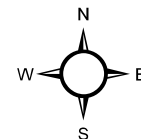




Legend

- Spill Origin
- Other Soil Sample Location
- Spill Path Area

0 25 50 100 Feet
1 inch = 61 feet



PROJECT NO:	018-065
DRAWN BY:	TPD
DATE:	07/19/2015

NIKKEL A3
SPILL RESPONSE
CHEVRON USA, INC
RIO BLANCO COUNTY, COLORADO
SWSE S25 T2N R102W



330 GRAND AVE, SUITE C
GRAND JUNCTION, CO 81501
TEL 970.549.1015

FIGURE

1

Table 1
Nikkel A3 Spill
Soil Data Summary

SAMPLE SUMMARY							
Location Description		Chevron Nikkel A3 Spill					
Sample Type		Soil					

LABORATORY DATA SUMMARY							
Sample ID	NKA3-SS1	NA3-SS1	NKA3-SS2	NKA3-SS3	NKA3-BG1	COGCC TABLE 910-1 CONCENTRATION LEVELS	UNITS
Depth	0-6"	0-6"	0-6"	0-6"	0-6"		
Sample Date	6/2/2015	3/18/2021	6/2/2015	6/2/2015	6/2/2015		
Analytical Parameters							
TPH							
TPH Gasoline Range Organics	<2.7	NT	<2.8	<2.9	NT	500	mg/kg
TPH Diesel Range Organics	43	NT	300	270	NT		
BTEX							
Benzene	<0.033	NT	<0.034	<0.035	NT	0.17	mg/kg
Toluene	<0.033	NT	<0.034	<0.035	NT	85	mg/kg
Ethylbenzene	<0.033	NT	<0.034	<0.035	NT	100	mg/kg
Total Xylene	<0.098	NT	<0.100	<0.100	NT	175	mg/kg
Metals							
Arsenic	22	4.7	7.9	8.6	8.6	0.39	mg/kg
Barium	240	NT	1100	1500	620	15,000	mg/kg
Cadmium	<0.38	NT	<0.45	<0.42	<0.46	70	mg/kg
Chromium	11	NT	12	13	11	NA	mg/kg
Copper	15	NT	15	18	17	3,100	mg/kg
Lead	24	NT	34	79	64	400	mg/kg
Mercury	0.070	NT	0.061	0.290	0.97	23	mg/kg
Nickel	15	NT	15	18	14	1,600	mg/kg
Selenium	<0.76	NT	<0.89	<0.85	0.9	390	mg/kg
Silver	<0.38	NT	<0.45	<0.42	<0.46	390	mg/kg
Zinc	76	NT	610	110	80	23,000	mg/kg
SAR Metals Analysis							
Calcium	590	NT	220	200	2000	NA	mg/L
Magnesium	88	NT	19	19	130	NA	mg/L
Sodium	590	NT	85	200	280	NA	mg/L
Sodium Adsorption Ratio	6.0	NT	1.5	3.7	1.60	<12	ratio
Polynuclear Aromatic Hydrocarbons							
Acenaphthene	<0.0071	NT	<0.0075	<0.0077	NT	1,000	mg/kg
Anthracene	<0.0071	NT	<0.0075	<0.0077	NT	1,000	mg/kg
Benzo(a)anthracene	<0.0071	NT	<0.0075	<0.0077	NT	0.22	mg/kg
Benzo(a)pyrene	<0.0071	NT	<0.0075	<0.0077	NT	0.022	mg/kg
Benzo(b)fluoranthene	<0.0071	NT	<0.0075	<0.0077	NT	0.22	mg/kg
Benzo(k)fluoranthene	<0.0071	NT	<0.0075	<0.0077	NT	2.2	mg/kg
Chrysene	<0.0071	NT	<0.0075	<0.0077	NT	22	mg/kg
Dibenzo(a,h)anthracene	<0.0071	NT	<0.0075	<0.0077	NT	0.022	mg/kg
Fluoranthene	<0.0071	NT	<0.0075	<0.0077	NT	1,000	mg/kg
Fluorene	<0.0071	NT	<0.0075	<0.0077	NT	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	<0.0071	NT	<0.0075	<0.0077	NT	0.22	mg/kg
Napthalene	<0.0071	NT	<0.0075	<0.0077	NT	23	mg/kg
Pyrene	<0.0071	NT	<0.0075	<0.0077	NT	1,000	mg/kg
General Chemistry							
Chromium, Hexavalent	<1.1	NT	<1.1	<1.1	<1.1	23	mg/kg
Chromium, Trivalent	11	NT	12	13	11	120,000	mg/kg
Specific Conductivity	7.1	NT	1.8	2.1	12.0	<4 or 2 x the background	mmhos/cm
pH	7.9	NT	8.1	8.4	8.0	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



18-Jun-2015

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

Re: **Chevron Nikkle Spill**

Work Order: **1506371**

Dear Tim,

ALS Environmental received 4 samples on 05-Jun-2015 07:00 PM 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 28.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Les Arnold".

Electronically approved by: Chad Whelton

Les Arnold
Senior 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 The ALS logo, a stylized 'A' with a flame inside a triangle.

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Olsson Associates
Project: Chevron Nikkle Spill
Work Order: 1506371

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>
1506371-01	NKA3-BG1	Soil		6/2/2015 14:10	6/5/2015 19:00	<input type="checkbox"/>
1506371-02	NKA3-SS1	Soil		6/2/2015 14:15	6/5/2015 19:00	<input type="checkbox"/>
1506371-03	NKA3-SS2	Soil		6/2/2015 14:25	6/5/2015 19:00	<input type="checkbox"/>
1506371-04	NKA3-SS3	Soil		6/2/2015 14:30	6/5/2015 19:00	<input type="checkbox"/>

Client: Olsson Associates
Project: Chevron Nikkle Spill
Work Order: 1506371

Case Narrative

Batch 72169, Method SVO_8270_S, Samples 1506371-02B, -03B and -04B: The PAH reporting limits are elevated due to dilution needed to eliminate matrix-related 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
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
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: 18-Jun-15

Client: Olsson Associates
Project: Chevron Nikkle Spill
Sample ID: NKA3-BG1
Collection Date: 6/2/2015 02:10 PM

Work Order: 1506371
Lab ID: 1506371-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA						
Mercury	0.97		SW7471B 0.076	mg/Kg-dry	Prep: SW7471 / 6/15/15 5	Analyst: LR 6/16/2015 08:47 PM
METALS ANALYSIS BY ICP						
Arsenic	8.6		SW846 6010C 0.46	mg/Kg-dry	Prep: SW3050B / 6/8/15 1	Analyst: JEC 6/8/2015 07:20 PM
Barium	620		0.46	mg/Kg-dry	1	6/8/2015 07:20 PM
Cadmium	ND		0.46	mg/Kg-dry	1	6/8/2015 07:20 PM
Chromium	11		0.46	mg/Kg-dry	1	6/8/2015 07:20 PM
Copper	17		0.46	mg/Kg-dry	1	6/8/2015 07:20 PM
Lead	64		0.46	mg/Kg-dry	1	6/8/2015 07:20 PM
Nickel	14		0.46	mg/Kg-dry	1	6/8/2015 07:20 PM
Selenium	ND		0.91	mg/Kg-dry	1	6/12/2015 10:58 AM
Silver	ND		0.46	mg/Kg-dry	1	6/8/2015 07:20 PM
Zinc	80		0.91	mg/Kg-dry	1	6/8/2015 07:20 PM
SOLUBLE CATIONS FOR SAR						
Calcium	2,000		SW846 6010C 5.0	mg/L	Prep: USDA Method 20B / 6/10/15 10	Analyst: JEC 6/11/2015 02:03 PM
Magnesium	130		2.0	mg/L	10	6/11/2015 02:03 PM
Sodium	280		2.0	mg/L	10	6/11/2015 02:03 PM
SODIUM ADSORPTION RATIO						
Sodium Adsorption Ratio	1.6		USDA H60 METHO 0.010	none	Prep: USDA Method 20B / 6/10/15 1	Analyst: JEC 6/12/2015
ELECTRICAL CONDUCTIVITY (SAR)						
Electrical Conductivity @ Saturation	12		USDA H60 METHO 0.050	mmhos/cm @2	Prep: USDA Method 20B / 6/10/15 10	Analyst: JB 6/10/2015 08:15 PM
CHROMIUM, TRIVALENT						
Chromium, Trivalent	11		CALCULATION 0.57	mg/Kg-dry	1	Analyst: JB 6/17/2015 04:00 PM
CHROMIUM, HEXAVALENT						
Chromium, Hexavalent	ND		SW7196A 1.1	mg/Kg-dry	Prep: SW3060A / 6/15/15 1	Analyst: MB 6/17/2015 12:30 PM
MOISTURE						
Moisture	12		E160.3M 0.050	% of sample	1	Analyst: PT 6/15/2015 04:10 PM
PH						
pH	8.0		SW9045D	s.u.	Prep: EXTRACT / 6/8/15 1	Analyst: STP 6/8/2015 07:00 PM

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

ALS Group USA, Corp

Date: 18-Jun-15

Client: Olsson Associates
Project: Chevron Nikkle Spill
Sample ID: NKA3-SS1
Collection Date: 6/2/2015 02:15 PM

Work Order: 1506371
Lab ID: 1506371-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	43		SW8015M		Prep: SW3541 / 6/14/15	Analyst: IT
<i>Surr: 4-Terphenyl-d14</i>	75.1		4.4	mg/Kg-dry	1	6/15/2015 12:48 PM
			39-133	%REC	1	6/15/2015 12:48 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		SW8015D		Prep: SW5035 / 6/8/15	Analyst: IT
<i>Surr: Toluene-d8</i>	96.4		2.7	mg/Kg-dry	1	6/8/2015 09:05 PM
			50-150	%REC	1	6/8/2015 09:05 PM
MERCURY BY CVAA						
Mercury	0.070		SW7471B		Prep: SW7471 / 6/15/15	Analyst: LR
			0.013	mg/Kg-dry	1	6/15/2015 10:40 PM
METALS ANALYSIS BY ICP						
Arsenic	22		SW846 6010C		Prep: SW3050B / 6/8/15	Analyst: JEC
Barium	240		0.38	mg/Kg-dry	1	6/8/2015 07:26 PM
Cadmium	ND		0.38	mg/Kg-dry	1	6/8/2015 07:26 PM
Chromium	11		0.38	mg/Kg-dry	1	6/8/2015 07:26 PM
Copper	15		0.38	mg/Kg-dry	1	6/8/2015 07:26 PM
Lead	24		0.38	mg/Kg-dry	1	6/8/2015 07:26 PM
Nickel	15		0.38	mg/Kg-dry	1	6/8/2015 07:26 PM
Selenium	ND		0.76	mg/Kg-dry	1	6/9/2015 12:07 PM
Silver	ND		0.38	mg/Kg-dry	1	6/8/2015 07:26 PM
Zinc	76		0.76	mg/Kg-dry	1	6/8/2015 07:26 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 6/10/15	Analyst: JEC
Calcium	590		5.0	mg/L	10	6/11/2015 02:09 PM
Magnesium	88		2.0	mg/L	10	6/11/2015 02:09 PM
Sodium	590		2.0	mg/L	10	6/11/2015 02:09 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 6/10/15	Analyst: JEC
Sodium Adsorption Ratio	6.0		0.010	none	1	6/12/2015
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 6/12/15	Analyst: RS
Acenaphthene	ND		71	µg/Kg-dry	10	6/16/2015 05:31 AM
Anthracene	ND		71	µg/Kg-dry	10	6/16/2015 05:31 AM
Benzo(a)anthracene	ND		71	µg/Kg-dry	10	6/16/2015 05:31 AM
Benzo(a)pyrene	ND		71	µg/Kg-dry	10	6/16/2015 05:31 AM
Benzo(b)fluoranthene	ND		71	µg/Kg-dry	10	6/16/2015 05:31 AM
Benzo(k)fluoranthene	ND		71	µg/Kg-dry	10	6/16/2015 05:31 AM
Chrysene	ND		71	µg/Kg-dry	10	6/16/2015 05:31 AM
Dibenzo(a,h)anthracene	ND		71	µg/Kg-dry	10	6/16/2015 05:31 AM
Fluoranthene	ND		71	µg/Kg-dry	10	6/16/2015 05:31 AM

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

ALS Group USA, Corp

Date: 18-Jun-15

Client: Olsson Associates
Project: Chevron Nikkle Spill
Sample ID: NKA3-SS1
Collection Date: 6/2/2015 02:15 PM

Work Order: 1506371
Lab ID: 1506371-02
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		71	µg/Kg-dry	10	6/16/2015 05:31 AM
Indeno(1,2,3-cd)pyrene	ND		71	µg/Kg-dry	10	6/16/2015 05:31 AM
Naphthalene	ND		71	µg/Kg-dry	10	6/16/2015 05:31 AM
Pyrene	ND		71	µg/Kg-dry	10	6/16/2015 05:31 AM
Surr: 2-Fluorobiphenyl	68.0		12-100	%REC	10	6/16/2015 05:31 AM
Surr: 4-Terphenyl-d14	99.6		25-137	%REC	10	6/16/2015 05:31 AM
Surr: Nitrobenzene-d5	49.4		37-107	%REC	10	6/16/2015 05:31 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 6/8/15	Analyst: LSY	
Benzene	ND		33	µg/Kg-dry	1	6/12/2015 10:26 PM
Ethylbenzene	ND		33	µg/Kg-dry	1	6/12/2015 10:26 PM
m,p-Xylene	ND		66	µg/Kg-dry	1	6/12/2015 10:26 PM
o-Xylene	ND		33	µg/Kg-dry	1	6/12/2015 10:26 PM
Toluene	ND		33	µg/Kg-dry	1	6/12/2015 10:26 PM
Xylenes, Total	ND		98	µg/Kg-dry	1	6/12/2015 10:26 PM
Surr: 1,2-Dichloroethane-d4	97.8		70-130	%REC	1	6/12/2015 10:26 PM
Surr: 4-Bromofluorobenzene	96.8		70-130	%REC	1	6/12/2015 10:26 PM
Surr: Dibromofluoromethane	91.2		70-130	%REC	1	6/12/2015 10:26 PM
Surr: Toluene-d8	90.2		70-130	%REC	1	6/12/2015 10:26 PM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 6/10/15	Analyst: JB	
Electrical Conductivity @ Saturation	7.1		0.050	mmhos/cm @2	10	6/10/2015 08:15 PM
CHROMIUM, TRIVALENT			CALCULATION	Analyst: JB		
Chromium, Trivalent	11		0.55	mg/Kg-dry	1	6/17/2015 04:00 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 6/15/15	Analyst: MB	
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	6/17/2015 12:30 PM
MOISTURE			E160.3M	Analyst: PT		
Moisture	8.6		0.050	% of sample	1	6/15/2015 04:10 PM
PH			SW9045D	Prep: EXTRACT / 6/8/15	Analyst: STP	
pH	7.9			s.u.	1	6/8/2015 07:00 PM

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

ALS Group USA, Corp

Date: 18-Jun-15

Client: Olsson Associates
Project: Chevron Nikkle Spill
Sample ID: NKA3-SS2
Collection Date: 6/2/2015 02:25 PM

Work Order: 1506371
Lab ID: 1506371-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
			SW8015M		Prep: SW3541 / 6/14/15	Analyst: IT
DRO (C10-C28)	300		23	mg/Kg-dry	5	6/15/2015 01:18 PM
<i>Surr: 4-Terphenyl-d14</i>	69.9		39-133	%REC	5	6/15/2015 01:18 PM
GASOLINE RANGE ORGANICS BY GC-FID						
			SW8015D		Prep: SW5035 / 6/8/15	Analyst: IT
GRO (C6-C10)	ND		2.8	mg/Kg-dry	1	6/8/2015 09:29 PM
<i>Surr: Toluene-d8</i>	98.2		50-150	%REC	1	6/8/2015 09:29 PM
MERCURY BY CVAA						
			SW7471B		Prep: SW7471 / 6/16/15	Analyst: LR
Mercury	0.061		0.016	mg/Kg-dry	1	6/17/2015 01:04 PM
METALS ANALYSIS BY ICP						
			SW846 6010C		Prep: SW3050B / 6/8/15	Analyst: JEC
Arsenic	7.9		0.45	mg/Kg-dry	1	6/8/2015 07:31 PM
Barium	1,100		0.45	mg/Kg-dry	1	6/8/2015 07:31 PM
Cadmium	ND		0.45	mg/Kg-dry	1	6/8/2015 07:31 PM
Chromium	12		0.45	mg/Kg-dry	1	6/8/2015 07:31 PM
Copper	15		0.45	mg/Kg-dry	1	6/8/2015 07:31 PM
Lead	34		0.45	mg/Kg-dry	1	6/8/2015 07:31 PM
Nickel	15		0.45	mg/Kg-dry	1	6/8/2015 07:31 PM
Selenium	ND		0.89	mg/Kg-dry	1	6/8/2015 07:31 PM
Silver	ND		0.45	mg/Kg-dry	1	6/8/2015 07:31 PM
Zinc	610		0.89	mg/Kg-dry	1	6/8/2015 07:31 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 6/10/15	Analyst: JEC
Calcium	220		5.0	mg/L	10	6/11/2015 02:15 PM
Magnesium	19		2.0	mg/L	10	6/11/2015 02:15 PM
Sodium	85		2.0	mg/L	10	6/11/2015 02:15 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 6/10/15	Analyst: JEC
Sodium Adsorption Ratio	1.5		0.010	none	1	6/12/2015
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 6/12/15	Analyst: RS
Acenaphthene	ND		75	µg/Kg-dry	10	6/13/2015 12:21 PM
Anthracene	ND		75	µg/Kg-dry	10	6/13/2015 12:21 PM
Benzo(a)anthracene	ND		75	µg/Kg-dry	10	6/13/2015 12:21 PM
Benzo(a)pyrene	ND		75	µg/Kg-dry	10	6/13/2015 12:21 PM
Benzo(b)fluoranthene	ND		75	µg/Kg-dry	10	6/13/2015 12:21 PM
Benzo(k)fluoranthene	ND		75	µg/Kg-dry	10	6/13/2015 12:21 PM
Chrysene	ND		75	µg/Kg-dry	10	6/13/2015 12:21 PM
Dibenzo(a,h)anthracene	ND		75	µg/Kg-dry	10	6/13/2015 12:21 PM
Fluoranthene	ND		75	µg/Kg-dry	10	6/13/2015 12:21 PM

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

ALS Group USA, Corp

Date: 18-Jun-15

Client: Olsson Associates
Project: Chevron Nikkle Spill
Sample ID: NKA3-SS2
Collection Date: 6/2/2015 02:25 PM

Work Order: 1506371
Lab ID: 1506371-03
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		75	µg/Kg-dry	10	6/13/2015 12:21 PM
Indeno(1,2,3-cd)pyrene	ND		75	µg/Kg-dry	10	6/13/2015 12:21 PM
Naphthalene	ND		75	µg/Kg-dry	10	6/13/2015 12:21 PM
Pyrene	ND		75	µg/Kg-dry	10	6/13/2015 12:21 PM
Surr: 2-Fluorobiphenyl	67.2		12-100	%REC	10	6/13/2015 12:21 PM
Surr: 4-Terphenyl-d14	93.2		25-137	%REC	10	6/13/2015 12:21 PM
Surr: Nitrobenzene-d5	44.8		37-107	%REC	10	6/13/2015 12:21 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 6/8/15		Analyst: JNJ
Benzene	ND		34	µg/Kg-dry	1	6/11/2015 09:06 AM
Ethylbenzene	ND		34	µg/Kg-dry	1	6/11/2015 09:06 AM
m,p-Xylene	ND		68	µg/Kg-dry	1	6/11/2015 09:06 AM
o-Xylene	ND		34	µg/Kg-dry	1	6/11/2015 09:06 AM
Toluene	ND		34	µg/Kg-dry	1	6/11/2015 09:06 AM
Xylenes, Total	ND		100	µg/Kg-dry	1	6/11/2015 09:06 AM
Surr: 1,2-Dichloroethane-d4	94.4		70-130	%REC	1	6/11/2015 09:06 AM
Surr: 4-Bromofluorobenzene	92.1		70-130	%REC	1	6/11/2015 09:06 AM
Surr: Dibromofluoromethane	99.6		70-130	%REC	1	6/11/2015 09:06 AM
Surr: Toluene-d8	96.1		70-130	%REC	1	6/11/2015 09:06 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 6/10/15		Analyst: JB
Electrical Conductivity @ Saturation	1.8		0.050	mmhos/cm @2	10	6/10/2015 08:15 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JB
Chromium, Trivalent	12		0.57	mg/Kg-dry	1	6/17/2015 04:00 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 6/15/15		Analyst: MB
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	6/17/2015 12:30 PM
MOISTURE			E160.3M			Analyst: PT
Moisture	12		0.050	% of sample	1	6/15/2015 04:10 PM
PH			SW9045D	Prep: EXTRACT / 6/8/15		Analyst: STP
pH	8.1			s.u.	1	6/8/2015 07:00 PM

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

ALS Group USA, Corp

Date: 18-Jun-15

Client: Olsson Associates
Project: Chevron Nikkle Spill
Sample ID: NKA3-SS3
Collection Date: 6/2/2015 02:30 PM

Work Order: 1506371
Lab ID: 1506371-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID						
DRO (C10-C28)	270		24	mg/Kg-dry	5	Analyst: IT 6/15/2015 01:47 PM
Surr: 4-Terphenyl-d14	71.7		39-133	%REC	5	6/15/2015 01:47 PM
GASOLINE RANGE ORGANICS BY GC-FID						
GRO (C6-C10)	ND		2.9	mg/Kg-dry	1	Analyst: IT 6/8/2015 09:54 PM
Surr: Toluene-d8	98.6		50-150	%REC	1	6/8/2015 09:54 PM
MERCURY BY CVAA						
Mercury	0.29		0.029	mg/Kg-dry	2	Analyst: LR 6/17/2015 02:25 PM
METALS ANALYSIS BY ICP						
Arsenic	8.6		0.42	mg/Kg-dry	1	Analyst: JEC 6/8/2015 07:37 PM
Barium	1,500		0.42	mg/Kg-dry	1	6/8/2015 07:37 PM
Cadmium	ND		0.42	mg/Kg-dry	1	6/8/2015 07:37 PM
Chromium	13		0.42	mg/Kg-dry	1	6/8/2015 07:37 PM
Copper	18		0.42	mg/Kg-dry	1	6/8/2015 07:37 PM
Lead	79		0.42	mg/Kg-dry	1	6/8/2015 07:37 PM
Nickel	18		0.42	mg/Kg-dry	1	6/8/2015 07:37 PM
Selenium	ND		0.85	mg/Kg-dry	1	6/8/2015 07:37 PM
Silver	ND		0.42	mg/Kg-dry	1	6/8/2015 07:37 PM
Zinc	110		0.85	mg/Kg-dry	1	6/8/2015 07:37 PM
SOLUBLE CATIONS FOR SAR						
			SW846 6010C		Prep: USDA Method 20B / 6/10/15	Analyst: JEC
Calcium	200		5.0	mg/L	10	6/11/2015 02:20 PM
Magnesium	19		2.0	mg/L	10	6/11/2015 02:20 PM
Sodium	200		2.0	mg/L	10	6/11/2015 02:20 PM
SODIUM ADSORPTION RATIO						
			USDA H60 METHO		Prep: USDA Method 20B / 6/10/15	Analyst: JEC
Sodium Adsorption Ratio	3.7		0.010	none	1	6/12/2015
SEMI-VOLATILE ORGANIC COMPOUNDS						
			SW846 8270D		Prep: SW3541 / 6/12/15	Analyst: RS
Acenaphthene	ND		77	µg/Kg-dry	10	6/13/2015 07:20 AM
Anthracene	ND		77	µg/Kg-dry	10	6/13/2015 07:20 AM
Benzo(a)anthracene	ND		77	µg/Kg-dry	10	6/13/2015 07:20 AM
Benzo(a)pyrene	ND		77	µg/Kg-dry	10	6/13/2015 07:20 AM
Benzo(b)fluoranthene	ND		77	µg/Kg-dry	10	6/13/2015 07:20 AM
Benzo(k)fluoranthene	ND		77	µg/Kg-dry	10	6/13/2015 07:20 AM
Chrysene	ND		77	µg/Kg-dry	10	6/13/2015 07:20 AM
Dibenzo(a,h)anthracene	ND		77	µg/Kg-dry	10	6/13/2015 07:20 AM
Fluoranthene	ND		77	µg/Kg-dry	10	6/13/2015 07:20 AM

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

ALS Group USA, Corp

Date: 18-Jun-15

Client: Olsson Associates
Project: Chevron Nikkle Spill
Sample ID: NKA3-SS3
Collection Date: 6/2/2015 02:30 PM

Work Order: 1506371
Lab ID: 1506371-04
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	ND		77	µg/Kg-dry	10	6/13/2015 07:20 AM
Indeno(1,2,3-cd)pyrene	ND		77	µg/Kg-dry	10	6/13/2015 07:20 AM
Naphthalene	ND		77	µg/Kg-dry	10	6/13/2015 07:20 AM
Pyrene	ND		77	µg/Kg-dry	10	6/13/2015 07:20 AM
Surr: 2-Fluorobiphenyl	75.6		12-100	%REC	10	6/13/2015 07:20 AM
Surr: 4-Terphenyl-d14	85.6		25-137	%REC	10	6/13/2015 07:20 AM
Surr: Nitrobenzene-d5	60.0		37-107	%REC	10	6/13/2015 07:20 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B	Prep: SW5035 / 6/8/15		Analyst: JNJ
Benzene	ND		35	µg/Kg-dry	1	6/11/2015 09:32 AM
Ethylbenzene	ND		35	µg/Kg-dry	1	6/11/2015 09:32 AM
m,p-Xylene	ND		69	µg/Kg-dry	1	6/11/2015 09:32 AM
o-Xylene	ND		35	µg/Kg-dry	1	6/11/2015 09:32 AM
Toluene	ND		35	µg/Kg-dry	1	6/11/2015 09:32 AM
Xylenes, Total	ND		100	µg/Kg-dry	1	6/11/2015 09:32 AM
Surr: 1,2-Dichloroethane-d4	95.6		70-130	%REC	1	6/11/2015 09:32 AM
Surr: 4-Bromofluorobenzene	92.3		70-130	%REC	1	6/11/2015 09:32 AM
Surr: Dibromofluoromethane	100		70-130	%REC	1	6/11/2015 09:32 AM
Surr: Toluene-d8	94.8		70-130	%REC	1	6/11/2015 09:32 AM
ELECTRICAL CONDUCTIVITY (SAR)			USDA H60 METHO	Prep: USDA Method 20B / 6/10/15		Analyst: JB
Electrical Conductivity @ Saturation	2.1		0.050	mmhos/cm @2	10	6/10/2015 08:15 PM
CHROMIUM, TRIVALENT			CALCULATION			Analyst: JB
Chromium, Trivalent	13		0.58	mg/Kg-dry	1	6/17/2015 04:00 PM
CHROMIUM, HEXAVALENT			SW7196A	Prep: SW3060A / 6/15/15		Analyst: MB
Chromium, Hexavalent	ND		1.1	mg/Kg-dry	1	6/17/2015 12:30 PM
MOISTURE			E160.3M			Analyst: PT
Moisture	14		0.050	% of sample	1	6/15/2015 04:10 PM
PH			SW9045D	Prep: EXTRACT / 6/8/15		Analyst: STP
pH	8.4			s.u.	1	6/8/2015 07:00 PM

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

ALS Group USA, Corp

Date: 18-Jun-15

Client: Olsson Associates
Work Order: 1506371
Project: Chevron Nikkle Spill

QC BATCH REPORT

Batch ID: **72237** Instrument ID **GC8** Method: **SW8015M**

MBLK		Sample ID: DBLKS1-72237-72237				Units: mg/Kg		Analysis Date: 6/15/2015 10:18 AM		
Client ID:		Run ID: GC8_150615A				SeqNo: 3323342		Prep Date: 6/14/2015		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 1.301 0 2 0 65.1 39-133 0

LCS		Sample ID: DLCSS1-72237-72237				Units: mg/Kg		Analysis Date: 6/15/2015 10:48 AM		
Client ID:		Run ID: GC8_150615A				SeqNo: 3323345		Prep Date: 6/14/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 158.1 5.0 200 0 79.1 61-109 0
Surr: 4-Terphenyl-d14 1.125 0 2 0 56.3 39-133 0

MS		Sample ID: 1506755-01A MS				Units: mg/Kg		Analysis Date: 6/15/2015 11:18 AM		
Client ID:		Run ID: GC8_150615A				SeqNo: 3323348		Prep Date: 6/14/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 2181 7.9 317.3 596.1 500 48-110 0 S
Surr: 4-Terphenyl-d14 2.13 0 3.173 0 67.1 39-133 0

MSD		Sample ID: 1506755-01A MSD				Units: mg/Kg		Analysis Date: 6/15/2015 11:48 AM		
Client ID:		Run ID: GC8_150615A				SeqNo: 3323351		Prep Date: 6/14/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

DRO (C10-C28) 6367 7.9 315.8 596.1 1830 48-110 2181 97.9 30 SRE
Surr: 4-Terphenyl-d14 2.702 0 3.158 0 85.6 39-133 2.13 23.7 30

The following samples were analyzed in this batch: 1506371-02B 1506371-03B 1506371-04B

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

Client: Olsson Associates
 Work Order: 1506371
 Project: Chevron Nikkle Spill

QC BATCH REPORT

Batch ID: **71993** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-71993-71993				Units: µg/Kg		Analysis Date: 6/8/2015 02:41 PM		
Client ID:		Run ID: GC9_150608A				SeqNo: 3312651		Prep Date: 6/8/2015		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	4763	0	5000	0	95.3	50-150	0			

LCS		Sample ID: LCS-71993-71993				Units: µg/Kg		Analysis Date: 6/8/2015 01:51 PM		
Client ID:		Run ID: GC9_150608A				SeqNo: 3312649		Prep Date: 6/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	404200	2,500	500000	0	80.8	70-130	0			
Surr: Toluene-d8	4430	0	5000	0	88.6	50-150	0			

MS		Sample ID: 1506372-01A MS				Units: µg/Kg		Analysis Date: 6/8/2015 04:57 PM		
Client ID:		Run ID: GC9_150608A				SeqNo: 3312657		Prep Date: 6/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	455700	2,500	500000	0	91.1	70-130	0			
Surr: Toluene-d8	4575	0	5000	0	91.5	50-150	0			

MSD		Sample ID: 1506372-01A MSD				Units: µg/Kg		Analysis Date: 6/8/2015 05:22 PM		
Client ID:		Run ID: GC9_150608A				SeqNo: 3312658		Prep Date: 6/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	459100	2,500	500000	0	91.8	70-130	455700	0.747	30	
Surr: Toluene-d8	4606	0	5000	0	92.1	50-150	4575	0.675	30	

The following samples were analyzed in this batch:

1506371-02A	1506371-03A	1506371-04A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1506371
Project: Chevron Nikkle Spill

QC BATCH REPORT

Batch ID: **72233** Instrument ID **HG1** Method: **SW7471B**

MBLK		Sample ID: MBLK-72233-72233					Units: mg/Kg		Analysis Date: 6/15/2015 10:13 PM		
Client ID:			Run ID: HG1_150615A				SeqNo: 3323080		Prep Date: 6/15/2015		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-72233-72233				Units: mg/Kg		Analysis Date: 6/15/2015 10:15 PM		
Client ID:		Run ID: HG1_150615A				SeqNo: 3323082		Prep Date: 6/15/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1742 0.020 0.1665 0 105 80-120 0

MS		Sample ID: 1506839-02CMS					Units: mg/Kg		Analysis Date: 6/15/2015 11:09 PM		
Client ID:			Run ID: HG1_150615A			SeqNo: 3323134		Prep Date: 6/15/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.1234 0.013 0.1066 0.0145 102 75-125 0

MSD		Sample ID: 1506839-02CMSD				Units: mg/Kg		Analysis Date: 6/15/2015 11:11 PM		
Client ID:		Run ID: HG1_150615A			SeqNo: 3323135		Prep Date: 6/15/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1203 0.012 0.1032 0.0145 103 75-125 0.1234 2.57 35

The following samples were analyzed in this batch:

1506371-01B 1506371-02B

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

Client: Olsson Associates
Work Order: 1506371
Project: Chevron Nikkle Spill

QC BATCH REPORT

Batch ID: **72333** Instrument ID **HG1** Method: **SW7471B**

MBLK		Sample ID: MBLK-72333-72333				Units: mg/Kg		Analysis Date: 6/17/2015 01:00 PM		
Client ID:		Run ID: HG1_150617A				SeqNo: 3327077		Prep Date: 6/16/2015		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-72333-72333				Units: mg/Kg		Analysis Date: 6/17/2015 01:02 PM		
Client ID:		Run ID: HG1_150617A				SeqNo: 3327078		Prep Date: 6/16/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1818 0.020 0.1665 0 109 80-120 0

MS		Sample ID: 1506372-01BMS					Units: mg/Kg		Analysis Date: 6/17/2015 01:11 PM		
Client ID:			Run ID: HG1_150617A			SeqNo: 3327082		Prep Date: 6/16/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury 0.1216 0.013 0.1046 0.01492 102 75-125 0

MSD		Sample ID: 1506372-01BMSD				Units: mg/Kg		Analysis Date: 6/17/2015 01:13 PM		
Client ID:		Run ID: HG1_150617A				SeqNo: 3327084		Prep Date: 6/16/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.122 0.012 0.1032 0.01492 104 75-125 0.1216 0.271 35

The following samples were analyzed in this batch:

1506371-03B 1506371-04B

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

Client: Olsson Associates
Work Order: 1506371
Project: Chevron Nikkle Spill

QC BATCH REPORT

Batch ID: **72004** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK		Sample ID: MBLK-72004-72004				Units: mg/L		Analysis Date: 6/8/2015 07:09 PM		
Client ID:		Run ID: ICP2_150608B				SeqNo: 3312087		Prep Date: 6/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								
Barium	ND	0.25								
Cadmium	ND	0.50								
Chromium	ND	0.25								
Copper	ND	0.50								
Lead	ND	0.25								
Nickel	ND	0.25								
Selenium	ND	0.50								
Silver	ND	0.25								
Zinc	0.1425	0.50								J

LCS		Sample ID: LCS-72004-72004				Units: mg/L		Analysis Date: 6/8/2015 07:15 PM		
Client ID:		Run ID: ICP2_150608B				SeqNo: 3312088		Prep Date: 6/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.655	0.25	5	0	93.1	80-120	0			
Barium	4.929	0.25	5	0	98.6	80-120	0			
Cadmium	4.738	0.50	5	0	94.8	80-120	0			
Chromium	5.198	0.25	5	0	104	80-120	0			
Copper	5.048	0.50	5	0	101	80-120	0			
Lead	5.024	0.25	5	0	100	80-120	0			
Nickel	4.916	0.25	5	0	98.3	80-120	0			
Selenium	4.887	0.50	5	0	97.7	80-120	0			
Silver	4.924	0.25	5	0	98.5	80-120	0			
Zinc	4.958	0.50	5	0	99.2	80-120	0			

MS		Sample ID: 1506373-04BMS				Units: mg/Kg		Analysis Date: 6/8/2015 09:32 PM		
Client ID:		Run ID: ICP2_150608B				SeqNo: 3312119		Prep Date: 6/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	15.2	0.35	7.092	7.47	109	75-125	0			
Barium	165.5	0.35	7.092	140.4	354	75-125	0			SO
Chromium	21.67	0.35	7.092	9.991	165	75-125	0			S
Copper	22.13	0.71	7.092	14.69	105	75-125	0			
Lead	22.41	0.35	7.092	15.35	99.6	75-125	0			
Nickel	23.3	0.35	7.092	16.5	95.9	75-125	0			
Selenium	8.484	0.71	7.092	0.8388	108	75-125	0			
Silver	7.451	0.35	7.092	-0.05526	106	75-125	0			
Zinc	94.31	0.71	7.092	84.52	138	75-125	0			SO

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

Client: Olsson Associates
 Work Order: 1506371
 Project: Chevron Nikkle Spill

QC BATCH REPORT

Batch ID: 72004 Instrument ID ICP2 Method: SW846 6010C

MS				Sample ID: 1506373-04BMS				Units: mg/Kg			Analysis Date: 6/11/2015 11:01 AM			
Client ID:				Run ID: ICP2_150611A				SeqNo: 3317197			Prep Date: 6/8/2015		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Cadmium				7.44	0.71	7.092	0	105	75-125	0				

MSD					Sample ID: 1506373-04BMSD		Units: mg/Kg		Analysis Date: 6/8/2015 09:37 PM		
Client ID:			Run ID: ICP2_150608B			SeqNo: 3312120		Prep Date: 6/8/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	15.08	0.35	7.082	7.47	108	75-125	15.2	0.79	20		
Barium	154.9	0.35	7.082	140.4	205	75-125	165.5	6.64	20	SO	
Chromium	20.52	0.35	7.082	9.991	149	75-125	21.67	5.41	20	S	
Copper	22.01	0.71	7.082	14.69	103	75-125	22.13	0.545	20		
Lead	22.55	0.35	7.082	15.35	102	75-125	22.41	0.64	20		
Nickel	23.13	0.35	7.082	16.5	93.6	75-125	23.3	0.732	20		
Selenium	8.388	0.71	7.082	0.8388	107	75-125	8.484	1.14	20		
Silver	7.448	0.35	7.082	-0.05526	106	75-125	7.451	0.0316	20		
Zinc	93.19	0.71	7.082	84.52	123	75-125	94.31	1.19	20	O	

MSD				Sample ID: 1506373-04BMSD				Units: mg/Kg			Analysis Date: 6/11/2015 11:06 AM			
Client ID:				Run ID: ICP2_150611A				SeqNo: 3317198			Prep Date: 6/8/2015		DF: 1	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Cadmium				7.484		0.71	7.082	0	106	75-125	7.44	0.589	20	

The following samples were analyzed in this batch:

1506371-01B	1506371-02B	1506371-03B
1506371-04B		

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

Client: Olsson Associates
Work Order: 1506371
Project: Chevron Nikkle Spill

QC BATCH REPORT

Batch ID: **72016** Instrument ID **ICP2** Method: **SW846 6010C**

DUP		Sample ID: 1506421-01BDUP				Units: mg/L		Analysis Date: 6/11/2015 12:15 PM		
Client ID:		Run ID: ICP2_150611A				SeqNo: 3317211		Prep Date: 6/10/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	183.8	5.0	0	0	0	0-0	188.1	2.29		
Magnesium	25.62	2.0	0	0	0	0-0	25.89	1.08		
Sodium	12.69	2.0	0	0	0	0-0	12.48	1.65		

DUP		Sample ID: 1506421-01BDUP				Units: none		Analysis Date: 6/11/2015		
Client ID:		Run ID: SAR_150611A				SeqNo: 3317276		Prep Date: 6/10/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	0.2325	0.010	0	0	0		0.2263	2.68	50	

The following samples were analyzed in this batch:

1506371-01B	1506371-02B	1506371-03B
1506371-04B		

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

Client: Olsson Associates
 Work Order: 1506371
 Project: Chevron Nikkle Spill

QC BATCH REPORT

Batch ID: 72169 Instrument ID SVMS5 Method: SW846 8270D

Sample ID: SBLKS1-72169-72169				Units: µg/Kg			Analysis Date: 6/12/2015 08:08 PM			
Client ID:		Run ID: SVMS5_150612A			SeqNo: 3321424		Prep Date: 6/12/2015		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	1308	0	1667	0	78.5	12-100		0		
Surr: 4-Terphenyl-d14	1841	0	1667	0	110	25-137		0		
Surr: Nitrobenzene-d5	1279	0	1667	0	76.7	37-107		0		

LCS				Sample ID: SLCSS1-72169-72169			Units: µg/Kg		Analysis Date: 6/12/2015 08:30 PM		
Client ID:			Run ID: SVMS5_150612A			SeqNo: 3321426		Prep Date: 6/12/2015		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	532.7	6.7	666.7	0	79.9	45-110	0				
Anthracene	587.3	6.7	666.7	0	88.1	55-105	0				
Benzo(a)anthracene	599.3	6.7	666.7	0	89.9	50-110	0				
Benzo(a)pyrene	598	6.7	666.7	0	89.7	50-110	0				
Benzo(b)fluoranthene	602.7	6.7	666.7	0	90.4	45-115	0				
Benzo(k)fluoranthene	598	6.7	666.7	0	89.7	45-115	0				
Chrysene	575.7	6.7	666.7	0	86.3	55-110	0				
Dibenzo(a,h)anthracene	560.3	6.7	666.7	0	84	40-125	0				
Fluoranthene	588	6.7	666.7	0	88.2	55-115	0				
Fluorene	525.3	6.7	666.7	0	78.8	50-110	0				
Indeno(1,2,3-cd)pyrene	546	6.7	666.7	0	81.9	40-120	0				
Naphthalene	500.3	6.7	666.7	0	75	40-105	0				
Pyrene	624.3	6.7	666.7	0	93.6	45-125	0				
Surr: 2-Fluorobiphenyl	1335	0	1667	0	80.1	12-100	0				
Surr: 4-Terphenyl-d14	1798	0	1667	0	108	25-137	0				
Surr: Nitrobenzene-d5	1284	0	1667	0	77.1	37-107	0				

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

Client: Olsson Associates
 Work Order: 1506371
 Project: Chevron Nikkle Spill

QC BATCH REPORT

Batch ID: 72169 Instrument ID SVMS5 Method: SW846 8270D

MS				Sample ID: 1506371-03B MS			Units: µg/Kg		Analysis Date: 6/12/2015 11:37 PM		
Client ID: NKA3-SS2			Run ID: SVMS5_150612A			SeqNo: 3321428		Prep Date: 6/12/2015		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	488	65	650.7	0	75	45-110	0				
Anthracene	471.7	65	650.7	0	72.5	55-105	0				
Benzo(a)anthracene	465.2	65	650.7	0	71.5	50-110	0				
Benzo(a)pyrene	559.6	65	650.7	0	86	50-110	0				
Benzo(b)fluoranthene	432.7	65	650.7	0	66.5	45-115	0				
Benzo(k)fluoranthene	494.5	65	650.7	0	76	45-115	0				
Chrysene	488	65	650.7	0	75	55-110	0				
Dibenzo(a,h)anthracene	478.3	65	650.7	0	73.5	40-125	0				
Fluoranthene	501	65	650.7	0	77	55-115	0				
Fluorene	478.3	65	650.7	0	73.5	50-110	0				
Indeno(1,2,3-cd)pyrene	439.2	65	650.7	0	67.5	40-120	0				
Naphthalene	383.9	65	650.7	0	59	40-105	0				
Pyrene	429.4	65	650.7	0	66	45-125	0				
Surr: 2-Fluorobiphenyl	1103	0	1627	0	67.8	12-100	0				
Surr: 4-Terphenyl-d14	1425	0	1627	0	87.6	25-137	0				
Surr: Nitrobenzene-d5	832.9	0	1627	0	51.2	37-107	0				

MSD				Sample ID: 1506371-03B MSD			Units: µg/Kg		Analysis Date: 6/12/2015 11:59 PM		
Client ID: NKA3-SS2			Run ID: SVMS5_150612A			SeqNo: 3321430		Prep Date: 6/12/2015		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	536.6	65	650.4	0	82.5	45-110	488	9.48	30		
Anthracene	497.5	65	650.4	0	76.5	55-105	471.7	5.32	30		
Benzo(a)anthracene	530	65	650.4	0	81.5	50-110	465.2	13	30		
Benzo(a)pyrene	575.6	65	650.4	0	88.5	50-110	559.6	2.82	30		
Benzo(b)fluoranthene	500.8	65	650.4	0	77	45-115	432.7	14.6	30		
Benzo(k)fluoranthene	556.1	65	650.4	0	85.5	45-115	494.5	11.7	30		
Chrysene	507.3	65	650.4	0	78	55-110	488	3.87	30		
Dibenzo(a,h)anthracene	575.6	65	650.4	0	88.5	40-125	478.3	18.5	30		
Fluoranthene	552.8	65	650.4	0	85	55-115	501	9.83	30		
Fluorene	500.8	65	650.4	0	77	50-110	478.3	4.6	30		
Indeno(1,2,3-cd)pyrene	552.8	65	650.4	0	85	40-120	439.2	22.9	30		
Naphthalene	406.5	65	650.4	0	62.5	40-105	383.9	5.71	30		
Pyrene	478	65	650.4	0	73.5	45-125	429.4	10.7	30		
Surr: 2-Fluorobiphenyl	1184	0	1626	0	72.8	12-100	1103	7.06	40		
Surr: 4-Terphenyl-d14	1512	0	1626	0	93	25-137	1425	5.93	40		
Surr: Nitrobenzene-d5	949.5	0	1626	0	58.4	37-107	832.9	13.1	40		

The following samples were analyzed in this batch:

1506371-02B 1506371-03B 1506371-04B

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

Client: Olsson Associates
 Work Order: 1506371
 Project: Chevron Nikkle Spill

QC BATCH REPORT

Batch ID: 71992 Instrument ID VMS5 Method: SW8260B

MBLK Sample ID: MBLK-71992-71992				Units: µg/Kg		Analysis Date: 6/8/2015 12:39 PM				
Client ID:		Run ID: VMS5_150608A		SeqNo: 3312160		Prep Date: 6/8/2015		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	964	0	1000	0	96.4	70-130	0			
Surr: 4-Bromofluorobenzene	958.5	0	1000	0	95.8	70-130	0			
Surr: Dibromofluoromethane	981.5	0	1000	0	98.2	70-130	0			
Surr: Toluene-d8	960.5	0	1000	0	96	70-130	0			

LCS Sample ID: LCS-71992-71992				Units: µg/Kg		Analysis Date: 6/8/2015 11:22 AM				
Client ID:		Run ID: VMS5_150608A		SeqNo: 3312159		Prep Date: 6/8/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1028	30	1000	0	103	75-125	0			
Ethylbenzene	1028	30	1000	0	103	75-125	0			
m,p-Xylene	2086	60	2000	0	104	80-125	0			
o-Xylene	1020	30	1000	0	102	75-125	0			
Toluene	1002	30	1000	0	100	70-125	0			
Xylenes, Total	3105	90	3000	0	104	75-125	0			
Surr: 1,2-Dichloroethane-d4	929.5	0	1000	0	93	70-130	0			
Surr: 4-Bromofluorobenzene	1011	0	1000	0	101	70-130	0			
Surr: Dibromofluoromethane	974	0	1000	0	97.4	70-130	0			
Surr: Toluene-d8	976.5	0	1000	0	97.6	70-130	0			

MS Sample ID: 1506371-02A MS				Units: µg/Kg		Analysis Date: 6/13/2015 01:49 AM				
Client ID: NKA3-SS1		Run ID: VMS9_150612A		SeqNo: 3321100		Prep Date: 6/8/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	883	30	1000	0	88.3	75-125	0			
Ethylbenzene	925	30	1000	0	92.5	75-125	0			
m,p-Xylene	1946	60	2000	0	97.3	80-125	0			
o-Xylene	951.5	30	1000	0	95.2	75-125	0			
Toluene	899.5	30	1000	0	90	70-125	0			
Xylenes, Total	2898	90	3000	0	96.6	75-125	0			
Surr: 1,2-Dichloroethane-d4	932.5	0	1000	0	93.2	70-130	0			
Surr: 4-Bromofluorobenzene	1081	0	1000	0	108	70-130	0			
Surr: Dibromofluoromethane	923.5	0	1000	0	92.4	70-130	0			
Surr: Toluene-d8	934.5	0	1000	0	93.4	70-130	0			

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

Client: Olsson Associates
 Work Order: 1506371
 Project: Chevron Nikkle Spill

QC BATCH REPORT

Batch ID: 71992 Instrument ID VMS5 Method: SW8260B

MSD				Sample ID: 1506371-02A MSD			Units: µg/Kg		Analysis Date: 6/13/2015 02:15 AM		
Client ID: NKA3-SS1				Run ID: VMS9_150612A			SeqNo: 3321101		Prep Date: 6/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	923	30	1000	0	92.3	75-125	883	4.43	30		
Ethylbenzene	988	30	1000	0	98.8	75-125	925	6.59	30		
m,p-Xylene	2104	60	2000	0	105	80-125	1946	7.8	30		
o-Xylene	1020	30	1000	0	102	75-125	951.5	6.95	30		
Toluene	977.5	30	1000	0	97.8	70-125	899.5	8.31	30		
Xylenes, Total	3124	90	3000	0	104	75-125	2898	7.52	30		
Surr: 1,2-Dichloroethane-d4	951	0	1000	0	95.1	70-130	932.5	1.96	30		
Surr: 4-Bromofluorobenzene	1082	0	1000	0	108	70-130	1081	0.139	30		
Surr: Dibromofluoromethane	913	0	1000	0	91.3	70-130	923.5	1.14	30		
Surr: Toluene-d8	948	0	1000	0	94.8	70-130	934.5	1.43	30		

The following samples were analyzed in this batch:

1506371-02A 1506371-03A 1506371-04A

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

Client: Olsson Associates
Work Order: 1506371
Project: Chevron Nikkle Spill

QC BATCH REPORT

Batch ID: **72016** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP		Sample ID: 1506421-01B DUP				Units: mmhos/cm @25°		Analysis Date: 6/10/2015 08:15 PM		
Client ID:		Run ID: WETCHEM_150610R				SeqNo: 3315936		Prep Date: 6/10/2015		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.173	0.050	0	0	0		1.178	0.425	50	

The following samples were analyzed in this batch:

1506371-01B	1506371-02B	1506371-03B
1506371-04B		

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

Client: Olsson Associates
Work Order: 1506371
Project: Chevron Nikkle Spill

QC BATCH REPORT

Batch ID: **72035** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: LCS-72035-72035					Units: s.u.		Analysis Date: 6/8/2015 07:00 PM		
Client ID:		Run ID: WETCHEM_150608P					SeqNo: 3311908		Prep Date: 6/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH	4.05	0	4	0	101	90-110	0			
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DUP		Sample ID: 1506365-01A DUP				Units: s.u.		Analysis Date: 6/8/2015 07:00 PM		
Client ID:		Run ID: WETCHEM_150608P				SeqNo: 3311914		Prep Date: 6/8/2015		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH	7.94	0	0	0	0	0-0	7.87	0.886	20	
----	------	---	---	---	---	-----	------	-------	----	--

DUP				Sample ID: 1506365-02A DUP				Units: s.u.			Analysis Date: 6/8/2015 07:00 PM			
Client ID:				Run ID: WETCHEM_150608P				SeqNo: 3311916			Prep Date: 6/8/2015		DF: 1	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH	8.09	0	0	0	0	0-0	8.03	0.744	20	
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The following samples were analyzed in this batch:

1506371-01B	1506371-02B	1506371-03B
1506371-04B		

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

Client: Olsson Associates
Work Order: 1506371
Project: Chevron Nikkle Spill

QC BATCH REPORT

Batch ID: **72357** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-72357-72357				Units: mg/Kg		Analysis Date: 6/17/2015 12:30 PM		
Client ID:		Run ID: WETCHEM_150617U		SeqNo: 3326628		Prep Date: 6/15/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent ND 1.0

LCS		Sample ID: LCS-72357-72357				Units: mg/Kg		Analysis Date: 6/17/2015 12:30 PM		
Client ID:		Run ID: WETCHEM_150617U		SeqNo: 3326627		Prep Date: 6/15/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.56 1.0 5 0 91.2 80-120 0

MS		Sample ID: 1506365-01A MS				Units: mg/Kg		Analysis Date: 6/17/2015 12:30 PM		
Client ID:		Run ID: WETCHEM_150617U		SeqNo: 3326611		Prep Date: 6/15/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.041 1.0 5.155 0.1981 74.6 75-125 0 S

MS		Sample ID: 1506365-01A MSI				Units: mg/Kg		Analysis Date: 6/17/2015 12:30 PM		
Client ID:		Run ID: WETCHEM_150617U		SeqNo: 3326613		Prep Date: 6/15/2015		DF: 100		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 2807 93 2831 0.1981 99.2 75-125 0

MSD		Sample ID: 1506365-01A MSD				Units: mg/Kg		Analysis Date: 6/17/2015 12:30 PM		
Client ID:		Run ID: WETCHEM_150617U		SeqNo: 3326612		Prep Date: 6/15/2015		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.625 1.0 5.208 0.1981 85 75-125 4.041 13.5 20

The following samples were analyzed in this batch:

1506371-01B	1506371-02B	1506371-03B
1506371-04B		

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

Client: Olsson Associates
 Work Order: 1506371
 Project: Chevron Nikkle Spill

QC BATCH REPORT

Batch ID: **R165540** Instrument ID **MOIST** Method: **E160.3M**

MBLK		Sample ID: WBLKS-R165540					Units: % of sample		Analysis Date: 6/15/2015 04:10 PM		
Client ID:			Run ID: MOIST_150615C			SeqNo: 3324277		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-R165540					Units: % of sample		Analysis Date: 6/15/2015 04:10 PM		
Client ID:			Run ID: MOIST_150615C			SeqNo: 3324276		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: 1506288-01A DUP				Units: % of sample			Analysis Date: 6/15/2015 04:10 PM			
Client ID:				Run ID: MOIST_150615C				SeqNo: 3324247			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Moisture 18.52 0.050 0 0 0 18.46 0.324 20

DUP				Sample ID: 1506365-01A DUP				Units: % of sample			Analysis Date: 6/15/2015 04:10 PM			
Client ID:				Run ID: MOIST_150615C				SeqNo: 3324249			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Moisture 13.52 0.050 0 0 0 13.63 0.81 20

The following samples were analyzed in this batch:

1506371-01B	1506371-02B	1506371-03B
1506371-04B		

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



Page 1 of 1

COC ID: 123456

- ☐ Salt Lake City, UT
+1 801 266 7700
- ☐ Spring City, PA
+1 610 948 4903
- ☐ York, PA
+1 717 505 5280

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

Sample Receipt Checklist

Client Name: **OLSSON**

Date/Time Received: **05-Jun-15 19:00**

Work Order: **1506371**

Received by: **DS**

Checklist completed by Diane Shaw 06-Jun-15
eSignature Date

Reviewed by: Lee Arnold 07-Jun-15
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>4.6 c</u> <u>SR2</u>		
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>6/6/2015 9:35:29 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:



29-Mar-2021

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

Re: **Nikkel A3 Spill**

Work Order: **21032118**

Dear Tim,

ALS Environmental received 1 sample on 20-Mar-2021 10:00 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 8.

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

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

Sincerely,

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

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Entrada Consulting Group
Project: Nikkel A3 Spill
Work Order: 21032118

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>
21032118-01	NA3-SS1	Soil		3/18/2021 14:45	3/20/2021 10:00	<input type="checkbox"/>

Client: Entrada Consulting Group
Project: Nikkel A3 Spill
WorkOrder: 21032118

**QUALIFIERS,
ACRONYMS, UNITS**

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

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

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group, USA

Date: 29-Mar-21

Client: Entrada Consulting Group
Project: Nikkel A3 Spill
Sample ID: NA3-SS1
Collection Date: 3/18/2021 02:45 PM

Work Order: 21032118
Lab ID: 21032118-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS ANALYSIS BY ICP							
Arsenic	4.7		0.10	0.39	mg/Kg-dry	1	3/25/2021 18:54
MOISTURE							
Moisture	18		0.10	0.10	% of sample	1	3/25/2021 13:44

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

Client: Entrada Consulting Group
Work Order: 21032118
Project: Nikkel A3 Spill

QC BATCH REPORT

Batch ID: **173930** Instrument ID **ICP2** Method: **SW6010D**

MBLK		Sample ID: MBLK-173930-173930				Units: mg/Kg		Analysis Date: 3/24/2021 07:49 PM		
Client ID:		Run ID: ICP2_210324B				SeqNo: 7247881		Prep Date: 3/23/2021		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic U 0.25

LCS		Sample ID: LCS-173930-173930				Units: mg/Kg		Analysis Date: 3/24/2021 08:09 PM		
Client ID:		Run ID: ICP2_210324B				SeqNo: 7247885		Prep Date: 3/23/2021		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 4.89 0.25 5 0 97.8 80-120 0

MS		Sample ID: 21032118-01AMS				Units: mg/Kg		Analysis Date: 3/25/2021 06:59 PM		
Client ID: NA3-SS1		Run ID: ICP2_210325A				SeqNo: 7250294		Prep Date: 3/23/2021		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 9.135 0.33 6.57 3.906 79.6 75-125 0

MSD		Sample ID: 21032118-01AMSD				Units: mg/Kg		Analysis Date: 3/25/2021 07:04 PM		
Client ID: NA3-SS1		Run ID: ICP2_210325A				SeqNo: 7250298		Prep Date: 3/23/2021		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Arsenic 8.876 0.33 6.562 3.906 75.7 75-125 9.135 2.87 20

The following samples were analyzed in this batch:

21032118-01A

Client: Entrada Consulting Group
 Work Order: 21032118
 Project: Nikkel A3 Spill

QC BATCH REPORT

Batch ID: **R312730** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R312730				Units: % of sample		Analysis Date: 3/25/2021 01:44 PM		
Client ID:		Run ID: MOIST_210325D				SeqNo: 7252046		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.10								

LCS		Sample ID: LCS-R312730				Units: % of sample		Analysis Date: 3/25/2021 01:44 PM		
Client ID:		Run ID: MOIST_210325D				SeqNo: 7252045		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	0.10	100	0	100	98-102	0			

DUP		Sample ID: 21032119-01A DUP				Units: % of sample		Analysis Date: 3/25/2021 01:44 PM		
Client ID:		Run ID: MOIST_210325D				SeqNo: 7252035		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	17.08	0.10	0	0	0	0-0	17.07	0.0586	10	

DUP		Sample ID: 21032119-02A DUP				Units: % of sample		Analysis Date: 3/25/2021 01:44 PM		
Client ID:		Run ID: MOIST_210325D				SeqNo: 7252037		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	17.76	0.10	0	0	0	0-0	17.74	0.113	10	

The following samples were analyzed in this batch:

21032118-01A

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

Sample Receipt Checklist

Client Name: **ENTRADA**

Date/Time Received: **20-Mar-21 10:00**

Work Order: **21032118**

Received by: **DS**

Checklist completed by **Diane Shaw**

22-Mar-21

Reviewed by: **Chad Whelton**

23-Mar-21

eSignature

Date

eSignature

Date

Matrices: **Soil**

Carrier name: **FedEx**

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

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

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

Chain of custody present? Yes ☒ No ☐

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

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

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

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

Sample(s) received on ice? Yes ☒ No ☐

Temperature(s)/Thermometer(s): **2.6/2.6 c** **IR1**

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: **3/22/2021 3:54:34 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: