



18-Oct-2017

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

Re: **CT Carney 32-34**

Work Order: **1710607**

Dear Tim,

ALS Environmental received 5 samples on 10-Oct-2017 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 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 31.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton", is written over a white background.

Electronically approved by: Chad Whelton

Chad Whelton  
Project Manager

Certificate No: MN 998501

### Report of Laboratory Analysis

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Environmental The logo icon for ALS Environmental, a stylized blue triangle with a yellow flame-like shape inside.

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**Client:** Olsson Associates  
**Project:** CT Carney 32-34  
**Work Order:** 1710607

**Work Order Sample Summary**

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<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>
1710607-01	CAR3234-SS1	Soil		10/6/2017 08:50	10/10/2017 09:30	<input type="checkbox"/>
1710607-02	CAR3234-BG1	Soil		10/6/2017 09:00	10/10/2017 09:30	<input type="checkbox"/>
1710607-03	CAR3234-SS2	Soil		10/6/2017 09:15	10/10/2017 09:30	<input type="checkbox"/>
1710607-04	CAR3234-SS3	Soil		10/6/2017 09:25	10/10/2017 09:30	<input type="checkbox"/>
1710607-05	CAR3234-BG2	Soil		10/6/2017 09:35	10/10/2017 09:30	<input type="checkbox"/>

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**Client:** Olsson Associates  
**Project:** CT Carney 32-34  
**Work Order:** 1710607

**Case Narrative**

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Batch 108938, Method ICP\_6010\_S, Sample 1710607-02A MS/MSD: The MS/MSD recoveries were outside of the control limits for Barium and Zinc; however, the results in the parent sample are greater than 4x the spike amount. No qualification is required.

Batch 108938, Method ICP\_6010\_S, Sample 1710607-02A MSD: The MSD recoveries were outside of the control limits for multiple compounds per the QC report. However, the MS recoveries and the RPDs between the MS and MSD were in control. No qualification is required.

<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
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	Milligrams per Kilogram
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**

Date: 18-Oct-17

**Client:** Olsson Associates  
**Project:** CT Carney 32-34  
**Sample ID:** CAR3234-SS1  
**Collection Date:** 10/6/2017 08:50 AM

**Work Order:** 1710607  
**Lab ID:** 1710607-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015C</b>		Prep: SW3546 / 10/12/17		Analyst: <b>KB</b>
<b>DRO (C10-C28)</b>	<b>190</b>		<b>3.3</b>	<b>5.6</b>	<b>mg/Kg-dry</b>	1	10/13/2017 03:41
Surr: 4-Terphenyl-d14	70.6			34-130	%REC	1	10/13/2017 03:41
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW5035 / 10/12/17		Analyst: <b>KB</b>
<b>GRO (C6-C10)</b>	U		2.8	6.8	mg/Kg	1	10/14/2017 08:29
Surr: Toluene-d8	95.5			71-123	%REC	1	10/14/2017 08:29
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>		Prep: SW7471 / 10/14/17		Analyst: <b>RSH</b>
<b>Mercury</b>	<b>0.030</b>		<b>0.0035</b>	<b>0.021</b>	<b>mg/Kg-dry</b>	1	10/16/2017 16:39
<b>METALS ANALYSIS BY ICP</b>							
			Method: <b>SW846 6010C</b>		Prep: SW3050B / 10/12/17		Analyst: <b>HBA</b>
<b>Arsenic</b>	<b>8.0</b>		<b>0.10</b>	<b>0.39</b>	<b>mg/Kg-dry</b>	1	10/17/2017 01:42
<b>Barium</b>	<b>230</b>		<b>0.16</b>	<b>0.39</b>	<b>mg/Kg-dry</b>	1	10/17/2017 01:42
<b>Cadmium</b>	<b>0.71</b>	J	<b>0.037</b>	<b>0.78</b>	<b>mg/Kg-dry</b>	1	10/17/2017 01:42
<b>Chromium</b>	<b>14</b>		<b>0.022</b>	<b>0.39</b>	<b>mg/Kg-dry</b>	1	10/17/2017 01:42
<b>Copper</b>	<b>18</b>		<b>0.17</b>	<b>0.78</b>	<b>mg/Kg-dry</b>	1	10/17/2017 01:42
<b>Lead</b>	<b>17</b>		<b>0.082</b>	<b>0.39</b>	<b>mg/Kg-dry</b>	1	10/17/2017 01:42
<b>Nickel</b>	<b>23</b>		<b>0.16</b>	<b>0.39</b>	<b>mg/Kg-dry</b>	1	10/17/2017 01:42
<b>Selenium</b>	<b>2.8</b>		<b>0.22</b>	<b>0.78</b>	<b>mg/Kg-dry</b>	1	10/17/2017 01:42
Silver	U		0.048	0.39	mg/Kg-dry	1	10/17/2017 01:42
<b>Zinc</b>	<b>110</b>		<b>0.062</b>	<b>0.78</b>	<b>mg/Kg-dry</b>	1	10/17/2017 01:42
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 10/13/17		Analyst: <b>RH</b>
<b>Sodium Adsorption Ratio</b>	<b>14</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	10/16/2017
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6020A</b>		Prep: USDA Method 20B / 10/13/17		Analyst: <b>JF</b>
<b>Calcium</b>	<b>970</b>		<b>3.4</b>	<b>20</b>	<b>mg/L</b>	40	10/17/2017 19:04
<b>Magnesium</b>	<b>210</b>		<b>0.27</b>	<b>8.0</b>	<b>mg/L</b>	40	10/17/2017 19:04
<b>Sodium</b>	<b>3,700</b>		<b>1.4</b>	<b>8.0</b>	<b>mg/L</b>	40	10/17/2017 19:04
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method: <b>SW846 8270D</b>		Prep: SW3546 / 10/12/17		Analyst: <b>RM</b>
Acenaphthene	U		0.0033	0.047	mg/Kg-dry	1	10/15/2017 21:48
Anthracene	U		0.0017	0.047	mg/Kg-dry	1	10/15/2017 21:48
Benzo(a)anthracene	U		0.0029	0.047	mg/Kg-dry	1	10/15/2017 21:48
Benzo(a)pyrene	U		0.0012	0.047	mg/Kg-dry	1	10/15/2017 21:48
Benzo(b)fluoranthene	U		0.0018	0.047	mg/Kg-dry	1	10/15/2017 21:48
Benzo(k)fluoranthene	U		0.0024	0.047	mg/Kg-dry	1	10/15/2017 21:48
Chrysene	U		0.0018	0.047	mg/Kg-dry	1	10/15/2017 21:48
Dibenzo(a,h)anthracene	U		0.0015	0.047	mg/Kg-dry	1	10/15/2017 21:48
Fluoranthene	U		0.0014	0.047	mg/Kg-dry	1	10/15/2017 21:48

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

**ALS Group, USA**

Date: 18-Oct-17

**Client:** Olsson Associates  
**Project:** CT Carney 32-34  
**Sample ID:** CAR3234-SS1  
**Collection Date:** 10/6/2017 08:50 AM

**Work Order:** 1710607  
**Lab ID:** 1710607-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	U		0.0015	0.047	mg/Kg-dry	1	10/15/2017 21:48
Indeno(1,2,3-cd)pyrene	U		0.0014	0.047	mg/Kg-dry	1	10/15/2017 21:48
Naphthalene	U		0.0089	0.047	mg/Kg-dry	1	10/15/2017 21:48
Pyrene	U		0.0017	0.047	mg/Kg-dry	1	10/15/2017 21:48
Surr: 2-Fluorobiphenyl	109			20-140	%REC	1	10/15/2017 21:48
Surr: 4-Terphenyl-d14	127			22-172	%REC	1	10/15/2017 21:48
Surr: Nitrobenzene-d5	88.7			28-140	%REC	1	10/15/2017 21:48
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>Method: SW8260B</b>		<b>Prep: SW5035 / 10/12/17</b>		<b>Analyst: LSY</b>
Benzene	U		0.0069	0.041	mg/Kg	1	10/17/2017 14:17
Ethylbenzene	U		0.0086	0.041	mg/Kg	1	10/17/2017 14:17
m,p-Xylene	U		0.019	0.081	mg/Kg	1	10/17/2017 14:17
o-Xylene	U		0.016	0.041	mg/Kg	1	10/17/2017 14:17
Toluene	U		0.011	0.041	mg/Kg	1	10/17/2017 14:17
Xylenes, Total	U		0.035	0.12	mg/Kg	1	10/17/2017 14:17
Surr: 1,2-Dichloroethane-d4	102			70-130	%REC	1	10/17/2017 14:17
Surr: 4-Bromofluorobenzene	93.2			70-130	%REC	1	10/17/2017 14:17
Surr: Dibromofluoromethane	97.9			70-130	%REC	1	10/17/2017 14:17
Surr: Toluene-d8	88.8			70-130	%REC	1	10/17/2017 14:17
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>Method: USDA H60 METHOD 2</b>		<b>Prep: USDA Method 20B / 10/13/17</b>		<b>Analyst: JB</b>
Electrical Conductivity @ Saturation	30		0.028	0.25	mmhos/cm @25°	50	10/16/2017 12:30
<b>CHROMIUM, TRIVALENT</b>			<b>Method: CALCULATION</b>				<b>Analyst: JJJ</b>
Chromium, Trivalent	14		0.37	1.2	mg/Kg-dry	1	10/17/2017 16:06
<b>CHROMIUM, HEXAVALENT</b>			<b>Method: SW7196A</b>		<b>Prep: SW3060A / 10/11/17</b>		<b>Analyst: RP</b>
Chromium, Hexavalent	U		0.37	1.2	mg/Kg-dry	1	10/16/2017 16:30
<b>MOISTURE</b>			<b>Method: SW3550C</b>				<b>Analyst: NW</b>
Moisture	15		0.025	0.050	% of sample	1	10/12/2017 22:00
<b>PH</b>			<b>Method: SW9045D</b>		<b>Prep: EXTRACT / 10/12/17</b>		<b>Analyst: RP</b>
pH	7.29		0.10	0.100	s.u.	1	10/12/2017 17:00

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

**ALS Group, USA**

Date: 18-Oct-17

**Client:** Olsson Associates  
**Project:** CT Carney 32-34  
**Sample ID:** CAR3234-BG1  
**Collection Date:** 10/6/2017 09:00 AM

**Work Order:** 1710607  
**Lab ID:** 1710607-02  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MERCURY BY CVAA</b>							
Mercury	0.031		0.0030	0.018	mg/Kg-dry	1	10/16/2017 16:47
		Method: SW7471B		Prep: SW7471 / 10/14/17		Analyst: RSH	
<b>METALS ANALYSIS BY ICP</b>							
Arsenic	10		0.12	0.45	mg/Kg-dry	1	10/17/2017 01:49
Barium	170		0.18	0.45	mg/Kg-dry	1	10/17/2017 01:49
Cadmium	3.9		0.043	0.90	mg/Kg-dry	1	10/17/2017 01:49
Chromium	17		0.025	0.45	mg/Kg-dry	1	10/17/2017 01:49
Copper	20		0.20	0.90	mg/Kg-dry	1	10/17/2017 01:49
Lead	19		0.095	0.45	mg/Kg-dry	1	10/17/2017 01:49
Nickel	26		0.18	0.45	mg/Kg-dry	1	10/17/2017 01:49
Selenium	5.9		0.25	0.90	mg/Kg-dry	1	10/17/2017 01:49
Silver	2.9		0.056	0.45	mg/Kg-dry	1	10/17/2017 01:49
Zinc	110		0.072	0.90	mg/Kg-dry	1	10/17/2017 01:49
		Method: SW846 6010C		Prep: SW3050B / 10/12/17		Analyst: HBA	
<b>SODIUM ADSORPTION RATIO</b>							
Sodium Adsorption Ratio	0.71		0.010	0.010	none	1	10/16/2017
		Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 10/13/17		Analyst: RH	
<b>SOLUBLE CATIONS FOR SAR</b>							
Calcium	20,000		86	500	mg/L	1000	10/18/2017 14:11
Magnesium	47		0.068	2.0	mg/L	10	10/17/2017 19:06
Sodium	38		0.34	2.0	mg/L	10	10/17/2017 19:06
		Method: SW6020A		Prep: USDA Method 20B / 10/13/17		Analyst: JF	
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>							
Electrical Conductivity @ Saturation	12		0.028	0.25	mmhos/cm @25°	50	10/16/2017 12:30
		Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 10/13/17		Analyst: JB	
<b>CHROMIUM, TRIVALENT</b>							
Chromium, Trivalent	17		0.35	1.1	mg/Kg-dry	1	10/17/2017 16:06
		Method: CALCULATION				Analyst: JJJ	
<b>CHROMIUM, HEXAVALENT</b>							
Chromium, Hexavalent	U		0.35	1.1	mg/Kg-dry	1	10/16/2017 16:30
		Method: SW7196A		Prep: SW3060A / 10/11/17		Analyst: RP	
<b>MOISTURE</b>							
Moisture	11		0.025	0.050	% of sample	1	10/13/2017 13:40
		Method: SW3550C				Analyst: NW	
<b>PH</b>							
pH	7.78		0.10	0.100	s.u.	1	10/12/2017 17:00
		Method: SW9045D		Prep: EXTRACT / 10/12/17		Analyst: RP	

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

**ALS Group, USA**

Date: 18-Oct-17

**Client:** Olsson Associates  
**Project:** CT Carney 32-34  
**Sample ID:** CAR3234-SS2  
**Collection Date:** 10/6/2017 09:15 AM

**Work Order:** 1710607  
**Lab ID:** 1710607-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015C</b>		Prep: SW3546 / 10/12/17		Analyst: <b>KB</b>
<b>DRO (C10-C28)</b>	<b>130</b>		<b>3.4</b>	<b>5.9</b>	<b>mg/Kg-dry</b>	1	10/13/2017 04:39
Surr: 4-Terphenyl-d14	77.1			34-130	%REC	1	10/13/2017 04:39
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW5035 / 10/12/17		Analyst: <b>KB</b>
<b>GRO (C6-C10)</b>	U		2.9	7.0	mg/Kg	1	10/14/2017 08:59
Surr: Toluene-d8	94.9			71-123	%REC	1	10/14/2017 08:59
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>		Prep: SW7471 / 10/14/17		Analyst: <b>RSH</b>
<b>Mercury</b>	<b>0.030</b>		<b>0.0039</b>	<b>0.023</b>	<b>mg/Kg-dry</b>	1	10/16/2017 16:50
<b>METALS ANALYSIS BY ICP</b>							
			Method: <b>SW846 6010C</b>		Prep: SW3050B / 10/12/17		Analyst: <b>HBA</b>
<b>Arsenic</b>	<b>9.3</b>		<b>0.11</b>	<b>0.41</b>	<b>mg/Kg-dry</b>	1	10/17/2017 02:08
<b>Barium</b>	<b>270</b>		<b>0.17</b>	<b>0.41</b>	<b>mg/Kg-dry</b>	1	10/17/2017 02:08
<b>Cadmium</b>	<b>0.78</b>	J	<b>0.040</b>	<b>0.83</b>	<b>mg/Kg-dry</b>	1	10/17/2017 02:08
<b>Chromium</b>	<b>13</b>		<b>0.023</b>	<b>0.41</b>	<b>mg/Kg-dry</b>	1	10/17/2017 02:08
<b>Copper</b>	<b>17</b>		<b>0.18</b>	<b>0.83</b>	<b>mg/Kg-dry</b>	1	10/17/2017 02:08
<b>Lead</b>	<b>19</b>		<b>0.088</b>	<b>0.41</b>	<b>mg/Kg-dry</b>	1	10/17/2017 02:08
<b>Nickel</b>	<b>22</b>		<b>0.17</b>	<b>0.41</b>	<b>mg/Kg-dry</b>	1	10/17/2017 02:08
<b>Selenium</b>	<b>2.9</b>		<b>0.23</b>	<b>0.83</b>	<b>mg/Kg-dry</b>	1	10/17/2017 02:08
Silver	U		0.051	0.41	mg/Kg-dry	1	10/17/2017 02:08
<b>Zinc</b>	<b>120</b>		<b>0.066</b>	<b>0.83</b>	<b>mg/Kg-dry</b>	1	10/17/2017 02:08
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 10/13/17		Analyst: <b>RH</b>
<b>Sodium Adsorption Ratio</b>	<b>81</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	10/16/2017
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6020A</b>		Prep: USDA Method 20B / 10/13/17		Analyst: <b>JF</b>
<b>Calcium</b>	<b>480</b>		<b>3.4</b>	<b>20</b>	<b>mg/L</b>	40	10/17/2017 19:12
<b>Magnesium</b>	<b>58</b>		<b>0.27</b>	<b>8.0</b>	<b>mg/L</b>	40	10/17/2017 19:12
<b>Sodium</b>	<b>4,400</b>		<b>1.4</b>	<b>8.0</b>	<b>mg/L</b>	40	10/17/2017 19:12
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method: <b>SW846 8270D</b>		Prep: SW3546 / 10/12/17		Analyst: <b>RM</b>
Acenaphthene	U		0.0035	0.049	mg/Kg-dry	1	10/15/2017 22:02
Anthracene	U		0.0018	0.049	mg/Kg-dry	1	10/15/2017 22:02
Benzo(a)anthracene	U		0.0030	0.049	mg/Kg-dry	1	10/15/2017 22:02
Benzo(a)pyrene	U		0.0012	0.049	mg/Kg-dry	1	10/15/2017 22:02
Benzo(b)fluoranthene	U		0.0019	0.049	mg/Kg-dry	1	10/15/2017 22:02
Benzo(k)fluoranthene	U		0.0026	0.049	mg/Kg-dry	1	10/15/2017 22:02
Chrysene	U		0.0019	0.049	mg/Kg-dry	1	10/15/2017 22:02
Dibenzo(a,h)anthracene	U		0.0016	0.049	mg/Kg-dry	1	10/15/2017 22:02
Fluoranthene	U		0.0014	0.049	mg/Kg-dry	1	10/15/2017 22:02

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

**ALS Group, USA**

Date: 18-Oct-17

**Client:** Olsson Associates  
**Project:** CT Carney 32-34  
**Sample ID:** CAR3234-SS2  
**Collection Date:** 10/6/2017 09:15 AM

**Work Order:** 1710607  
**Lab ID:** 1710607-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene		U	0.0016	0.049	mg/Kg-dry	1	10/15/2017 22:02
Indeno(1,2,3-cd)pyrene		U	0.0015	0.049	mg/Kg-dry	1	10/15/2017 22:02
Naphthalene		U	0.0093	0.049	mg/Kg-dry	1	10/15/2017 22:02
Pyrene		U	0.0018	0.049	mg/Kg-dry	1	10/15/2017 22:02
Surr: 2-Fluorobiphenyl	112			20-140	%REC	1	10/15/2017 22:02
Surr: 4-Terphenyl-d14	134			22-172	%REC	1	10/15/2017 22:02
Surr: Nitrobenzene-d5	96.0			28-140	%REC	1	10/15/2017 22:02
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>Method: SW8260B</b>		<b>Prep: SW5035 / 10/12/17</b>		<b>Analyst: LSY</b>
Benzene		U	0.0072	0.042	mg/Kg	1	10/17/2017 14:33
Ethylbenzene		U	0.0089	0.042	mg/Kg	1	10/17/2017 14:33
m,p-Xylene		U	0.020	0.085	mg/Kg	1	10/17/2017 14:33
o-Xylene		U	0.016	0.042	mg/Kg	1	10/17/2017 14:33
Toluene		U	0.012	0.042	mg/Kg	1	10/17/2017 14:33
Xylenes, Total		U	0.036	0.13	mg/Kg	1	10/17/2017 14:33
Surr: 1,2-Dichloroethane-d4	98.0			70-130	%REC	1	10/17/2017 14:33
Surr: 4-Bromofluorobenzene	95.8			70-130	%REC	1	10/17/2017 14:33
Surr: Dibromofluoromethane	98.9			70-130	%REC	1	10/17/2017 14:33
Surr: Toluene-d8	89.4			70-130	%REC	1	10/17/2017 14:33
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>Method: USDA H60 METHOD 2</b>		<b>Prep: USDA Method 20B / 10/13/17</b>		<b>Analyst: JB</b>
Electrical Conductivity @ Saturation	29		0.028	0.25	mmhos/cm @25°	50	10/16/2017 12:30
<b>CHROMIUM, TRIVALENT</b>			<b>Method: CALCULATION</b>				<b>Analyst: JJJ</b>
Chromium, Trivalent	13		0.37	1.2	mg/Kg-dry	1	10/17/2017 16:06
<b>CHROMIUM, HEXAVALENT</b>			<b>Method: SW7196A</b>		<b>Prep: SW3060A / 10/11/17</b>		<b>Analyst: RP</b>
Chromium, Hexavalent		U	0.37	1.2	mg/Kg-dry	1	10/16/2017 16:30
<b>MOISTURE</b>			<b>Method: SW3550C</b>				<b>Analyst: NW</b>
Moisture	17		0.025	0.050	% of sample	1	10/12/2017 22:00
<b>PH</b>			<b>Method: SW9045D</b>		<b>Prep: EXTRACT / 10/12/17</b>		<b>Analyst: RP</b>
pH	8.00		0.10	0.100	s.u.	1	10/12/2017 17:00

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

**ALS Group, USA**

Date: 18-Oct-17

**Client:** Olsson Associates  
**Project:** CT Carney 32-34  
**Sample ID:** CAR3234-SS3  
**Collection Date:** 10/6/2017 09:25 AM

**Work Order:** 1710607  
**Lab ID:** 1710607-04  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015C</b>		Prep: SW3546 / 10/12/17		Analyst: <b>KB</b>
DRO (C10-C28)	U		3.6	6.2	mg/Kg-dry	1	10/13/2017 05:08
Surr: 4-Terphenyl-d14	63.1			34-130	%REC	1	10/13/2017 05:08
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW5035 / 10/12/17		Analyst: <b>KB</b>
GRO (C6-C10)	U		3.3	8.0	mg/Kg	1	10/14/2017 09:28
Surr: Toluene-d8	95.4			71-123	%REC	1	10/14/2017 09:28
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>		Prep: SW7471 / 10/14/17		Analyst: <b>RSH</b>
Mercury	<b>0.034</b>		<b>0.0036</b>	<b>0.022</b>	mg/Kg-dry	1	10/16/2017 16:52
<b>METALS ANALYSIS BY ICP</b>							
			Method: <b>SW846 6010C</b>		Prep: SW3050B / 10/12/17		Analyst: <b>HBA</b>
Arsenic	<b>8.9</b>		<b>0.13</b>	<b>0.50</b>	mg/Kg-dry	1	10/17/2017 02:14
Barium	<b>170</b>		<b>0.20</b>	<b>0.50</b>	mg/Kg-dry	1	10/17/2017 02:14
Cadmium	<b>0.84</b>	J	<b>0.048</b>	<b>1.0</b>	mg/Kg-dry	1	10/17/2017 02:14
Chromium	<b>14</b>		<b>0.028</b>	<b>0.50</b>	mg/Kg-dry	1	10/17/2017 02:14
Copper	<b>18</b>		<b>0.22</b>	<b>1.0</b>	mg/Kg-dry	1	10/17/2017 02:14
Lead	<b>20</b>		<b>0.11</b>	<b>0.50</b>	mg/Kg-dry	1	10/17/2017 02:14
Nickel	<b>24</b>		<b>0.20</b>	<b>0.50</b>	mg/Kg-dry	1	10/17/2017 02:14
Selenium	<b>3.4</b>		<b>0.28</b>	<b>1.0</b>	mg/Kg-dry	1	10/17/2017 02:14
Silver	U		0.062	0.50	mg/Kg-dry	1	10/17/2017 02:14
Zinc	<b>110</b>		<b>0.080</b>	<b>1.0</b>	mg/Kg-dry	1	10/17/2017 02:14
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 10/13/17		Analyst: <b>RH</b>
Sodium Adsorption Ratio	<b>43</b>		<b>0.010</b>	<b>0.010</b>	none	1	10/16/2017
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6020A</b>		Prep: USDA Method 20B / 10/13/17		Analyst: <b>JF</b>
Calcium	<b>340</b>		<b>8.6</b>	<b>50</b>	mg/L	100	10/17/2017 19:13
Magnesium	<b>61</b>		<b>0.68</b>	<b>20</b>	mg/L	100	10/17/2017 19:13
Sodium	<b>3,300</b>		<b>3.4</b>	<b>20</b>	mg/L	100	10/17/2017 19:13
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method: <b>SW846 8270D</b>		Prep: SW3546 / 10/12/17		Analyst: <b>RM</b>
Acenaphthene	U		0.0037	0.052	mg/Kg-dry	1	10/15/2017 22:16
Anthracene	U		0.0019	0.052	mg/Kg-dry	1	10/15/2017 22:16
Benzo(a)anthracene	U		0.0032	0.052	mg/Kg-dry	1	10/15/2017 22:16
Benzo(a)pyrene	U		0.0013	0.052	mg/Kg-dry	1	10/15/2017 22:16
Benzo(b)fluoranthene	U		0.0020	0.052	mg/Kg-dry	1	10/15/2017 22:16
Benzo(k)fluoranthene	U		0.0027	0.052	mg/Kg-dry	1	10/15/2017 22:16
Chrysene	U		0.0020	0.052	mg/Kg-dry	1	10/15/2017 22:16
Dibenzo(a,h)anthracene	U		0.0017	0.052	mg/Kg-dry	1	10/15/2017 22:16
Fluoranthene	U		0.0015	0.052	mg/Kg-dry	1	10/15/2017 22:16

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

**ALS Group, USA**

Date: 18-Oct-17

**Client:** Olsson Associates  
**Project:** CT Carney 32-34  
**Sample ID:** CAR3234-SS3  
**Collection Date:** 10/6/2017 09:25 AM

**Work Order:** 1710607  
**Lab ID:** 1710607-04  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	U		0.0017	0.052	mg/Kg-dry	1	10/15/2017 22:16
Indeno(1,2,3-cd)pyrene	U		0.0016	0.052	mg/Kg-dry	1	10/15/2017 22:16
Naphthalene	U		0.0097	0.052	mg/Kg-dry	1	10/15/2017 22:16
Pyrene	U		0.0019	0.052	mg/Kg-dry	1	10/15/2017 22:16
Surr: 2-Fluorobiphenyl	96.0			20-140	%REC	1	10/15/2017 22:16
Surr: 4-Terphenyl-d14	114			22-172	%REC	1	10/15/2017 22:16
Surr: Nitrobenzene-d5	82.3			28-140	%REC	1	10/15/2017 22:16
<b>VOLATILE ORGANIC COMPOUNDS</b>			<b>Method: SW8260B</b>		<b>Prep: SW5035 / 10/12/17</b>		<b>Analyst: LSY</b>
Benzene	U		0.0082	0.048	mg/Kg	1	10/17/2017 14:48
Ethylbenzene	U		0.010	0.048	mg/Kg	1	10/17/2017 14:48
m,p-Xylene	U		0.023	0.096	mg/Kg	1	10/17/2017 14:48
o-Xylene	U		0.019	0.048	mg/Kg	1	10/17/2017 14:48
Toluene	U		0.013	0.048	mg/Kg	1	10/17/2017 14:48
Xylenes, Total	U		0.041	0.14	mg/Kg	1	10/17/2017 14:48
Surr: 1,2-Dichloroethane-d4	102			70-130	%REC	1	10/17/2017 14:48
Surr: 4-Bromofluorobenzene	97.0			70-130	%REC	1	10/17/2017 14:48
Surr: Dibromofluoromethane	100			70-130	%REC	1	10/17/2017 14:48
Surr: Toluene-d8	88.8			70-130	%REC	1	10/17/2017 14:48
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			<b>Method: USDA H60 METHOD 2</b>		<b>Prep: USDA Method 20B / 10/13/17</b>		<b>Analyst: JB</b>
Electrical Conductivity @ Saturation	20		0.028	0.25	mmhos/cm @25°	50	10/16/2017 12:30
<b>CHROMIUM, TRIVALENT</b>			<b>Method: CALCULATION</b>				<b>Analyst: JJJ</b>
Chromium, Trivalent	14		0.40	1.3	mg/Kg-dry	1	10/17/2017 16:06
<b>CHROMIUM, HEXAVALENT</b>			<b>Method: SW7196A</b>		<b>Prep: SW3060A / 10/11/17</b>		<b>Analyst: RP</b>
Chromium, Hexavalent	U		0.40	1.3	mg/Kg-dry	1	10/16/2017 16:30
<b>MOISTURE</b>			<b>Method: SW3550C</b>				<b>Analyst: NW</b>
Moisture	23		0.025	0.050	% of sample	1	10/12/2017 22:00
<b>PH</b>			<b>Method: SW9045D</b>		<b>Prep: EXTRACT / 10/12/17</b>		<b>Analyst: RP</b>
pH	9.14		0.10	0.100	s.u.	1	10/12/2017 17:00

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

# ALS Group, USA

Date: 18-Oct-17

**Client:** Olsson Associates  
**Project:** CT Carney 32-34  
**Sample ID:** CAR3234-BG2  
**Collection Date:** 10/6/2017 09:35 AM

**Work Order:** 1710607  
**Lab ID:** 1710607-05  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>METALS ANALYSIS BY ICP</b>				Method: <b>SW846 6010C</b>		Prep: SW3050B / 10/12/17	Analyst: <b>HBA</b>
Arsenic	8.9		0.10	0.39	mg/Kg-dry	1	10/17/2017 02:20
<b>MOISTURE</b>				Method: <b>SW3550C</b>			Analyst: <b>MT</b>
Moisture	8.2		0.025	0.050	% of sample	1	10/12/2017 12:25

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

**Client:** Olsson Associates  
**Work Order:** 1710607  
**Project:** CT Carney 32-34

**QC BATCH REPORT**

Batch ID: **108894** Instrument ID **GC8** Method: **SW8015C**

MBLK		Sample ID: <b>DBLKS1-108894-108894</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/12/2017 10:22 PM</b>		
Client ID:		Run ID: <b>GC8_171012B</b>		SeqNo: <b>4698721</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	U	5.0								
<i>Surr: 4-Terphenyl-d14</i>	2.267	0	3.33	0	68.1	34-130	0			

LCS		Sample ID: <b>DLCSS1-108894-108894</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/12/2017 11:20 PM</b>		
Client ID:		Run ID: <b>GC8_171012B</b>		SeqNo: <b>4698722</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	312	5.0	333	0	93.7	65-122	0			
<i>Surr: 4-Terphenyl-d14</i>	2.517	0	3.33	0	75.6	34-130	0			

MS		Sample ID: <b>1710541-09A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/13/2017 12:18 PM</b>		
Client ID:		Run ID: <b>GC8_171012B</b>		SeqNo: <b>4698745</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	323.1	4.9	326.2	0	99	65-122	0			
<i>Surr: 4-Terphenyl-d14</i>	2.661	0	3.262	0	81.6	34-130	0			

MSD		Sample ID: <b>1710541-09A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/13/2017 12:47 PM</b>		
Client ID:		Run ID: <b>GC8_171012B</b>		SeqNo: <b>4698747</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	327.8	4.9	324.7	0	101	65-122	323.1	1.45	30	
<i>Surr: 4-Terphenyl-d14</i>	2.551	0	3.247	0	78.6	34-130	2.661	4.21	30	

The following samples were analyzed in this batch: 1710607-01A 1710607-03A 1710607-04A

Client: Olsson Associates  
 Work Order: 1710607  
 Project: CT Carney 32-34

# QC BATCH REPORT

Batch ID: **108967** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: <b>MBLK-108967-108967</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/13/2017 02:18 PM</b>		
Client ID:		Run ID: <b>GC9_171012A</b>				SeqNo: <b>4699054</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	U	5,000								
<i>Surr: Toluene-d8</i>	4716	0	5000	0	94.3	71-123	0			

LCS		Sample ID: <b>LCS-108967-108967</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/13/2017 02:47 PM</b>		
Client ID:		Run ID: <b>GC9_171012A</b>				SeqNo: <b>4699055</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	421000	5,000	500000	0	84.2	71-123	0			
<i>Surr: Toluene-d8</i>	5520	0	5000	0	110	71-123	0			

MS		Sample ID: <b>1710607-01A MS</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/15/2017 02:10 A</b>		
Client ID: <b>CAR3234-SS1</b>		Run ID: <b>GC9_171013A</b>				SeqNo: <b>4700549</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	559500	6,800	676500	0	82.7	71-123	0			
<i>Surr: Toluene-d8</i>	7506	0	6765	0	111	71-123	0			

MSD		Sample ID: <b>1710607-01A MSD</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/15/2017 02:39 A</b>		
Client ID: <b>CAR3234-SS1</b>		Run ID: <b>GC9_171013A</b>				SeqNo: <b>4700550</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	567700	6,800	676500	0	83.9	71-123	559500	1.46	30	
<i>Surr: Toluene-d8</i>	7520	0	6765	0	111	71-123	7506	0.189	30	

The following samples were analyzed in this batch: 1710607-01A 1710607-03A 1710607-04A

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

Client: Olsson Associates  
 Work Order: 1710607  
 Project: CT Carney 32-34

# QC BATCH REPORT

Batch ID: **109029** Instrument ID **HG1** Method: **SW7471B**

MBLK		Sample ID: <b>MBLK-109029-109029</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/16/2017 04:06 PM</b>			
Client ID:		Run ID: <b>HG1_171016B</b>				SeqNo: <b>4703513</b>		Prep Date: <b>10/14/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Mercury	U	0.020									

LCS		Sample ID: <b>LCS-109029-109029</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/16/2017 04:09 PM</b>			
Client ID:		Run ID: <b>HG1_171016B</b>				SeqNo: <b>4703514</b>		Prep Date: <b>10/14/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Mercury	0.1833	0.020	0.1665	0	110	80-120	0				

MS		Sample ID: <b>1710607-01AMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/16/2017 04:42 PM</b>			
Client ID: <b>CAR3234-SS1</b>		Run ID: <b>HG1_171016B</b>				SeqNo: <b>4703527</b>		Prep Date: <b>10/14/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Mercury	0.1743	0.018	0.1482	0.02541	100	75-125	0				

MSD		Sample ID: <b>1710607-01AMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/16/2017 04:44 PM</b>			
Client ID: <b>CAR3234-SS1</b>		Run ID: <b>HG1_171016B</b>				SeqNo: <b>4703528</b>		Prep Date: <b>10/14/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Mercury	0.1669	0.018	0.1496	0.02541	94.6	75-125	0.1743	4.35	35		

The following samples were analyzed in this batch:

1710607-01A	1710607-02A	1710607-03A
1710607-04A		

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

Client: Olsson Associates  
 Work Order: 1710607  
 Project: CT Carney 32-34

# QC BATCH REPORT

Batch ID: **108938** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK		Sample ID: <b>MBLK-108938-108938</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/17/2017 12:51 A</b>		
Client ID:		Run ID: <b>ICP2_171016A</b>			SeqNo: <b>4703447</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								
Barium	U	0.25								
Cadmium	0.1135	0.50								J
Chromium	0.0565	0.25								J
Copper	U	0.50								
Lead	U	0.25								
Nickel	U	0.25								
Selenium	U	0.50								
Silver	U	0.25								
Zinc	0.1855	0.50								J

LCS		Sample ID: <b>LCS-108938-108938</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/17/2017 12:58 A</b>		
Client ID:		Run ID: <b>ICP2_171016A</b>			SeqNo: <b>4703448</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	5.194	0.25	5	0	104	80-120	0			
Barium	5.66	0.25	5	0	113	80-120	0			
Cadmium	5.455	0.50	5	0	109	80-120	0			
Chromium	5.443	0.25	5	0	109	80-120	0			
Copper	5.144	0.50	5	0	103	80-120	0			
Lead	5.188	0.25	5	0	104	80-120	0			
Nickel	5.629	0.25	5	0	113	80-120	0			
Selenium	4.845	0.50	5	0	96.9	80-120	0			
Silver	5.132	0.25	5	0	103	80-120	0			

LCS		Sample ID: <b>LCS-108938-108938</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/17/2017 08:24 A</b>		
Client ID:		Run ID: <b>ICP2_171016A</b>			SeqNo: <b>4704105</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Zinc	5.536	0.50	5	0	111	80-120	0			

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

Client: Olsson Associates  
 Work Order: 1710607  
 Project: CT Carney 32-34

# QC BATCH REPORT

Batch ID: 108938 Instrument ID ICP2 Method: SW846 6010C

MS		Sample ID: 1710607-02AMS				Units: mg/Kg		Analysis Date: 10/17/2017 01:55 A		
Client ID: CAR3234-BG1		Run ID: ICP2_171016A			SeqNo: 4703457		Prep Date: 10/12/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	15.93	0.40	8.013	9.023	86.2	75-125	0			
Barium	170.5	0.40	8.013	153.9	207	75-125	0			SO
Cadmium	10.24	0.80	8.013	3.515	83.9	75-125	0			
Chromium	23.89	0.40	8.013	15.18	109	75-125	0			
Copper	23.96	0.80	8.013	17.88	75.9	75-125	0			
Lead	23.62	0.40	8.013	17.22	79.8	75-125	0			
Nickel	29.25	0.40	8.013	22.83	80.2	75-125	0			
Selenium	11.28	0.80	8.013	5.233	75.5	75-125	0			
Silver	8.876	0.40	8.013	2.56	78.8	75-125	0			
Zinc	105.9	0.80	8.013	97.3	107	75-125	0			O

MSD		Sample ID: 1710607-02AMSD				Units: mg/Kg		Analysis Date: 10/17/2017 02:01 A		
Client ID: CAR3234-BG1		Run ID: ICP2_171016A			SeqNo: 4703458		Prep Date: 10/12/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	15.17	0.40	8.026	9.023	76.5	75-125	15.93	4.92	20	
Barium	202.8	0.40	8.026	153.9	610	75-125	170.5	17.3	20	SO
Cadmium	8.724	0.80	8.026	3.515	64.9	75-125	10.24	16	20	S
Chromium	22.08	0.40	8.026	15.18	86	75-125	23.89	7.84	20	
Copper	23.35	0.80	8.026	17.88	68.1	75-125	23.96	2.6	20	S
Lead	23.65	0.40	8.026	17.22	80.2	75-125	23.62	0.157	20	
Nickel	28.73	0.40	8.026	22.83	73.6	75-125	29.25	1.78	20	S
Selenium	9.843	0.80	8.026	5.233	57.4	75-125	11.28	13.6	20	S
Silver	7.4	0.40	8.026	2.56	60.3	75-125	8.876	18.1	20	S
Zinc	111.8	0.80	8.026	97.3	180	75-125	105.9	5.41	20	SO

The following samples were analyzed in this batch:

1710607-01A	1710607-02A	1710607-03A
1710607-04A	1710607-05A	

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

Client: Olsson Associates  
 Work Order: 1710607  
 Project: CT Carney 32-34

# QC BATCH REPORT

Batch ID: **108993** Instrument ID **SAR** Method: **USDA H60 Metho**

DUP		Sample ID: 1710598-01ADUP				Units: none		Analysis Date: 10/16/2017		
Client ID:		Run ID: SAR_171016C			SeqNo: 4707940		Prep Date: 10/13/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	3.271	0.010	0	0	0		2.919	11.4	50	

The following samples were analyzed in this batch:

1710607-01B	1710607-02B	1710607-03B
1710607-04B		

Batch ID: **108993** Instrument ID **ICPMS3** Method: **SW6020A**

DUP		Sample ID: 1710598-01ADUP				Units: mg/L		Analysis Date: 10/17/2017 07:01 PM		
Client ID:		Run ID: ICPMS3_171017A			SeqNo: 4706738		Prep Date: 10/13/2017		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	123.8	5.0	0	0	0	0-0	123.9	0.034		
Magnesium	18.46	2.0	0	0	0	0-0	19.12	3.52		
Sodium	147.5	2.0	0	0	0	0-0	132.1	11		

The following samples were analyzed in this batch:

1710607-01B	1710607-02B	1710607-03B
1710607-04B		

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

Client: Olsson Associates  
 Work Order: 1710607  
 Project: CT Carney 32-34

# QC BATCH REPORT

Batch ID: 108893 Instrument ID SVMS6 Method: SW846 8270D

MBLK		Sample ID: SBLKS1-108893-108893				Units: µg/Kg		Analysis Date: 10/12/2017 07:26 PM		
Client ID:		Run ID: SVMS6_171012A		SeqNo: 4697902		Prep Date: 10/12/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	U	42								
Anthracene	U	42								
Benzo(a)anthracene	U	42								
Benzo(a)pyrene	U	42								
Benzo(b)fluoranthene	U	42								
Benzo(k)fluoranthene	U	42								
Chrysene	U	42								
Dibenzo(a,h)anthracene	U	42								
Fluoranthene	U	42								
Fluorene	U	42								
Indeno(1,2,3-cd)pyrene	U	42								
Naphthalene	U	42								
Pyrene	U	42								
Surr: 2-Fluorobiphenyl	3394	0	3333	0	102	20-140	0			
Surr: 4-Terphenyl-d14	3876	0	3333	0	116	22-172	0			
Surr: Nitrobenzene-d5	2127	0	3333	0	63.8	28-140	0			

LCS		Sample ID: SLCSS1-108893-108893				Units: µg/Kg		Analysis Date: 10/12/2017 07:40 PM		
Client ID:		Run ID: SVMS6_171012A		SeqNo: 4697903		Prep Date: 10/12/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1457	42	1333	0	109	40-140	0			
Anthracene	1628	42	1333	0	122	40-140	0			
Benzo(a)anthracene	1540	42	1333	0	116	40-140	0			
Benzo(a)pyrene	1647	42	1333	0	124	40-140	0			
Benzo(b)fluoranthene	1715	42	1333	0	129	40-140	0			
Benzo(k)fluoranthene	1862	42	1333	0	140	40-140	0			
Chrysene	1659	42	1333	0	124	40-140	0			
Dibenzo(a,h)anthracene	1542	42	1333	0	116	40-140	0			
Fluoranthene	1136	42	1333	0	85.2	40-140	0			
Fluorene	1535	42	1333	0	115	40-140	0			
Indeno(1,2,3-cd)pyrene	1588	42	1333	0	119	40-140	0			
Naphthalene	1426	42	1333	0	107	40-140	0			
Pyrene	1250	42	1333	0	93.8	40-140	0			
Surr: 2-Fluorobiphenyl	3526	0	3333	0	106	20-140	0			
Surr: 4-Terphenyl-d14	3832	0	3333	0	115	22-172	0			
Surr: Nitrobenzene-d5	2350	0	3333	0	70.5	28-140	0			

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

Client: Olsson Associates  
 Work Order: 1710607  
 Project: CT Carney 32-34

# QC BATCH REPORT

Batch ID: 108893 Instrument ID SVMS6 Method: SW846 8270D

MS				Sample ID: 1710565-10B MS			Units: µg/Kg		Analysis Date: 10/12/2017 07:54 PM		
Client ID:		Run ID: SVMS6_171012A		SeqNo: 4697904		Prep Date: 10/12/2017		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1583	40	1279	0	124	40-140	0				
Anthracene	1578	40	1279	0	123	40-140	0				
Benzo(a)anthracene	1650	40	1279	0	129	40-140	0				
Benzo(a)pyrene	1510	40	1279	0	118	40-140	0				
Benzo(b)fluoranthene	1467	40	1279	0	115	40-140	0				
Benzo(k)fluoranthene	1510	40	1279	0	118	40-140	0				
Chrysene	1565	40	1279	0	122	40-140	0				
Dibenzo(a,h)anthracene	1336	40	1279	0	104	40-140	0				
Fluoranthene	1343	40	1279	0	105	40-140	0				
Fluorene	1833	40	1279	0	143	40-140	0			S	
Indeno(1,2,3-cd)pyrene	1323	40	1279	0	103	40-140	0				
Naphthalene	1484	40	1279	0	116	40-140	0				
Pyrene	1329	40	1279	0	104	40-140	0				
Surr: 2-Fluorobiphenyl	4134	0	3199	0	129	20-140	0				
Surr: 4-Terphenyl-d14	3853	0	3199	0	120	22-172	0				
Surr: Nitrobenzene-d5	2341	0	3199	0	73.2	28-140	0				

MSD				Sample ID: 1710565-10B MSD			Units: µg/Kg		Analysis Date: 10/12/2017 08:08 PM		
Client ID:		Run ID: SVMS6_171012A		SeqNo: 4697905		Prep Date: 10/12/2017		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Acenaphthene	1790	41	1300	0	138	40-140	1583	12.3	30		
Anthracene	1723	41	1300	0	133	40-140	1578	8.83	30		
Benzo(a)anthracene	1829	41	1300	0	141	40-140	1650	10.3	30	S	
Benzo(a)pyrene	1838	41	1300	0	141	40-140	1510	19.6	30	S	
Benzo(b)fluoranthene	1751	41	1300	0	135	40-140	1467	17.7	30		
Benzo(k)fluoranthene	1799	41	1300	0	138	40-140	1510	17.4	30		
Chrysene	1650	41	1300	0	127	40-140	1565	5.26	30		
Dibenzo(a,h)anthracene	1694	41	1300	0	130	40-140	1336	23.6	30		
Fluoranthene	1580	41	1300	0	122	40-140	1343	16.2	30		
Fluorene	1949	41	1300	0	150	40-140	1833	6.16	30	S	
Indeno(1,2,3-cd)pyrene	1698	41	1300	0	131	40-140	1323	24.8	30		
Naphthalene	1743	41	1300	0	134	40-140	1484	16.1	30		
Pyrene	1419	41	1300	0	109	40-140	1329	6.55	30		
Surr: 2-Fluorobiphenyl	4118	0	3250	0	127	20-140	4134	0.376	0		
Surr: 4-Terphenyl-d14	4308	0	3250	0	133	22-172	3853	11.1	0		
Surr: Nitrobenzene-d5	3140	0	3250	0	96.6	28-140	2341	29.1	0		

The following samples were analyzed in this batch:

1710607-01A	1710607-03A	1710607-04A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates  
 Work Order: 1710607  
 Project: CT Carney 32-34

# QC BATCH REPORT

Batch ID: **108966** Instrument ID **VMS10** Method: **SW8260B**

MBLK		Sample ID: <b>MBLK-108966-108966</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/17/2017 11:40 A</b>		
Client ID:		Run ID: <b>VMS10_171017A</b>		SeqNo: <b>4706971</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	U	30								
Ethylbenzene	U	30								
m,p-Xylene	U	60								
o-Xylene	U	30								
Toluene	U	30								
Xylenes, Total	U	90								
Surr: 1,2-Dichloroethane-d4	1057	0	1000	0	106	70-130	0			
Surr: 4-Bromofluorobenzene	923	0	1000	0	92.3	70-130	0			
Surr: Dibromofluoromethane	1076	0	1000	0	108	70-130	0			
Surr: Toluene-d8	869	0	1000	0	86.9	70-130	0			

LCS		Sample ID: <b>LCS-108966-108966</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/17/2017 10:53 A</b>		
Client ID:		Run ID: <b>VMS10_171017A</b>		SeqNo: <b>4706969</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1052	30	1000	0	105	75-125	0			
Ethylbenzene	903	30	1000	0	90.3	75-125	0			
m,p-Xylene	1848	60	2000	0	92.4	80-125	0			
o-Xylene	932	30	1000	0	93.2	75-125	0			
Toluene	977.5	30	1000	0	97.8	70-125	0			
Xylenes, Total	2780	90	3000	0	92.7	75-125	0			
Surr: 1,2-Dichloroethane-d4	941	0	1000	0	94.1	70-130	0			
Surr: 4-Bromofluorobenzene	1074	0	1000	0	107	70-130	0			
Surr: Dibromofluoromethane	966	0	1000	0	96.6	70-130	0			
Surr: Toluene-d8	965	0	1000	0	96.5	70-130	0			

MS		Sample ID: <b>1710607-01A MS</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/17/2017 03:04 PM</b>		
Client ID: <b>CAR3234-SS1</b>		Run ID: <b>VMS10_171017A</b>		SeqNo: <b>4706979</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1498	41	1353	0	111	75-125	0			
Ethylbenzene	1224	41	1353	0	90.4	75-125	0			
m,p-Xylene	2502	81	2706	0	92.5	80-125	0			
o-Xylene	1267	41	1353	0	93.6	75-125	0			
Toluene	1325	41	1353	0	98	70-125	0			
Xylenes, Total	3769	120	4059	0	92.9	75-125	0			
Surr: 1,2-Dichloroethane-d4	1279	0	1353	0	94.5	70-130	0			
Surr: 4-Bromofluorobenzene	1470	0	1353	0	109	70-130	0			
Surr: Dibromofluoromethane	1283	0	1353	0	94.8	70-130	0			
Surr: Toluene-d8	1285	0	1353	0	95	70-130	0			

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

Client: Olsson Associates  
 Work Order: 1710607  
 Project: CT Carney 32-34

# QC BATCH REPORT

Batch ID: 108966 Instrument ID VMS10 Method: SW8260B

MSD		Sample ID: 1710607-01A MSD				Units: µg/Kg-dry		Analysis Date: 10/17/2017 03:20 PM		
Client ID: CAR3234-SS1		Run ID: VMS10_171017A		SeqNo: 4706981		Prep Date: 10/12/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1501	41	1353	0	111	75-125	1498	0.18	30	
Ethylbenzene	1264	41	1353	0	93.4	75-125	1224	3.26	30	
m,p-Xylene	2574	81	2706	0	95.1	80-125	2502	2.83	30	
o-Xylene	1293	41	1353	0	95.6	75-125	1267	2.06	30	
Toluene	1366	41	1353	0	101	70-125	1325	3.07	30	
Xylenes, Total	3867	120	4059	0	95.3	75-125	3769	2.57	30	
Surr: 1,2-Dichloroethane-d4	1254	0	1353	0	92.6	70-130	1279	1.98	30	
Surr: 4-Bromofluorobenzene	1452	0	1353	0	107	70-130	1470	1.2	30	
Surr: Dibromofluoromethane	1280	0	1353	0	94.6	70-130	1283	0.264	30	
Surr: Toluene-d8	1278	0	1353	0	94.4	70-130	1285	0.528	30	

The following samples were analyzed in this batch: 1710607-01A 1710607-03A 1710607-04A

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

Client: Olsson Associates  
 Work Order: 1710607  
 Project: CT Carney 32-34

# QC BATCH REPORT

Batch ID: **108925** Instrument ID **WETCHEM** Method: **SW9045D**

LCS		Sample ID: <b>LCS-108925-108925</b>				Units: <b>s.u.</b>		Analysis Date: <b>10/12/2017 05:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_171012G</b>		SeqNo: <b>4696049</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	3.94	0.10	4	0	98.5	90-110	0			

DUP		Sample ID: <b>1710790-01A DUP</b>				Units: <b>s.u.</b>		Analysis Date: <b>10/12/2017 05:00 PM</b>		
Client ID:		Run ID: <b>WETCHEM_171012G</b>		SeqNo: <b>4695981</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.16	0.10	0	0	0	0-0	7.18	0.279	20	

DUP		Sample ID: <b>1710607-01A DUP</b>				Units: <b>s.u.</b>		Analysis Date: <b>10/12/2017 05:00 PM</b>		
Client ID: <b>CAR3234-SS1</b>		Run ID: <b>WETCHEM_171012G</b>		SeqNo: <b>4696409</b>		Prep Date: <b>10/12/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.71	0.10	0	0	0	0-0	7.29	5.6	20	

The following samples were analyzed in this batch:

1710607-01A	1710607-02A	1710607-03A
1710607-04A		

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

Client: Olsson Associates  
 Work Order: 1710607  
 Project: CT Carney 32-34

# QC BATCH REPORT

Batch ID: **108930** Instrument ID **WETCHEM** Method: **SW7196A**

<b>MBLK</b>	Sample ID: <b>MBLK-108930-108930</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/16/2017 04:30 PM</b>			
Client ID:	Run ID: <b>WETCHEM_1710160</b>			SeqNo: <b>4703127</b>		Prep Date: <b>10/11/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent U 1.0

<b>LCS</b>	Sample ID: <b>LCS-108930-108930</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/16/2017 04:30 PM</b>			
Client ID:	Run ID: <b>WETCHEM_1710160</b>			SeqNo: <b>4703128</b>		Prep Date: <b>10/11/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.81 1.0 5 0 96.2 80-120 0

<b>MS</b>	Sample ID: <b>1710613-02A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/16/2017 04:30 PM</b>			
Client ID:	Run ID: <b>WETCHEM_1710160</b>			SeqNo: <b>4703138</b>		Prep Date: <b>10/11/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 3.46 1.0 5 -0.09 71 75-125 0 S

<b>MS</b>	Sample ID: <b>1710613-02A MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/16/2017 04:30 PM</b>			
Client ID:	Run ID: <b>WETCHEM_1710160</b>			SeqNo: <b>4703140</b>		Prep Date: <b>10/11/2017</b>		DF: <b>100</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1789 100 1705 -0.09 105 75-125 0

<b>MS</b>	Sample ID: <b>1710688-03A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/16/2017 04:30 PM</b>			
Client ID:	Run ID: <b>WETCHEM_1710160</b>			SeqNo: <b>4703151</b>		Prep Date: <b>10/11/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 2.559 0.98 4.902 -0.09 54 75-125 0 S

<b>MS</b>	Sample ID: <b>1710688-03A MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/16/2017 04:30 PM</b>			
Client ID:	Run ID: <b>WETCHEM_1710160</b>			SeqNo: <b>4703153</b>		Prep Date: <b>10/11/2017</b>		DF: <b>100</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 1442 98 1829 -0.09 78.8 75-125 0

<b>MSD</b>	Sample ID: <b>1710613-02A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/16/2017 04:30 PM</b>			
Client ID:	Run ID: <b>WETCHEM_1710160</b>			SeqNo: <b>4703139</b>		Prep Date: <b>10/11/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 3.34 1.0 5 -0.09 68.6 75-125 3.46 3.53 20 S

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

**Client:** Olsson Associates  
**Work Order:** 1710607  
**Project:** CT Carney 32-34

# QC BATCH REPORT

Batch ID: **108930**      Instrument ID **WETCHEM**      Method: **SW7196A**

MSD		Sample ID: <b>1710688-03A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/16/2017 04:30 PM</b>			
Client ID:		Run ID: <b>WETCHEM_1710160</b>			SeqNo: <b>4703152</b>		Prep Date: <b>10/11/2017</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Chromium, Hexavalent	1.75	1.0	5	-0.09	36.8	75-125	2.559	37.5	20	SR	

**The following samples were analyzed in this batch:**

1710607-01A	1710607-02A	1710607-03A
1710607-04A		

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

**Client:** Olsson Associates  
**Work Order:** 1710607  
**Project:** CT Carney 32-34

# QC BATCH REPORT

Batch ID: **108993**      Instrument ID **WETCHEM**      Method: **USDA H60 Metho**

<b>DUP</b>	Sample ID: <b>1710598-01A DUP</b>				Units: <b>mmhos/cm @25°</b>	Analysis Date: <b>10/16/2017 12:30 PM</b>				
Client ID:	Run ID: <b>WETCHEM_171016F</b>			SeqNo: <b>4702093</b>	Prep Date: <b>10/13/2017</b>	DF: <b>50</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.39	0.25	0	0	0		1.39	0	50	

**The following samples were analyzed in this batch:**

1710607-01B	1710607-02B	1710607-03B
1710607-04B		

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

Client: Olsson Associates  
 Work Order: 1710607  
 Project: CT Carney 32-34

# QC BATCH REPORT

Batch ID: **R222150** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: <b>WBLKS-R222150</b>				Units: % of sample			Analysis Date: <b>10/12/2017 12:25 PM</b>		
Client ID:		Run ID: <b>MOIST_171012B</b>				SeqNo: <b>4696943</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture U 0.050

LCS		Sample ID: <b>LCS-R222150</b>				Units: % of sample			Analysis Date: <b>10/12/2017 12:25 PM</b>		
Client ID:		Run ID: <b>MOIST_171012B</b>				SeqNo: <b>4696942</b>		Prep Date:		DF: <b>1</b>	
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: <b>1710625-02A DUP</b>				Units: % of sample			Analysis Date: <b>10/12/2017 12:25 PM</b>		
Client ID:		Run ID: <b>MOIST_171012B</b>				SeqNo: <b>4696926</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 13.7 0.050 0 0 0 0-0 14.13 3.09 5

DUP		Sample ID: <b>1710642-01B DUP</b>				Units: % of sample			Analysis Date: <b>10/12/2017 12:25 PM</b>		
Client ID:		Run ID: <b>MOIST_171012B</b>				SeqNo: <b>4696937</b>		Prep Date:		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Moisture 7.63 0.050 0 0 0 0-0 7.24 5.25 5 R

The following samples were analyzed in this batch: 1710607-05A

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

Client: Olsson Associates  
 Work Order: 1710607  
 Project: CT Carney 32-34

# QC BATCH REPORT

Batch ID: **R222153** Instrument ID **MOIST** Method: **SW3550C**

<b>MBLK</b>	Sample ID: <b>WBLKS-R222153</b>				Units: % of sample			Analysis Date: <b>10/12/2017 10:00 PM</b>		
Client ID:	Run ID: <b>MOIST_171012E</b>			SeqNo: <b>4696797</b>		Prep Date:		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture U 0.050

<b>LCS</b>	Sample ID: <b>LCS-R222153</b>				Units: % of sample			Analysis Date: <b>10/12/2017 10:00 PM</b>		
Client ID:	Run ID: <b>MOIST_171012E</b>			SeqNo: <b>4696796</b>		Prep Date:		DF: <b>1</b>		
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

<b>DUP</b>	Sample ID: <b>1710832-04A DUP</b>				Units: % of sample			Analysis Date: <b>10/12/2017 10:00 PM</b>		
Client ID:	Run ID: <b>MOIST_171012E</b>			SeqNo: <b>4696783</b>		Prep Date:		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 17.55 0.050 0 0 0 0-0 17.84 1.64 5

<b>DUP</b>	Sample ID: <b>1710832-05A DUP</b>				Units: % of sample			Analysis Date: <b>10/12/2017 10:00 PM</b>		
Client ID:	Run ID: <b>MOIST_171012E</b>			SeqNo: <b>4696784</b>		Prep Date:		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 15.96 0.050 0 0 0 0-0 16.31 2.17 5

The following samples were analyzed in this batch: 1710607-01A 1710607-03A 1710607-04A

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

Client: Olsson Associates  
 Work Order: 1710607  
 Project: CT Carney 32-34

# QC BATCH REPORT

Batch ID: **R222258** Instrument ID **MOIST** Method: **SW3550C**

<b>MBLK</b>	Sample ID: <b>WBLKS-R222258</b>		Units: % of sample				Analysis Date: <b>10/13/2017 01:40 PM</b>			
Client ID:	Run ID: <b>MOIST_171013B</b>		SeqNo: <b>4699846</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture U 0.050

<b>LCS</b>	Sample ID: <b>LCS-R222258</b>		Units: % of sample				Analysis Date: <b>10/13/2017 01:40 PM</b>			
Client ID:	Run ID: <b>MOIST_171013B</b>		SeqNo: <b>4699845</b>		Prep Date:		DF: <b>1</b>			
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

<b>DUP</b>	Sample ID: <b>1710613-07A DUP</b>		Units: % of sample				Analysis Date: <b>10/13/2017 01:40 PM</b>			
Client ID:	Run ID: <b>MOIST_171013B</b>		SeqNo: <b>4699829</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 20.59 0.050 0 0 0 0-0 20.22 1.81 5

<b>DUP</b>	Sample ID: <b>1710832-22A DUP</b>		Units: % of sample				Analysis Date: <b>10/13/2017 01:40 PM</b>			
Client ID:	Run ID: <b>MOIST_171013B</b>		SeqNo: <b>4699833</b>		Prep Date:		DF: <b>1</b>			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 16.53 0.050 0 0 0 0-0 16.79 1.56 5

The following samples were analyzed in this batch: 1710607-02A

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



**Environmental**

**Chain of Custody Form**

Page 1 of 1

COC ID: 123456

- Cincinnati, OH  
+1 513 733 5336
- Holland, MI  
+1 616 399 6070
- Salt Lake City, UT  
+1 801 286 7700
- Everett, WA  
+1 425 366 2600
- Houston, TX  
+1 281 530 5886
- Spring City, PA  
+1 610 948 4803
- Fort Collins, CO  
+1 970 490 1511
- Middletown, PA  
+1 717 944 8541
- York, PA  
+1 717 605 6280

ALS Project Manager: \_\_\_\_\_ Work Order #: 1710607

Customer Information		Project Information				Parameter/Method Request for Analysis											
Purchase Order		Project Name	CT Carney 32-34			A	TPH (GRO & DRO)										
Work Order		Project Number	013.3287.400.400004			B	BTEX										
Company Name	Olsson Associates	Bill To Company	Olsson Associates			C	PAH (See Attached List) CO Table 910										
Send Report To	Tim Dobransky	Invoice Attn.	Tim Dobransky			D	Electrical Conductivity										
Address	760 Horizon Drive, Sta. 102	Address	760 Horizon Drive, Sta. 102			E	Sodium Adsorption Ratio										
						F	pH										
City/State/Zip	Grand Junction, CO 81506	City/State/Zip	Grand Junction, CO 81506			G	Metals (See Attached List) CO Table 910										
Phone	970.263.7800	Phone	970.263.7800			H	Arsenic Only										
Fax	970.263.7456	Fax	970.263.7456			I											
e-Mail Address	tdobransky@oacconsulting.com	e-Mail Address				J											

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	CAR3234-SS1	10/06/17	850	Soil	8	2	X	X	X	X	X	X	X				
2	CAR3234-BG1	10/06/17	900	Soil	8	2				X	X	X	X				
3	CAR3234-SS2	10/06/17	915	Soil	8	2	X	X	X	X	X	X	X				
4	CAR3234-SS3	10/06/17	925	Soil	8	2	X	X	X	X	X	X	X				
5	CAR3234-BG2	10/06/17	935	Soil	8	1								X			
6																	
7																	
8																	
9																	
10																	

<b>Sampler(s): Please Print &amp; Sign</b> Tim Dobransky		<b>Shipment Method:</b> FedEx	<b>Required Turnaround Time:</b> <input type="checkbox"/> STD 10 Wk Days <input checked="" type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour	<b>Results Due Date:</b> _____
<b>Relinquished by:</b> 	<b>Date:</b> 10/9/17 <b>Time:</b> 11:30	<b>Received by:</b> 	<b>Notes:</b> Chevron Pricing Applies - Per Bruce Schlatter	
<b>Relinquished by:</b> 	<b>Date:</b> 10/9/17 <b>Time:</b> 1830	<b>Received by (Laboratory):</b> 10/10/17	<b>Cooler Temp.:</b> 3.6°C	<b>QC Package: (Check Box Below)</b> <input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Std QC + Raw Data <input type="checkbox"/> Level IV: SW846 CLP-Like
<b>Logged by (Laboratory):</b> DFS	<b>Date:</b> 10/10/17 <b>Time:</b> 1200	<b>Checked by (Laboratory):</b> 	<b>Other:</b> _____	

**Preservative Key:** 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

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

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Sample Receipt Checklist

Client Name: **OLSSON**

Date/Time Received: **10-Oct-17 09:30**

Work Order: **1710607**

Received by: **DS**

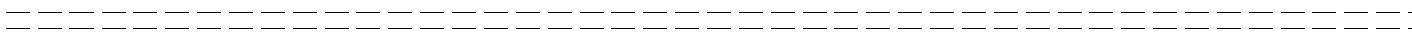
Checklist completed by Diane Shaw 10-Oct-17  
eSignature Date

Reviewed by: Chad Whilton 11-Oct-17  
eSignature Date

Matrices: Soil  
 Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.6/3.6 c</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>10/10/2017 12:09:09 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:



Client Contacted: \_\_\_\_\_ Date Contacted: \_\_\_\_\_ Person Contacted: \_\_\_\_\_

Contacted By: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments:

CorrectiveAction: