	11/24/2014 03:00 PM
MOISTURE			A2540 G	Analyst: EVB		
Moisture	20		0.050	% of sample	1	11/21/2014 12:01 PM
PH			SW9045D	Prep: EXTRACT / 11/21/14 Analyst: AXL		
pH	8.0			s.u.	1	11/21/2014 01:00 PM

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

ALS Group USA, Corp

Date: 02-Dec-14

Client: Olsson Associates
Project: Chevron Drip Trap 4 Spill 11.18.14
Sample ID: DT4-SS2
Collection Date: 11/18/2014 01:45 PM

Work Order: 14111081
Lab ID: 14111081-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	21		SW8015M		Prep: SW3541 / 11/21/14	Analyst: IT
<i>Surr: 4-Terphenyl-d14</i>	55.2		4.3	mg/Kg-dry	1	11/22/2014 12:37 PM
			39-133	%REC	1	11/22/2014 12:37 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015		Prep: SW5035 / 11/21/14	Analyst: IT
<i>Surr: Toluene-d8</i>	107		2.6	mg/Kg-dry	1	11/22/2014 10:54 AM
			50-150	%REC	1	11/22/2014 10:54 AM
MERCURY BY CVAA						
Mercury	0.032		SW7471		Prep: SW7471 / 12/1/14	Analyst: LR
			0.015	mg/Kg-dry	1	12/1/2014 04:58 PM
METALS ANALYSIS BY ICP						
Arsenic	7.6		SW846 6010C		Prep: SW3050B / 11/21/14	Analyst: JEC
Barium	180		0.37	mg/Kg-dry	1	11/21/2014 05:38 PM
Cadmium	ND		0.37	mg/Kg-dry	1	11/21/2014 05:38 PM
Chromium	11		0.37	mg/Kg-dry	1	11/21/2014 05:38 PM
Copper	19		0.37	mg/Kg-dry	1	11/21/2014 05:38 PM
Lead	22		0.37	mg/Kg-dry	1	11/21/2014 05:38 PM
Nickel	19		0.37	mg/Kg-dry	1	11/21/2014 05:38 PM
Selenium	1.7		0.74	mg/Kg-dry	1	11/21/2014 05:38 PM
Silver	ND		0.37	mg/Kg-dry	1	11/21/2014 05:38 PM
Zinc	99		0.74	mg/Kg-dry	1	11/21/2014 05:38 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 11/22/14	Analyst: JEC
Calcium	1,200		5.0	mg/L	10	11/24/2014 10:41 AM
Magnesium	180		2.0	mg/L	10	11/24/2014 10:41 AM
Sodium	970		2.0	mg/L	10	11/24/2014 10:41 AM
SODIUM ADSORPTION RATIO						
			USDA H60 METHOD		Prep: USDA Method 20B / 11/22/14	Analyst: JEC
Sodium Adsorption Ratio	7.0		0.010	none	1	11/24/2014
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 11/21/14	Analyst: RS
Acenaphthene	ND		6.8	µg/Kg-dry	1	11/22/2014 11:36 AM
Anthracene	ND		6.8	µg/Kg-dry	1	11/22/2014 11:36 AM
Benzo(a)anthracene	8.5		6.8	µg/Kg-dry	1	11/22/2014 11:36 AM
Benzo(a)pyrene	ND		6.8	µg/Kg-dry	1	11/22/2014 11:36 AM
Benzo(b)fluoranthene	ND		6.8	µg/Kg-dry	1	11/22/2014 11:36 AM
Benzo(k)fluoranthene	ND		6.8	µg/Kg-dry	1	11/22/2014 11:36 AM
Chrysene	ND		6.8	µg/Kg-dry	1	11/22/2014 11:36 AM
Dibenzo(a,h)anthracene	ND		6.8	µg/Kg-dry	1	11/22/2014 11:36 AM
Fluoranthene	ND		6.8	µg/Kg-dry	1	11/22/2014 11:36 AM

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

ALS Group USA, Corp

Date: 02-Dec-14

Client: Olsson Associates
Project: Chevron Drip Trap 4 Spill 11.18.14
Sample ID: DT4-SS2
Collection Date: 11/18/2014 01:45 PM

Work Order: 14111081
Lab ID: 14111081-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		6.8	µg/Kg-dry	1	11/22/2014 11:36 AM
Indeno(1,2,3-cd)pyrene	ND		6.8	µg/Kg-dry	1	11/22/2014 11:36 AM
Naphthalene	ND		6.8	µg/Kg-dry	1	11/22/2014 11:36 AM
Pyrene	ND		6.8	µg/Kg-dry	1	11/22/2014 11:36 AM
Surr: 2-Fluorobiphenyl	68.4		12-100	%REC	1	11/22/2014 11:36 AM
Surr: 4-Terphenyl-d14	87.3		25-137	%REC	1	11/22/2014 11:36 AM
Surr: Nitrobenzene-d5	68.9		37-107	%REC	1	11/22/2014 11:36 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 11/21/14 Analyst: JDW		
Benzene	ND		31	µg/Kg-dry	1	11/23/2014 07:20 PM
Ethylbenzene	ND		31	µg/Kg-dry	1	11/23/2014 07:20 PM
m,p-Xylene	ND		63	µg/Kg-dry	1	11/23/2014 07:20 PM
o-Xylene	ND		31	µg/Kg-dry	1	11/23/2014 07:20 PM
Toluene	ND		31	µg/Kg-dry	1	11/23/2014 07:20 PM
Xylenes, Total	ND		94	µg/Kg-dry	1	11/23/2014 07:20 PM
Surr: 1,2-Dichloroethane-d4	101		70-130	%REC	1	11/23/2014 07:20 PM
Surr: 4-Bromofluorobenzene	96.9		70-130	%REC	1	11/23/2014 07:20 PM
Surr: Dibromofluoromethane	94.7		70-130	%REC	1	11/23/2014 07:20 PM
Surr: Toluene-d8	97.2		70-130	%REC	1	11/23/2014 07:20 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHOD	Prep: USDA Method 20B / 11/22/14 Analyst: JB		
Electrical Conductivity @ Saturation	13		0.050	mmhos/cm @25	10	11/24/2014 12:00 PM
CHROMIUM, TRIVALENT			CALCULATION	Analyst: MB		
Chromium, Trivalent	11		0.52	mg/Kg-dry	1	11/25/2014 11:00 AM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 11/21/14 Analyst: MB		
Chromium, Hexavalent	ND		0.52	mg/Kg-dry	1	11/24/2014 03:00 PM
MOISTURE			A2540 G	Analyst: EVB		
Moisture	4.0		0.050	% of sample	1	11/21/2014 12:01 PM
PH			SW9045D	Prep: EXTRACT / 11/21/14 Analyst: AXL		
pH	7.9			s.u.	1	11/21/2014 01:00 PM

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

ALS Group USA, Corp

Date: 02-Dec-14

Client: Olsson Associates
Project: Chevron Drip Trap 4 Spill 11.18.14
Sample ID: DT4-BG1
Collection Date: 11/18/2014 01:50 PM

Work Order: 14111081
Lab ID: 14111081-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA						
Mercury	0.027		SW7471 0.016	mg/Kg-dry	Prep: SW7471 / 12/1/14 1	Analyst: LR 12/1/2014 05:00 PM
METALS ANALYSIS BY ICP						
Arsenic	6.8		SW846 6010C 0.40	mg/Kg-dry	Prep: SW3050B / 11/21/14 1	Analyst: JEC 11/21/2014 12:24 PM
Barium	170		0.40	mg/Kg-dry	1	11/21/2014 12:24 PM
Cadmium	ND		0.40	mg/Kg-dry	1	11/21/2014 12:24 PM
Chromium	13		0.40	mg/Kg-dry	1	11/21/2014 12:24 PM
Copper	19		0.40	mg/Kg-dry	1	11/21/2014 12:24 PM
Lead	23		0.40	mg/Kg-dry	1	11/21/2014 12:24 PM
Nickel	19		0.40	mg/Kg-dry	1	11/21/2014 12:24 PM
Selenium	2.0		0.81	mg/Kg-dry	1	11/21/2014 12:24 PM
Silver	ND		0.40	mg/Kg-dry	1	11/21/2014 12:24 PM
Zinc	100		0.81	mg/Kg-dry	1	11/21/2014 12:24 PM
SOLUBLE CATIONS FOR SAR						
Calcium	570		SW846 6010C 5.0	mg/L	Prep: USDA Method 20B / 11/22/14 10	Analyst: JEC 11/24/2014 10:47 AM
Magnesium	79		2.0	mg/L	10	11/24/2014 10:47 AM
Sodium	540		2.0	mg/L	10	11/24/2014 10:47 AM
SODIUM ADSORPTION RATIO						
Sodium Adsorption Ratio	5.6		USDA H60 METHOD 0.010	none	Prep: USDA Method 20B / 11/22/14 1	Analyst: JEC 11/24/2014
ELECTRICAL CONDUCTIVITY (SAR)						
Electrical Conductivity @ Saturation	6.5		USDA H60 METHOD 0.050	mmhos/cm @25	Prep: USDA Method 20B / 11/22/14 10	Analyst: JB 11/24/2014 12:00 PM
CHROMIUM, TRIVALENT						
Chromium, Trivalent	13		CALCULATION 0.52	mg/Kg-dry	1	Analyst: MB 11/25/2014 11:00 AM
CHROMIUM, HEXAVALENT						
Chromium, Hexavalent	ND		SW7196A 0.52	mg/Kg-dry	Prep: SW3060A / 11/21/14 1	Analyst: MB 11/24/2014 03:00 PM
MOISTURE						
Moisture	3.9		A2540 G 0.050	% of sample	1	Analyst: EVB 11/21/2014 10:30 AM
PH						
pH	7.9		SW9045D	s.u.	Prep: EXTRACT / 11/21/14 1	Analyst: AXL 11/21/2014 01:00 PM

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

Client: Olsson Associates

QC BATCH REPORT

Work Order: 14111081

Project: Chevron Drip Trap 4 Spill 11.18.14

Batch ID: 65293

Instrument ID GC8

Method: SW8015M

MBLK		Sample ID: DBLKS1-65293-65293				Units: mg/Kg		Analysis Date: 11/21/2014 04:48 PM		
Client ID:		Run ID: GC8_141121A				SeqNo: 3049731		Prep Date: 11/21/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	ND	5.0								
Surr: 4-Terphenyl-d14	1.27	0	2	0	63.5	39-133		0		

LCS		Sample ID: DLCSS1-65293-65293				Units: mg/Kg		Analysis Date: 11/21/2014 05:16 PM		
Client ID:		Run ID: GC8_141121A				SeqNo: 3049733		Prep Date: 11/21/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	194.9	5.0	200	0	97.4	61-109		0		
Surr: 4-Terphenyl-d14	1.343	0	2	0	67.2	39-133		0		

MS		Sample ID: 14111079-01A MS				Units: mg/Kg		Analysis Date: 11/21/2014 06:11 PM		
Client ID:		Run ID: GC8_141121A				SeqNo: 3049738		Prep Date: 11/21/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	337.2	8.2	326.6	24.23	95.8	48-110		0		
Surr: 4-Terphenyl-d14	2.302	0	3.266	0	70.5	39-133		0		

MSD		Sample ID: 14111079-01A MSD				Units: mg/Kg		Analysis Date: 11/21/2014 06:38 PM		
Client ID:		Run ID: GC8_141121A				SeqNo: 3049740		Prep Date: 11/21/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	315.3	8.0	319.7	24.23	91.1	48-110	337.2	6.7	30	
Surr: 4-Terphenyl-d14	2.271	0	3.197	0	71.1	39-133	2.302	1.35	30	

The following samples were analyzed in this batch: | 14111081-01A | 14111081-02A |

Client: Olsson Associates
 Work Order: 14111081
 Project: Chevron Drip Trap 4 Spill 11.18.14

QC BATCH REPORT

Batch ID: **65316** Instrument ID **GC9** Method: **SW8015**

MBLK		Sample ID: MBLK-65316-65316				Units: µg/Kg		Analysis Date: 11/21/2014 02:53 PM		
Client ID:		Run ID: GC9_141121A				SeqNo: 3049816		Prep Date: 11/21/2014		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	5354	0	5000	0	107	50-150	0			

LCS		Sample ID: LCS-65316-65316				Units: µg/Kg		Analysis Date: 11/21/2014 02:28 PM		
Client ID:		Run ID: GC9_141121A				SeqNo: 3049814		Prep Date: 11/21/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	410100	2,500	500000	0	82	70-130	0			
Surr: Toluene-d8	4784	0	5000	0	95.7	50-150	0			

MS		Sample ID: 14111037-01A MS				Units: µg/Kg		Analysis Date: 11/21/2014 08:51 PM		
Client ID:		Run ID: GC9_141121A				SeqNo: 3049824		Prep Date: 11/21/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	577200	2,500	500000	0	115	70-130	0			
Surr: Toluene-d8	5146	0	5000	0	103	50-150	0			

MSD		Sample ID: 14111037-01A MSD				Units: µg/Kg		Analysis Date: 11/21/2014 09:17 PM		
Client ID:		Run ID: GC9_141121A				SeqNo: 3049825		Prep Date: 11/21/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	549400	2,500	500000	0	110	70-130	577200	4.94	30	
Surr: Toluene-d8	5023	0	5000	0	100	50-150	5146	2.43	30	

The following samples were analyzed in this batch:

14111081-01A 14111081-02A

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

Client: Olsson Associates
Work Order: 14111081
Project: Chevron Drip Trap 4 Spill 11.18.14

QC BATCH REPORT

Batch ID: **65518** Instrument ID **HG1** Method: **SW7471**

MBLK		Sample ID: MBLK-65518-65518				Units: mg/Kg		Analysis Date: 12/1/2014 04:37 PM		
Client ID:		Run ID: HG1_141201A				SeqNo: 3056503		Prep Date: 12/1/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury ND 0.020

LCS		Sample ID: LCS-65518-65518				Units: mg/Kg		Analysis Date: 12/1/2014 04:39 PM		
Client ID:		Run ID: HG1_141201A				SeqNo: 3056504		Prep Date: 12/1/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1726 0.020 0.1665 0 104 80-120 0

MS		Sample ID: 14111222-01BMS				Units: mg/Kg		Analysis Date: 12/1/2014 05:19 PM		
Client ID:		Run ID: HG1_141201A				SeqNo: 3056529		Prep Date: 12/1/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1097 0.012 0.1024 -0.001103 108 75-125 0

MSD		Sample ID: 14111222-01BMSD				Units: mg/Kg		Analysis Date: 12/1/2014 05:21 PM		
Client ID:		Run ID: HG1_141201A				SeqNo: 3056530		Prep Date: 12/1/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1067 0.012 0.1001 -0.001103 108 75-125 0.1097 2.84 35

The following samples were analyzed in this batch:

14111081-01A	14111081-02A	14111081-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 14111081
Project: Chevron Drip Trap 4 Spill 11.18.14

QC BATCH REPORT

Batch ID: **65282** Instrument ID **SAR** Method: **USDA H60 Method**

DUP		Sample ID: 14111079-03BDUP				Units: none		Analysis Date: 11/24/2014		
Client ID:		Run ID: SAR_141124A				SeqNo: 3050178		Prep Date: 11/22/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	0.4465	0.010	0	0	0		0.4513	1.05	50	

The following samples were analyzed in this batch:

14111081-01B	14111081-02B	14111081-03B
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 14111081
Project: Chevron Drip Trap 4 Spill 11.18.14

QC BATCH REPORT

Batch ID: **65301** Instrument ID **ICP2** Method: **SW846 6010C**

MS				Sample ID: 14111081-03AMS			Units:mg/Kg		Analysis Date: 11/21/2014 12:29 PM		
Client ID: DT4-BG1			Run ID: ICP2_141121A			SeqNo: 3047041		Prep Date: 11/21/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	15.25	0.38	7.692	6.517	113	75-125	0				
Barium	186.1	0.38	7.692	160.5	333	75-125	0			SO	
Cadmium	7.141	0.77	7.692	0.01754	92.6	75-125	0				
Chromium	22.76	0.38	7.692	12.22	137	75-125	0			S	
Copper	25.42	0.77	7.692	17.86	98.2	75-125	0				
Lead	29.19	0.38	7.692	21.74	96.9	75-125	0				
Nickel	25.58	0.38	7.692	18.71	89.4	75-125	0				
Selenium	10.23	0.77	7.692	1.962	108	75-125	0				
Silver	8.545	0.38	7.692	0.04847	110	75-125	0				
Zinc	106.9	0.77	7.692	97.59	120	75-125	0			O	

MSD				Sample ID: 14111081-03AMSD			Units:mg/Kg		Analysis Date: 11/21/2014 12:35 PM		
Client ID: DT4-BG1			Run ID: ICP2_141121A			SeqNo: 3047042		Prep Date: 11/21/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	14.77	0.39	7.74	6.517	107	75-125	15.25	3.16	20		
Barium	181.2	0.39	7.74	160.5	268	75-125	186.1	2.66	20	SO	
Cadmium	7.194	0.77	7.74	0.01754	92.7	75-125	7.141	0.731	20		
Chromium	23.41	0.39	7.74	12.22	144	75-125	22.76	2.82	20	S	
Copper	25.03	0.77	7.74	17.86	92.6	75-125	25.42	1.53	20		
Lead	28.95	0.39	7.74	21.74	93.2	75-125	29.19	0.816	20		
Nickel	25.4	0.39	7.74	18.71	86.5	75-125	25.58	0.704	20		
Selenium	9.787	0.77	7.74	1.962	101	75-125	10.23	4.45	20		
Silver	8.555	0.39	7.74	0.04847	110	75-125	8.545	0.117	20		
Zinc	104.8	0.77	7.74	97.59	93.5	75-125	106.9	1.91	20	O	

The following samples were analyzed in this batch:

14111081-01A 14111081-02A 14111081-03A

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

Client: Olsson Associates
 Work Order: 14111081
 Project: Chevron Drip Trap 4 Spill 11.18.14

QC BATCH REPORT

Batch ID: **65292** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK				Sample ID: SBLKS1-65292-65292		Units: µg/Kg		Analysis Date: 11/21/2014 06:38 PM			
Client ID:			Run ID: SVMS5_141121A			SeqNo: 3050936		Prep Date: 11/21/2014		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									
Surr: 2-Fluorobiphenyl	1241	0	1667	0	74.4	12-100	0				
Surr: 4-Terphenyl-d14	1608	0	1667	0	96.5	25-137	0				
Surr: Nitrobenzene-d5	1284	0	1667	0	77	37-107	0				

LCS		Sample ID: SLCSS1-65292-65292				Units: µg/Kg		Analysis Date: 11/21/2014 07:02 PM		
Client ID:		Run ID: SVMS5_141121A			SeqNo:3050941		Prep Date: 11/21/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	607	6.7	666.7	0	91	45-110	0			
Anthracene	691.3	6.7	666.7	0	104	55-105	0			
Benzo(a)anthracene	688	6.7	666.7	0	103	50-110	0			
Benzo(a)pyrene	791.3	6.7	666.7	0	119	50-110	0			S
Benzo(b)fluoranthene	861	6.7	666.7	0	129	45-115	0			S
Benzo(k)fluoranthene	819.3	6.7	666.7	0	123	45-115	0			S
Chrysene	704.7	6.7	666.7	0	106	55-110	0			
Dibenzo(a,h)anthracene	806.7	6.7	666.7	0	121	40-125	0			
Fluoranthene	702	6.7	666.7	0	105	55-115	0			
Fluorene	634	6.7	666.7	0	95.1	50-110	0			
Indeno(1,2,3-cd)pyrene	799.7	6.7	666.7	0	120	40-120	0			
Naphthalene	619	6.7	666.7	0	92.8	40-105	0			
Pyrene	757.7	6.7	666.7	0	114	45-125	0			
Surr: 2-Fluorobiphenyl	1439	0	1667	0	86.4	12-100	0			
Surr: 4-Terphenyl-d14	1758	0	1667	0	105	25-137	0			
Surr: Nitrobenzene-d5	1539	0	1667	0	92.3	37-107	0			

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

Client: Olsson Associates
 Work Order: 14111081
 Project: Chevron Drip Trap 4 Spill 11.18.14

QC BATCH REPORT

Batch ID: 65292 Instrument ID SVMS5 Method: SW846 8270D

MS				Sample ID: 14111083-03B MS			Units: µg/Kg		Analysis Date: 11/21/2014 07:25 PM		
Client ID:			Run ID: SVMS5_141121A			SeqNo:3050947		Prep Date: 11/21/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1071	13	1251	0	85.6	45-110	0				
Anthracene	1237	13	1251	0	98.9	55-105	0				
Benzo(a)anthracene	1277	13	1251	9.508	101	50-110	0				
Benzo(a)pyrene	1459	13	1251	0	117	50-110	0			S	
Benzo(b)fluoranthene	1581	13	1251	0	126	45-115	0			S	
Benzo(k)fluoranthene	1509	13	1251	0	121	45-115	0			S	
Chrysene	1287	13	1251	4.262	103	55-110	0				
Dibenzo(a,h)anthracene	1463	13	1251	0	117	40-125	0				
Fluoranthene	1277	13	1251	7.868	101	55-115	0				
Fluorene	1108	13	1251	0	88.6	50-110	0				
Indeno(1,2,3-cd)pyrene	1459	13	1251	0	117	40-120	0				
Naphthalene	1067	13	1251	0	85.3	40-105	0				
Pyrene	1385	13	1251	8.196	110	45-125	0				
Surr: 2-Fluorobiphenyl	2481	0	3128	0	79.3	12-100	0				
Surr: 4-Terphenyl-d14	3201	0	3128	0	102	25-137	0				
Surr: Nitrobenzene-d5	2659	0	3128	0	85	37-107	0				

MSD				Sample ID: 14111083-03B MSD			Units: µg/Kg		Analysis Date: 11/21/2014 07:49 PM		
Client ID:			Run ID: SVMS5_141121A			SeqNo:3050948		Prep Date: 11/21/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1153	13	1291	0	89.3	45-110	1071	7.38	30		
Anthracene	1307	13	1291	0	101	55-105	1237	5.5	30		
Benzo(a)anthracene	1322	13	1291	9.508	102	50-110	1277	3.44	30		
Benzo(a)pyrene	1527	13	1291	0	118	50-110	1459	4.55	30	S	
Benzo(b)fluoranthene	1662	13	1291	0	129	45-115	1581	4.98	30	S	
Benzo(k)fluoranthene	1560	13	1291	0	121	45-115	1509	3.31	30	S	
Chrysene	1358	13	1291	4.262	105	55-110	1287	5.31	30		
Dibenzo(a,h)anthracene	1541	13	1291	0	119	40-125	1463	5.21	30		
Fluoranthene	1322	13	1291	7.868	102	55-115	1277	3.44	30		
Fluorene	1189	13	1291	0	92.1	50-110	1108	6.97	30		
Indeno(1,2,3-cd)pyrene	1522	13	1291	0	118	40-120	1459	4.25	30		
Naphthalene	1116	13	1291	0	86.4	40-105	1067	4.44	30		
Pyrene	1465	13	1291	8.196	113	45-125	1385	5.64	30		
Surr: 2-Fluorobiphenyl	2669	0	3226	0	82.7	12-100	2481	7.32	40		
Surr: 4-Terphenyl-d14	3373	0	3226	0	105	25-137	3201	5.23	40		
Surr: Nitrobenzene-d5	2831	0	3226	0	87.7	37-107	2659	6.27	40		

The following samples were analyzed in this batch:

14111081-01A 14111081-02A

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

Client: Olsson Associates
 Work Order: 14111081
 Project: Chevron Drip Trap 4 Spill 11.18.14

QC BATCH REPORT

Batch ID: **65437** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKS1-65437-65437				Units: µg/Kg		Analysis Date: 11/25/2014 05:06 PM		
Client ID:		Run ID: SVMS8_141125A				SeqNo: 3054619		Prep Date: 11/25/2014		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								
Surr: 2-Fluorobiphenyl	1292	0	1667	0	77.5	12-100	0			
Surr: 4-Terphenyl-d14	1525	0	1667	0	91.5	25-137	0			
Surr: Nitrobenzene-d5	1202	0	1667	0	72.1	37-107	0			

LCS		Sample ID: SLCSS1-65437-65437				Units: µg/Kg		Analysis Date: 11/25/2014 05:27 PM		
Client ID:		Run ID: SVMS8_141125A				SeqNo: 3054620		Prep Date: 11/25/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	486	6.7	666.7	0	72.9	45-110	0			
Anthracene	569	6.7	666.7	0	85.3	55-105	0			
Benzo(a)anthracene	588.7	6.7	666.7	0	88.3	50-110	0			
Benzo(a)pyrene	657.7	6.7	666.7	0	98.6	50-110	0			
Benzo(b)fluoranthene	635.7	6.7	666.7	0	95.3	45-115	0			
Benzo(k)fluoranthene	654.7	6.7	666.7	0	98.2	45-115	0			
Chrysene	605	6.7	666.7	0	90.7	55-110	0			
Dibenzo(a,h)anthracene	634	6.7	666.7	0	95.1	40-125	0			
Fluoranthene	560	6.7	666.7	0	84	55-115	0			
Fluorene	499	6.7	666.7	0	74.8	50-110	0			
Indeno(1,2,3-cd)pyrene	643	6.7	666.7	0	96.4	40-120	0			
Naphthalene	478.3	6.7	666.7	0	71.7	40-105	0			
Pyrene	609	6.7	666.7	0	91.3	45-125	0			
Surr: 2-Fluorobiphenyl	1167	0	1667	0	70	12-100	0			
Surr: 4-Terphenyl-d14	1409	0	1667	0	84.5	25-137	0			
Surr: Nitrobenzene-d5	1161	0	1667	0	69.6	37-107	0			

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

Client: Olsson Associates
 Work Order: 14111081
 Project: Chevron Drip Trap 4 Spill 11.18.14

QC BATCH REPORT

Batch ID: **65437** Instrument ID **SVMS8** Method: **SW846 8270D**

MS				Sample ID: 14111080-06B MS			Units: µg/Kg		Analysis Date: 11/25/2014 06:31 PM	
Client ID:		Run ID: SVMS5_141125A			SeqNo: 3054863		Prep Date: 11/25/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1030	13	1308	0	78.7	45-110	0			
Anthracene	1211	13	1308	10.41	91.7	55-105	0			
Benzo(a)anthracene	1227	13	1308	72.25	88.2	50-110	0			
Benzo(a)pyrene	1225	13	1308	96.01	86.3	50-110	0			
Benzo(b)fluoranthene	1272	13	1308	131.5	87.2	45-115	0			
Benzo(k)fluoranthene	1240	13	1308	51.75	90.8	45-115	0			
Chrysene	1266	13	1308	83.32	90.4	55-110	0			
Dibenzo(a,h)anthracene	1153	13	1308	24.08	86.3	40-125	0			
Fluoranthene	1308	13	1308	152.3	88.4	55-115	0			
Fluorene	1116	13	1308	0	85.3	50-110	0			
Indeno(1,2,3-cd)pyrene	1152	13	1308	84.29	81.6	40-120	0			
Naphthalene	1051	13	1308	23.11	78.5	40-105	0			
Pyrene	1395	13	1308	138	96.1	45-125	0			
Surr: 2-Fluorobiphenyl	2303	0	3271	0	70.4	12-100	0			
Surr: 4-Terphenyl-d14	3006	0	3271	0	91.9	25-137	0			
Surr: Nitrobenzene-d5	2414	0	3271	0	73.8	37-107	0			

MSD				Sample ID: 14111080-06B MSD			Units: µg/Kg		Analysis Date: 11/25/2014 06:55 PM	
Client ID:		Run ID: SVMS5_141125A			SeqNo: 3054864		Prep Date: 11/25/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1014	13	1278	0	79.3	45-110	1030	1.59	30	
Anthracene	1169	13	1278	10.41	90.7	55-105	1211	3.49	30	
Benzo(a)anthracene	1266	13	1278	72.25	93.4	50-110	1227	3.15	30	
Benzo(a)pyrene	1233	13	1278	96.01	89	50-110	1225	0.698	30	
Benzo(b)fluoranthene	1309	13	1278	131.5	92.2	45-115	1272	2.86	30	
Benzo(k)fluoranthene	1214	13	1278	51.75	90.9	45-115	1240	2.09	30	
Chrysene	1305	13	1278	83.32	95.6	55-110	1266	3.03	30	
Dibenzo(a,h)anthracene	1125	13	1278	24.08	86.2	40-125	1153	2.47	30	
Fluoranthene	1413	13	1278	152.3	98.6	55-115	1308	7.67	30	
Fluorene	1079	13	1278	0	84.4	50-110	1116	3.41	30	
Indeno(1,2,3-cd)pyrene	1187	13	1278	84.29	86.2	40-120	1152	2.95	30	
Naphthalene	1098	13	1278	23.11	84.1	40-105	1051	4.39	30	
Pyrene	1540	13	1278	138	110	45-125	1395	9.89	30	
Surr: 2-Fluorobiphenyl	2290	0	3195	0	71.7	12-100	2303	0.58	40	
Surr: 4-Terphenyl-d14	2885	0	3195	0	90.3	25-137	3006	4.13	40	
Surr: Nitrobenzene-d5	2379	0	3195	0	74.5	37-107	2414	1.46	40	

The following samples were analyzed in this batch:

14111081-01A

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

Client: Olsson Associates
 Work Order: 14111081
 Project: Chevron Drip Trap 4 Spill 11.18.14

QC BATCH REPORT

Batch ID: **65315** Instrument ID **VMS6** Method: **SW8260B**

MBLK				Sample ID: MBLK-65315-65315				Units: µg/Kg			Analysis Date: 11/21/2014 09:51 PM			
Client ID:				Run ID: VMS6_141121A				SeqNo: 3048937			Prep Date: 11/21/2014		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	1028	0	1000	0	103	70-130		0						
Surr: 4-Bromofluorobenzene	976.5	0	1000	0	97.6	70-130		0						
Surr: Dibromofluoromethane	957.5	0	1000	0	95.8	70-130		0						
Surr: Toluene-d8	990.5	0	1000	0	99	70-130		0						

LCS				Sample ID: LCS-65315-65315				Units: µg/Kg			Analysis Date: 11/21/2014 08:33 PM		
Client ID:			Run ID: VMS6_141121A				SeqNo: 3048935		Prep Date: 11/21/2014		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Benzene	1163	30	1000	0	116	75-125	0						
Ethylbenzene	1204	30	1000	0	120	75-125	0						
m,p-Xylene	2349	60	2000	0	117	80-125	0						
o-Xylene	1178	30	1000	0	118	75-125	0						
Toluene	1126	30	1000	0	113	70-125	0						
Xylenes, Total	3526	90	3000	0	118	75-125	0						
Surr: 1,2-Dichloroethane-d4	1006	0	1000	0	101	70-130	0						
Surr: 4-Bromofluorobenzene	1004	0	1000	0	100	70-130	0						
Surr: Dibromofluoromethane	1020	0	1000	0	102	70-130	0						
Surr: Toluene-d8	985.5	0	1000	0	98.6	70-130	0						

The following samples were analyzed in this batch:

14111081-01A 14111081-02A

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

Client: Olsson Associates
Work Order: 14111081
Project: Chevron Drip Trap 4 Spill 11.18.14

QC BATCH REPORT

Batch ID: **65282** Instrument ID **WETCHEM** Method: **USDA H60 Method**

DUP		Sample ID: 14111079-03B DUP				Units: mmhos/cm @25°C		Analysis Date: 11/24/2014 12:00 PM		
Client ID:		Run ID: WETCHEM_141124C				SeqNo: 3050442		Prep Date: 11/22/2014		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	4.22	0.050	0	0	0		4.28	1.41	50	

The following samples were analyzed in this batch:

14111081-01B	14111081-02B	14111081-03B
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 14111081
Project: Chevron Drip Trap 4 Spill 11.18.14

QC BATCH REPORT

Batch ID: **65335** Instrument ID **WETCHEM** Method: **SW9045D**

LCS				Sample ID: LCS-65335-65335				Units: s.u.		Analysis Date: 11/21/2014 01:00 PM			
Client ID:				Run ID: WETCHEM_141121J				SeqNo: 3047812		Prep Date: 11/21/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			

pH 3.98 0 4 0 99.5 90-110 0

DUP				Sample ID: 14111035-01B DUP				Units: s.u.		Analysis Date: 11/21/2014 01:00 PM			
Client ID:				Run ID: WETCHEM_141121J				SeqNo: 3047815		Prep Date: 11/21/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			

pH 9.22 0 0 0 0 0-0 9.18 0.435 20

DUP				Sample ID: 14111079-03A DUP				Units: s.u.		Analysis Date: 11/21/2014 01:00 PM			
Client ID:				Run ID: WETCHEM_141121J				SeqNo: 3047827		Prep Date: 11/21/2014		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			

pH 7.83 0 0 0 0 0-0 7.85 0.255 20

The following samples were analyzed in this batch:

14111081-01A	14111081-02A	14111081-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
 Work Order: 14111081
 Project: Chevron Drip Trap 4 Spill 11.18.14

QC BATCH REPORT

Batch ID: **65406** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-65406-65406				Units: mg/Kg		Analysis Date: 11/24/2014 03:00 PM		
Client ID:		Run ID: WETCHEM_141124K				SeqNo: 3051417		Prep Date: 11/21/2014		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-65406-65406				Units: mg/Kg		Analysis Date: 11/24/2014 03:00 PM		
Client ID:		Run ID: WETCHEM_141124K				SeqNo: 3051416		Prep Date: 11/21/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

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

MS		Sample ID: 14111035-01B MS				Units: mg/Kg		Analysis Date: 11/24/2014 03:00 PM		
Client ID:		Run ID: WETCHEM_141124K				SeqNo: 3051402		Prep Date: 11/21/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1.346 0.49 1.969 0.01594 67.6 75-125 0 S

MS		Sample ID: 14111035-01B MSI				Units: mg/Kg		Analysis Date: 11/24/2014 03:00 PM		
Client ID:		Run ID: WETCHEM_141124K				SeqNo: 3051404		Prep Date: 11/21/2014		DF: 100
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1346 50 1301 0.01594 103 75-125 0

MSD		Sample ID: 14111035-01B MSD				Units: mg/Kg		Analysis Date: 11/24/2014 03:00 PM		
Client ID:		Run ID: WETCHEM_141124K				SeqNo: 3051403		Prep Date: 11/21/2014		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 0.311 0.49 1.969 0.01594 15 75-125 1.346 0 20 JS

The following samples were analyzed in this batch:

14111081-01A 14111081-02A 14111081-03A

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

Client: Olsson Associates
Work Order: 14111081
Project: Chevron Drip Trap 4 Spill 11.18.14

QC BATCH REPORT

Batch ID: **R153101** Instrument ID **MOIST** Method: **A2540 G**

MBLK				Sample ID: WBLKS-R153101				Units: % of sample			Analysis Date: 11/21/2014 10:30 AM			
Client ID:				Run ID: MOIST_141121A				SeqNo: 3050367			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-R153101					Units: % of sample		Analysis Date: 11/21/2014 10:30 AM		
Client ID:			Run ID: MOIST_141121A			SeqNo: 3050364		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: 1411896-01A DUP				Units: % of sample			Analysis Date: 11/21/2014 10:30 AM			
Client ID:				Run ID: MOIST_141121A				SeqNo: 3050349			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Moisture 6.36 0.050 0 0 0 0-0 6.44 1.25 20

DUP				Sample ID: 1411928-02A DUP				Units: % of sample			Analysis Date: 11/21/2014 10:30 AM			
Client ID:				Run ID: MOIST_141121A				SeqNo: 3050354			Prep Date:		DF: 1	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 10.66 0.050 0 0 0 0-0 10.75 0.841 20

The following samples were analyzed in this batch:

14111081-03A

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

Client: Olsson Associates
Work Order: 14111081
Project: Chevron Drip Trap 4 Spill 11.18.14

QC BATCH REPORT

Batch ID: **R153109** Instrument ID **MOIST** Method: **A2540 G**

MBLK		Sample ID: WBLKS-R153109				Units: % of sample		Analysis Date: 11/21/2014 12:01 PM		
Client ID:		Run ID: MOIST_141121B				SeqNo: 3053068		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-R153109				Units: % of sample		Analysis Date: 11/21/2014 12:01 PM		
Client ID:		Run ID: MOIST_141121B				SeqNo: 3053067		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: 14111026-01B DUP				Units: % of sample		Analysis Date: 11/21/2014 12:01 PM		
Client ID:		Run ID: MOIST_141121B				SeqNo: 3053046		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 7.7 0.050 0 0 0 0-0 7.98 3.57 20

DUP		Sample ID: 14111026-11B DUP				Units: % of sample		Analysis Date: 11/21/2014 12:01 PM		
Client ID:		Run ID: MOIST_141121B				SeqNo: 3053057		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 8.64 0.050 0 0 0 0-0 9.12 5.41 20

The following samples were analyzed in this batch:

14111081-01A 14111081-02A

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



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
+1 970 480 1511 | <input type="checkbox"/> Middletown, PA
+1 717 944 5541 | <input type="checkbox"/> York, PA
+1 717 505 5280 |

[illegible]

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: **20-Nov-14 09:30**

Work Order: **14111081**

Received by: **KRW**

Checklist completed by Keith Wurenga
eSignature

20-Nov-14
Date

Reviewed by: Ann Preston
eSignature

21-Nov-14
Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition? Yes ☒ No ☐ Not Present ☐

Custody seals intact on shipping container/cooler? Yes ☒ No ☐ Not Present ☐

Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒

Chain of custody present? Yes ☒ No ☐

Chain of custody signed when relinquished and received? Yes ☒ No ☐

Chain of custody agrees with sample labels? Yes ☒ No ☐

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

Container/Temp Blank temperature in compliance? Yes ☒ No ☐

Sample(s) received on ice? Yes ☒ No ☐

Temperature(s)/Thermometer(s): 2.8 C

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 11/20/2014 3:40:05 PM

Water - VOA vials have zero headspace? Yes ☐ No ☐ No VOA vials submitted ☒

Water - pH acceptable upon receipt? Yes ☐ No ☐ N/A ☒

pH adjusted? Yes ☐ No ☐ N/A ☒

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

From: (818) 399-6870
 Nick Martinez
 ALS Environmental
 127 E. 1st Street
 PARACHUTE, CO 81635

Origin ID: RLA



Ship Date: 19NOV14
 Acctgic: 54.9 LB
 CAD: 22848408NET3550

Dim: 14 X 26 X 15 IN

SHIP TO: (818) 399-6870
 sample receiving
 ALS Laboratory Group
 3352 128TH AVE

BILL SENDER

HOLLAND, MI 48424

Delivery Address Bar Code



Ref # 111014-1
 Invoice #
 PO # Parachute
 Dept #

1 of 3

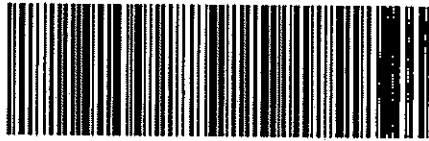
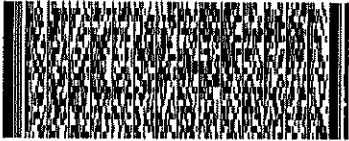
THU - 20 NOV 10:30A
 PRIORITY OVERNIGHT

TRK# 7719 2482 2250

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XX HLMA

49424
 M-US
 GRR



5220 US 906A03

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