



22-Mar-2018

Stuart Hall  
Entrada Consulting Group  
240 Mesa Ave.  
Grand Junction, CO 81501

Re: **Bruton 19-06 Cuttings**

Work Order: **1803876**

Dear Stuart,

ALS Environmental received 2 samples on 14-Mar-2018 09:00 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 23.

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 998501

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

Environmental 

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**Client:** Entrada Consulting Group  
**Project:** Bruton 19-06 Cuttings  
**Work Order:** 1803876

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**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>
1803876-01	Bruton 19-06 CS1	Soil		3/12/2018 15:25	3/14/2018 09:00	<input type="checkbox"/>
1803876-02	Bruton 19-06 CS2	Soil		3/12/2018 15:35	3/14/2018 09:00	<input type="checkbox"/>

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<b><u>Qualifier</u></b>	<b><u>Description</u></b>
*	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.

<b><u>Acronym</u></b>	<b><u>Description</u></b>
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

<b><u>Units Reported</u></b>	<b><u>Description</u></b>
% 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: 22-Mar-18

**Client:** Entrada Consulting Group  
**Project:** Bruton 19-06 Cuttings  
**Sample ID:** Bruton 19-06 CS1  
**Collection Date:** 3/12/2018 03:25 PM

**Work Order:** 1803876  
**Lab ID:** 1803876-01  
**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 / 3/19/18		Analyst: <b>MEB</b>
<b>DRO (C10-C28)</b>	<b>43</b>		<b>3.6</b>	<b>6.3</b>	<b>mg/Kg-dry</b>	1	3/20/2018 18:25
Surr: 4-Terphenyl-d14	62.1			34-130	%REC	1	3/20/2018 18:25
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW5035 / 3/16/18		Analyst: <b>MEB</b>
<b>GRO (C6-C10)</b>	<b>19</b>		<b>3.1</b>	<b>7.5</b>	<b>mg/Kg</b>	1	3/16/2018 21:06
Surr: Toluene-d8	92.0			71-123	%REC	1	3/16/2018 21:06
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>		Prep: SW7471 / 3/20/18		Analyst: <b>RSB</b>
<b>Mercury</b>	<b>0.041</b>		<b>0.0020</b>	<b>0.020</b>	<b>mg/Kg-dry</b>	1	3/20/2018 14:48
<b>METALS ANALYSIS BY ICP</b>							
			Method: <b>SW846 6010C</b>		Prep: SW3050B / 3/19/18		Analyst: <b>HBA</b>
<b>Arsenic</b>	<b>4.1</b>		<b>0.12</b>	<b>0.48</b>	<b>mg/Kg-dry</b>	1	3/20/2018 05:50
<b>Barium</b>	<b>3,100</b>		<b>0.19</b>	<b>0.48</b>	<b>mg/Kg-dry</b>	1	3/20/2018 05:50
Cadmium	U		0.046	0.96	mg/Kg-dry	1	3/20/2018 05:50
<b>Chromium</b>	<b>17</b>		<b>0.027</b>	<b>0.48</b>	<b>mg/Kg-dry</b>	1	3/20/2018 05:50
<b>Copper</b>	<b>25</b>		<b>0.21</b>	<b>0.96</b>	<b>mg/Kg-dry</b>	1	3/20/2018 05:50
<b>Lead</b>	<b>8.6</b>		<b>0.10</b>	<b>0.48</b>	<b>mg/Kg-dry</b>	1	3/20/2018 05:50
<b>Nickel</b>	<b>16</b>		<b>0.19</b>	<b>0.48</b>	<b>mg/Kg-dry</b>	1	3/20/2018 05:50
<b>Selenium</b>	<b>1.6</b>		<b>0.27</b>	<b>0.96</b>	<b>mg/Kg-dry</b>	1	3/20/2018 05:50
Silver	U		0.059	0.48	mg/Kg-dry	1	3/20/2018 05:50
<b>Zinc</b>	<b>54</b>		<b>0.076</b>	<b>0.96</b>	<b>mg/Kg-dry</b>	1	3/20/2018 05:50
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6020A</b>		Prep: USDA Method 20B / 3/20/18		Analyst: <b>JF</b>
<b>Calcium</b>	<b>140</b>		<b>0.86</b>	<b>5.0</b>	<b>mg/L</b>	10	3/20/2018 15:53
<b>Magnesium</b>	<b>8.6</b>		<b>0.068</b>	<b>2.0</b>	<b>mg/L</b>	10	3/20/2018 15:53
<b>Sodium</b>	<b>410</b>		<b>0.34</b>	<b>2.0</b>	<b>mg/L</b>	10	3/20/2018 15:53
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 3/20/18		Analyst: <b>JF</b>
<b>Exchangeable Sodium Percentage</b>	<b>11</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	3/20/2018
<b>Sodium Adsorption Ratio</b>	<b>9.2</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	3/20/2018
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method: <b>SW846 8270D</b>		Prep: SW3546 / 3/19/18		Analyst: <b>RM</b>
Acenaphthene	U		0.0037	0.052	mg/Kg-dry	1	3/20/2018 01:03
Anthracene	U		0.0019	0.052	mg/Kg-dry	1	3/20/2018 01:03
Benzo(a)anthracene	U		0.0032	0.052	mg/Kg-dry	1	3/20/2018 01:03
Benzo(a)pyrene	U		0.0013	0.052	mg/Kg-dry	1	3/20/2018 01:03
Benzo(b)fluoranthene	U		0.0020	0.052	mg/Kg-dry	1	3/20/2018 01:03
Benzo(k)fluoranthene	U		0.0027	0.052	mg/Kg-dry	1	3/20/2018 01:03
Chrysene	U		0.0020	0.052	mg/Kg-dry	1	3/20/2018 01:03
Dibenzo(a,h)anthracene	U		0.0017	0.052	mg/Kg-dry	1	3/20/2018 01:03

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

# ALS Group, USA

Date: 22-Mar-18

**Client:** Entrada Consulting Group  
**Project:** Bruton 19-06 Cuttings  
**Sample ID:** Bruton 19-06 CS1  
**Collection Date:** 3/12/2018 03:25 PM

**Work Order:** 1803876  
**Lab ID:** 1803876-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	U		0.0015	0.052	mg/Kg-dry	1	3/20/2018 01:03
Fluorene	U		0.0017	0.052	mg/Kg-dry	1	3/20/2018 01:03
Indeno(1,2,3-cd)pyrene	U		0.0016	0.052	mg/Kg-dry	1	3/20/2018 01:03
<b>Naphthalene</b>	<b>0.13</b>		<b>0.0097</b>	<b>0.052</b>	<b>mg/Kg-dry</b>	1	3/20/2018 01:03
Pyrene	U		0.0019	0.052	mg/Kg-dry	1	3/20/2018 01:03
Surr: 2-Fluorobiphenyl	76.7			20-140	%REC	1	3/20/2018 01:03
Surr: 4-Terphenyl-d14	74.2			22-172	%REC	1	3/20/2018 01:03
Surr: Nitrobenzene-d5	106			28-140	%REC	1	3/20/2018 01:03
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260B</b>		Prep: SW5035 / 3/16/18		Analyst: <b>AK</b>
<b>Benzene</b>	<b>0.13</b>		<b>0.0077</b>	<b>0.045</b>	<b>mg/Kg</b>	1	3/16/2018 21:53
<b>Ethylbenzene</b>	<b>0.038</b>	J	<b>0.0095</b>	<b>0.045</b>	<b>mg/Kg</b>	1	3/16/2018 21:53
<b>m,p-Xylene</b>	<b>0.45</b>		<b>0.021</b>	<b>0.090</b>	<b>mg/Kg</b>	1	3/16/2018 21:53
<b>o-Xylene</b>	<b>0.059</b>		<b>0.017</b>	<b>0.045</b>	<b>mg/Kg</b>	1	3/16/2018 21:53
<b>Toluene</b>	<b>0.51</b>		<b>0.012</b>	<b>0.045</b>	<b>mg/Kg</b>	1	3/16/2018 21:53
<b>Xylenes, Total</b>	<b>0.51</b>		<b>0.039</b>	<b>0.14</b>	<b>mg/Kg</b>	1	3/16/2018 21:53
Surr: 1,2-Dichloroethane-d4	104			70-130	%REC	1	3/16/2018 21:53
Surr: 4-Bromofluorobenzene	98.6			70-130	%REC	1	3/16/2018 21:53
Surr: Dibromofluoromethane	85.2			70-130	%REC	1	3/16/2018 21:53
Surr: Toluene-d8	98.8			70-130	%REC	1	3/16/2018 21:53
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 3/20/18		Analyst: <b>ED</b>
<b>Electrical Conductivity @ Saturation</b>	<b>3.3</b>		<b>0.011</b>	<b>0.10</b>	<b>mmhos/cm @25°</b>	20	3/20/2018 13:30
<b>CHROMIUM, TRIVALENT</b>			Method: <b>CALCULATION</b>				Analyst: <b>RP</b>
<b>Chromium, Trivalent</b>	<b>17</b>		<b>0.39</b>	<b>1.3</b>	<b>mg/Kg-dry</b>	1	3/20/2018 14:00
<b>CHROMIUM, HEXAVALENT</b>			Method: <b>SW7196A</b>		Prep: SW3060A / 3/19/18		Analyst: <b>RP</b>
<b>Chromium, Hexavalent</b>	<b>0.57</b>	J	<b>0.39</b>	<b>1.3</b>	<b>mg/Kg-dry</b>	1	3/20/2018 10:30
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>BTG</b>
<b>Moisture</b>	<b>20</b>		<b>0.025</b>	<b>0.050</b>	<b>% of sample</b>	1	3/19/2018 14:00
<b>PH</b>			Method: <b>SW9045D</b>		Prep: EXTRACT / 3/15/18		Analyst: <b>RZM</b>
<b>pH</b>	<b>8.48</b>		<b>0.10</b>	<b>0.100</b>	<b>s.u.</b>	1	3/16/2018 14:30

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

# ALS Group, USA

Date: 22-Mar-18

**Client:** Entrada Consulting Group  
**Project:** Bruton 19-06 Cuttings  
**Sample ID:** Bruton 19-06 CS2  
**Collection Date:** 3/12/2018 03:35 PM

**Work Order:** 1803876  
**Lab ID:** 1803876-02  
**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 / 3/19/18		Analyst: <b>MEB</b>
<b>DRO (C10-C28)</b>	<b>130</b>		<b>3.6</b>	<b>6.3</b>	<b>mg/Kg-dry</b>	1	3/20/2018 18:54
Surr: 4-Terphenyl-d14	62.1			34-130	%REC	1	3/20/2018 18:54
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW5035 / 3/16/18		Analyst: <b>MEB</b>
<b>GRO (C6-C10)</b>	<b>19</b>		<b>3.2</b>	<b>7.7</b>	<b>mg/Kg</b>	1	3/16/2018 21:32
Surr: Toluene-d8	94.3			71-123	%REC	1	3/16/2018 21:32
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>		Prep: SW7471 / 3/20/18		Analyst: <b>RSB</b>
<b>Mercury</b>	<b>0.044</b>		<b>0.0020</b>	<b>0.020</b>	<b>mg/Kg-dry</b>	1	3/20/2018 14:51
<b>METALS ANALYSIS BY ICP</b>							
			Method: <b>SW846 6010C</b>		Prep: SW3050B / 3/19/18		Analyst: <b>HBA</b>
<b>Arsenic</b>	<b>4.1</b>		<b>0.12</b>	<b>0.45</b>	<b>mg/Kg-dry</b>	1	3/20/2018 05:57
<b>Barium</b>	<b>3,600</b>		<b>0.18</b>	<b>0.45</b>	<b>mg/Kg-dry</b>	1	3/20/2018 05:57
Cadmium	U		0.043	0.90	mg/Kg-dry	1	3/20/2018 05:57
<b>Chromium</b>	<b>17</b>		<b>0.025</b>	<b>0.45</b>	<b>mg/Kg-dry</b>	1	3/20/2018 05:57
<b>Copper</b>	<b>26</b>		<b>0.20</b>	<b>0.90</b>	<b>mg/Kg-dry</b>	1	3/20/2018 05:57
<b>Lead</b>	<b>8.8</b>		<b>0.095</b>	<b>0.45</b>	<b>mg/Kg-dry</b>	1	3/20/2018 05:57
<b>Nickel</b>	<b>15</b>		<b>0.18</b>	<b>0.45</b>	<b>mg/Kg-dry</b>	1	3/20/2018 05:57
<b>Selenium</b>	<b>1.5</b>		<b>0.25</b>	<b>0.90</b>	<b>mg/Kg-dry</b>	1	3/20/2018 05:57
Silver	U		0.056	0.45	mg/Kg-dry	1	3/20/2018 05:57
<b>Zinc</b>	<b>55</b>		<b>0.072</b>	<b>0.90</b>	<b>mg/Kg-dry</b>	1	3/20/2018 05:57
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6020A</b>		Prep: USDA Method 20B / 3/20/18		Analyst: <b>JF</b>
<b>Calcium</b>	<b>140</b>		<b>0.86</b>	<b>5.0</b>	<b>mg/L</b>	10	3/20/2018 15:55
<b>Magnesium</b>	<b>4.5</b>		<b>0.068</b>	<b>2.0</b>	<b>mg/L</b>	10	3/20/2018 15:55
<b>Sodium</b>	<b>600</b>		<b>0.34</b>	<b>2.0</b>	<b>mg/L</b>	10	3/20/2018 15:55
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 3/20/18		Analyst: <b>JF</b>
<b>Exchangeable Sodium Percentage</b>	<b>16</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	3/20/2018
<b>Sodium Adsorption Ratio</b>	<b>14</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	3/20/2018
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
			Method: <b>SW846 8270D</b>		Prep: SW3546 / 3/19/18		Analyst: <b>RM</b>
Acenaphthene	U		0.0037	0.052	mg/Kg-dry	1	3/20/2018 01:16
Anthracene	U		0.0019	0.052	mg/Kg-dry	1	3/20/2018 01:16
Benzo(a)anthracene	U		0.0032	0.052	mg/Kg-dry	1	3/20/2018 01:16
Benzo(a)pyrene	U		0.0013	0.052	mg/Kg-dry	1	3/20/2018 01:16
Benzo(b)fluoranthene	U		0.0020	0.052	mg/Kg-dry	1	3/20/2018 01:16
Benzo(k)fluoranthene	U		0.0027	0.052	mg/Kg-dry	1	3/20/2018 01:16
Chrysene	U		0.0020	0.052	mg/Kg-dry	1	3/20/2018 01:16
Dibenzo(a,h)anthracene	U		0.0017	0.052	mg/Kg-dry	1	3/20/2018 01:16

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

# ALS Group, USA

Date: 22-Mar-18

**Client:** Entrada Consulting Group  
**Project:** Bruton 19-06 Cuttings  
**Sample ID:** Bruton 19-06 CS2  
**Collection Date:** 3/12/2018 03:35 PM

**Work Order:** 1803876  
**Lab ID:** 1803876-02  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Fluoranthene	U		0.0015	0.052	mg/Kg-dry	1	3/20/2018 01:16
Fluorene	U		0.0017	0.052	mg/Kg-dry	1	3/20/2018 01:16
Indeno(1,2,3-cd)pyrene	U		0.0016	0.052	mg/Kg-dry	1	3/20/2018 01:16
<b>Naphthalene</b>	<b>0.22</b>		<b>0.0098</b>	<b>0.052</b>	<b>mg/Kg-dry</b>	1	3/20/2018 01:16
Pyrene	U		0.0019	0.052	mg/Kg-dry	1	3/20/2018 01:16
Surr: 2-Fluorobiphenyl	75.6			20-140	%REC	1	3/20/2018 01:16
Surr: 4-Terphenyl-d14	77.5			22-172	%REC	1	3/20/2018 01:16
Surr: Nitrobenzene-d5	92.3			28-140	%REC	1	3/20/2018 01:16
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260B</b>		Prep: SW5035 / 3/16/18		Analyst: <b>AK</b>
<b>Benzene</b>	<b>0.12</b>		<b>0.0079</b>	<b>0.046</b>	<b>mg/Kg</b>	1	3/16/2018 22:08
<b>Ethylbenzene</b>	<b>0.035</b>	J	<b>0.0097</b>	<b>0.046</b>	<b>mg/Kg</b>	1	3/16/2018 22:08
<b>m,p-Xylene</b>	<b>0.43</b>		<b>0.022</b>	<b>0.092</b>	<b>mg/Kg</b>	1	3/16/2018 22:08
<b>o-Xylene</b>	<b>0.064</b>		<b>0.018</b>	<b>0.046</b>	<b>mg/Kg</b>	1	3/16/2018 22:08
<b>Toluene</b>	<b>0.49</b>		<b>0.013</b>	<b>0.046</b>	<b>mg/Kg</b>	1	3/16/2018 22:08
<b>Xylenes, Total</b>	<b>0.49</b>		<b>0.040</b>	<b>0.14</b>	<b>mg/Kg</b>	1	3/16/2018 22:08
Surr: 1,2-Dichloroethane-d4	102			70-130	%REC	1	3/16/2018 22:08
Surr: 4-Bromofluorobenzene	98.4			70-130	%REC	1	3/16/2018 22:08
Surr: Dibromofluoromethane	84.2			70-130	%REC	1	3/16/2018 22:08
Surr: Toluene-d8	100			70-130	%REC	1	3/16/2018 22:08
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 3/20/18		Analyst: <b>ED</b>
<b>Electrical Conductivity @ Saturation</b>	<b>4.2</b>		<b>0.011</b>	<b>0.10</b>	<b>mmhos/cm @25°</b>	20	3/20/2018 13:30
<b>CHROMIUM, TRIVALENT</b>			Method: <b>CALCULATION</b>				Analyst: <b>RP</b>
<b>Chromium, Trivalent</b>	<b>17</b>		<b>0.39</b>	<b>1.3</b>	<b>mg/Kg-dry</b>	1	3/20/2018 14:00
<b>CHROMIUM, HEXAVALENT</b>			Method: <b>SW7196A</b>		Prep: SW3060A / 3/19/18		Analyst: <b>RP</b>
<b>Chromium, Hexavalent</b>	U		0.36	1.2	mg/Kg-dry	1	3/20/2018 10:30
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>BTG</b>
<b>Moisture</b>	<b>21</b>		<b>0.025</b>	<b>0.050</b>	<b>% of sample</b>	1	3/19/2018 14:00
<b>PH</b>			Method: <b>SW9045D</b>		Prep: EXTRACT / 3/15/18		Analyst: <b>RZM</b>
<b>pH</b>	<b>8.45</b>		<b>0.10</b>	<b>0.100</b>	<b>s.u.</b>	1	3/16/2018 14:30

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

**Client:** Entrada Consulting Group  
**Work Order:** 1803876  
**Project:** Bruton 19-06 Cuttings

**QC BATCH REPORT**

Batch ID: **115588** Instrument ID **GC8** Method: **SW8015C**

<b>MBLK</b>		Sample ID: <b>DBLKS1-115588-115588</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/20/2018 03:01 PM</b>		
Client ID:		Run ID: <b>GC8_180320A</b>				SeqNo: <b>4942663</b>		Prep Date: <b>3/19/2018</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								
Surr: 4-Terphenyl-d14	2.3	0	3.33	0	69.1	34-130		0		

<b>LCS</b>		Sample ID: <b>DLCSS1-115588-115588</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/20/2018 03:30 PM</b>		
Client ID:		Run ID: <b>GC8_180320A</b>				SeqNo: <b>4942664</b>		Prep Date: <b>3/19/2018</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)	281	5.0	333	0	84.4	65-122		0		
Surr: 4-Terphenyl-d14	1.7	0	3.33	0	51.1	34-130		0		

<b>MS</b>		Sample ID: <b>1803877-01A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/20/2018 04:28 PM</b>		
Client ID:		Run ID: <b>GC8_180320A</b>				SeqNo: <b>4942666</b>		Prep Date: <b>3/19/2018</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)	255.5	4.7	313.3	13.95	77.1	65-122		0		
Surr: 4-Terphenyl-d14	2.368	0	3.133	0	75.6	34-130		0		

<b>MSD</b>		Sample ID: <b>1803877-01A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/20/2018 04:57 PM</b>		
Client ID:		Run ID: <b>GC8_180320A</b>				SeqNo: <b>4942667</b>		Prep Date: <b>3/19/2018</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)	289.6	4.9	324.5	13.95	84.9	65-122	255.5	12.5	30	
Surr: 4-Terphenyl-d14	1.754	0	3.245	0	54.1	34-130	2.368	29.8	30	

The following samples were analyzed in this batch:

1803876-01A	1803876-02A
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**Client:** Entrada Consulting Group  
**Work Order:** 1803876  
**Project:** Bruton 19-06 Cuttings

## QC BATCH REPORT

Batch ID: **115550** Instrument ID **GC10** Method: **SW8015D**

<b>MBLK</b>		Sample ID: <b>MBLK-115550-115550</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>3/16/2018 06:55 PM</b>		
Client ID:		Run ID: <b>GC10_180316B</b>				SeqNo: <b>4938906</b>		Prep Date: <b>3/16/2018</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>	4820	0	5000	0	96.4	71-123	0			

<b>LCS</b>		Sample ID: <b>LCS-115550-115550</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>3/16/2018 06:03 PM</b>		
Client ID:		Run ID: <b>GC10_180316B</b>				SeqNo: <b>4938905</b>		Prep Date: <b>3/16/2018</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)	439600	5,000	500000	0	87.9	71-123	0			
<i>Surr: Toluene-d8</i>	4774	0	5000	0	95.5	71-123	0			

<b>MS</b>		Sample ID: <b>1803875-01A MS</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>3/16/2018 11:42 PM</b>		
Client ID:		Run ID: <b>GC10_180316B</b>				SeqNo: <b>4938914</b>		Prep Date: <b>3/16/2018</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)	728000	7,000	704800	23890	99.9	71-123	0			
<i>Surr: Toluene-d8</i>	6873	0	7048	0	97.5	71-123	0			

<b>MSD</b>		Sample ID: <b>1803875-01A MSD</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>3/17/2018 12:08 PM</b>		
Client ID:		Run ID: <b>GC10_180316B</b>				SeqNo: <b>4938915</b>		Prep Date: <b>3/16/2018</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)	645200	7,000	704800	23890	88.2	71-123	728000	12.1	30	
<i>Surr: Toluene-d8</i>	6821	0	7048	0	96.8	71-123	6873	0.762	30	

The following samples were analyzed in this batch:

1803876-01A	1803876-02A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Entrada Consulting Group  
 Work Order: 1803876  
 Project: Bruton 19-06 Cuttings

## QC BATCH REPORT

Batch ID: **115652** Instrument ID **HG1** Method: **SW7471B**

MBLK				Sample ID: MBLK-115652-115652				Units: mg/Kg			Analysis Date: 3/20/2018 02:25 PM			
Client ID:				Run ID: HG1_180320A				SeqNo: 4941930			Prep Date: 3/20/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Mercury	0.00525	0.020								J				

LCS				Sample ID: LCS-115652-115652				Units: mg/Kg			Analysis Date: 3/20/2018 02:28 PM		
Client ID:			Run ID: HG1_180320A				SeqNo: 4941932			Prep Date: 3/20/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Mercury	0.1892	0.020	0.1665	0	114	80-120	0						

MS				Sample ID: 1803876-02AMS			Units: mg/Kg		Analysis Date: 3/20/2018 02:53 PM		
Client ID: Bruton 19-06 CS2			Run ID: HG1_180320A			SeqNo: 4941954		Prep Date: 3/20/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Mercury	0.1629	0.016	0.1339	0.03523	95.3	75-125		0			

MSD		Sample ID: 1803876-02AMSD				Units: mg/Kg		Analysis Date: 3/20/2018 02:56 PM		
Client ID: Bruton 19-06 CS2		Run ID: HG1_180320A				SeqNo: 4941956		Prep Date: 3/20/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1549	0.016	0.1334	0.03523	89.7	75-125	0.1629	5.03	35	

The following samples were analyzed in this batch:

1803876-01A 1803876-02A

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

**Client:** Entrada Consulting Group  
**Work Order:** 1803876  
**Project:** Bruton 19-06 Cuttings

# QC BATCH REPORT

Batch ID: **115585** Instrument ID **ICP2** Method: **SW846 6010C**

Sample ID: MBLK-115585-115585				Units: mg/Kg			Analysis Date: 3/20/2018 04:11 AM			
Client ID:		Run ID: ICP2_180319B			SeqNo: 4940474		Prep Date: 3/19/2018		DF: 1	
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	U	0.50								
Chromium	0.0347	0.25								J
Copper	U	0.50								
Lead	U	0.25								
Nickel	U	0.25								
Selenium	U	0.50								
Silver	U	0.25								
Zinc	U	0.50								

LCS				Sample ID: LCS-115585-115585				Units: mg/Kg			Analysis Date: 3/20/2018 04:18 AM		
Client ID:			Run ID: ICP2_180319B				SeqNo: 4940475			Prep Date: 3/19/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Arsenic	4.69	0.25	5	0	93.8	80-120	0						
Barium	5.054	0.25	5	0	101	80-120	0						
Cadmium	4.975	0.50	5	0	99.5	80-120	0						
Chromium	5.195	0.25	5	0	104	80-120	0						
Copper	5.23	0.50	5	0	105	80-120	0						
Lead	5.028	0.25	5	0	101	80-120	0						
Nickel	5.051	0.25	5	0	101	80-120	0						
Selenium	4.778	0.50	5	0	95.6	80-120	0						
Silver	5.012	0.25	5	0	100	80-120	0						
Zinc	4.9	0.50	5	0	98	80-120	0						

MS				Sample ID: 1803850-01AMS			Units: mg/Kg		Analysis Date: 3/20/2018 05:25 AM		
Client ID:			Run ID: ICP2_180319B			SeqNo: 4940486		Prep Date: 3/19/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	12.49	0.39	7.849	5.836	84.7	75-125	0				
Barium	323.6	0.39	7.849	278.7	573	75-125	0			SO	
Cadmium	7.221	0.78	7.849	0.3864	87.1	75-125	0				
Chromium	22.83	0.39	7.849	10.46	158	75-125	0			S	
Copper	23.73	0.78	7.849	14.64	116	75-125	0				
Lead	19.43	0.39	7.849	12.06	93.9	75-125	0				
Nickel	22.83	0.39	7.849	15.69	90.9	75-125	0				
Selenium	8.431	0.78	7.849	1.498	88.3	75-125	0				
Silver	7.98	0.39	7.849	-0.1751	104	75-125	0				
Zinc	74.13	0.78	7.849	61.58	160	75-125	0			SO	

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

**Client:** Entrada Consulting Group  
**Work Order:** 1803876  
**Project:** Bruton 19-06 Cuttings

## QC BATCH REPORT

Batch ID: **115585** Instrument ID **ICP2** Method: **SW846 6010C**

MSD		Sample ID: <b>1803850-01AMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/20/2018 05:31 AM</b>		
Client ID:		Run ID: <b>ICP2_180319B</b>				SeqNo: <b>4940487</b>		Prep Date: <b>3/19/2018</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	12.35	0.39	7.886	5.836	82.6	75-125	12.49	1.13	20	
Barium	304	0.39	7.886	278.7	320	75-125	323.6	6.27	20	SO
Cadmium	7.453	0.79	7.886	0.3864	89.6	75-125	7.221	3.15	20	
Chromium	22.63	0.39	7.886	10.46	154	75-125	22.83	0.864	20	S
Copper	23.03	0.79	7.886	14.64	106	75-125	23.73	2.98	20	
Lead	17.4	0.39	7.886	12.06	67.7	75-125	19.43	11	20	S
Nickel	23.21	0.39	7.886	15.69	95.3	75-125	22.83	1.65	20	
Selenium	8.316	0.79	7.886	1.498	86.4	75-125	8.431	1.38	20	
Silver	8.108	0.39	7.886	-0.1751	105	75-125	7.98	1.6	20	
Zinc	74.22	0.79	7.886	61.58	160	75-125	74.13	0.13	20	SO

The following samples were analyzed in this batch:

1803876-01A 1803876-02A

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

**Client:** Entrada Consulting Group  
**Work Order:** 1803876  
**Project:** Bruton 19-06 Cuttings

## QC BATCH REPORT

Batch ID: **115644** Instrument ID **ICPMS3** Method: **SW6020A**

<b>DUP</b>		Sample ID: <b>1803876-02BDUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>3/20/2018 03:56 PM</b>		
Client ID: <b>Bruton 19-06 CS2</b>		Run ID: <b>ICPMS3_180320B</b>				SeqNo: <b>4942413</b>		Prep Date: <b>3/20/2018</b>		DF: <b>10</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	130.1	5.0	0	0	0	0-0	136.1	4.45		
Magnesium	4.317	2.0	0	0	0	0-0	4.457	3.19		
Sodium	594.2	2.0	0	0	0	0-0	604.5	1.71		

The following samples were analyzed in this batch:

1803876-01B 1803876-02B

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

**Client:** Entrada Consulting Group  
**Work Order:** 1803876  
**Project:** Bruton 19-06 Cuttings

## QC BATCH REPORT

Batch ID: **115587** Instrument ID **SVMS6** Method: **SW846 8270D**

MBLK		Sample ID: <b>SBLKS1-115587-115587</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>3/19/2018 07:41 PM</b>		
Client ID:		Run ID: <b>SVMS6_180319A</b>				SeqNo: <b>4942015</b>		Prep Date: <b>3/19/2018</b>		DF: <b>1</b>
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								
<i>Surr: 2-Fluorobiphenyl</i>	2406	0	3333	0	72.2	20-140	0			
<i>Surr: 4-Terphenyl-d14</i>	2534	0	3333	0	76	22-172	0			
<i>Surr: Nitrobenzene-d5</i>	2894	0	3333	0	86.8	28-140	0			

LCS		Sample ID: <b>SLCSS1-115587-115587</b>				Units: <b>µg/Kg</b>		Analysis Date: <b>3/19/2018 07:54 PM</b>		
Client ID:		Run ID: <b>SVMS6_180319A</b>				SeqNo: <b>4942017</b>		Prep Date: <b>3/19/2018</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1034	42	1333	0	77.5	40-140	0			
Anthracene	1235	42	1333	0	92.6	40-140	0			
Benzo(a)anthracene	1122	42	1333	0	84.2	40-140	0			
Benzo(a)pyrene	1207	42	1333	0	90.5	40-140	0			
Benzo(b)fluoranthene	943.1	42	1333	0	70.8	40-140	0			
Benzo(k)fluoranthene	1165	42	1333	0	87.4	40-140	0			
Chrysene	1158	42	1333	0	86.9	40-140	0			
Dibenzo(a,h)anthracene	1304	42	1333	0	97.8	40-140	0			
Fluoranthene	1194	42	1333	0	89.6	40-140	0			
Fluorene	1061	42	1333	0	79.6	40-140	0			
Indeno(1,2,3-cd)pyrene	1170	42	1333	0	87.8	40-140	0			
Naphthalene	1115	42	1333	0	83.6	40-140	0			
Pyrene	1140	42	1333	0	85.5	40-140	0			
<i>Surr: 2-Fluorobiphenyl</i>	2516	0	3333	0	75.5	20-140	0			
<i>Surr: 4-Terphenyl-d14</i>	2642	0	3333	0	79.3	22-172	0			
<i>Surr: Nitrobenzene-d5</i>	3182	0	3333	0	95.5	28-140	0			

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

**Client:** Entrada Consulting Group  
**Work Order:** 1803876  
**Project:** Bruton 19-06 Cuttings

## QC BATCH REPORT

Batch ID: **115587**      Instrument ID **SVMS6**      Method: **SW846 8270D**

MS				Sample ID: <b>1803877-01A MS</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>3/19/2018 08:08 PM</b>	
Client ID:				Run ID: <b>SVMS6_180319A</b>			SeqNo: <b>4942018</b>		Prep Date: <b>3/19/2018</b>	
									DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	949.8	41	1309	0	72.5	40-140	0			
Anthracene	1059	41	1309	0	80.9	40-140	0			
Benzo(a)anthracene	983.4	41	1309	0	75.1	40-140	0			
Benzo(a)pyrene	1030	41	1309	0	78.7	40-140	0			
Benzo(b)fluoranthene	814.9	41	1309	0	62.2	40-140	0			
Benzo(k)fluoranthene	1008	41	1309	0	77	40-140	0			
Chrysene	1033	41	1309	0	78.9	40-140	0			
Dibenzo(a,h)anthracene	1216	41	1309	0	92.9	40-140	0			
Fluoranthene	1016	41	1309	0	77.6	40-140	0			
Fluorene	1017	41	1309	0	77.7	40-140	0			
Indeno(1,2,3-cd)pyrene	1154	41	1309	0	88.1	40-140	0			
Naphthalene	1231	41	1309	100.4	86.4	40-140	0			
Pyrene	989.8	41	1309	0	75.6	40-140	0			
Surr: 2-Fluorobiphenyl	2293	0	3274	0	70	20-140	0			
Surr: 4-Terphenyl-d14	2272	0	3274	0	69.4	22-172	0			
Surr: Nitrobenzene-d5	3654	0	3274	0	112	28-140	0			

MSD				Sample ID: <b>1803877-01A MSD</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>3/19/2018 08:21 PM</b>	
Client ID:				Run ID: <b>SVMS6_180319A</b>			SeqNo: <b>4942019</b>		Prep Date: <b>3/19/2018</b>	
									DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	977	40	1294	0	75.5	40-140	949.8	2.82	30	
Anthracene	1040	40	1294	0	80.4	40-140	1059	1.78	30	
Benzo(a)anthracene	1024	40	1294	0	79.1	40-140	983.4	4.02	30	
Benzo(a)pyrene	1024	40	1294	0	79.1	40-140	1030	0.605	30	
Benzo(b)fluoranthene	916.6	40	1294	0	70.9	40-140	814.9	11.8	30	
Benzo(k)fluoranthene	948.4	40	1294	0	73.3	40-140	1008	6.1	30	
Chrysene	1067	40	1294	0	82.5	40-140	1033	3.28	30	
Dibenzo(a,h)anthracene	1256	40	1294	0	97.1	40-140	1216	3.22	30	
Fluoranthene	1066	40	1294	0	82.4	40-140	1016	4.78	30	
Fluorene	1054	40	1294	0	81.4	40-140	1017	3.49	30	
Indeno(1,2,3-cd)pyrene	1183	40	1294	0	91.4	40-140	1154	2.49	30	
Naphthalene	1047	40	1294	100.4	73.2	40-140	1231	16.1	30	
Pyrene	1039	40	1294	0	80.3	40-140	989.8	4.89	30	
Surr: 2-Fluorobiphenyl	2280	0	3235	0	70.5	20-140	2293	0.571	0	
Surr: 4-Terphenyl-d14	2405	0	3235	0	74.4	22-172	2272	5.68	0	
Surr: Nitrobenzene-d5	3136	0	3235	0	96.9	28-140	3654	15.3	0	

The following samples were analyzed in this batch:

1803876-01A      1803876-02A

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

**Client:** Entrada Consulting Group  
**Work Order:** 1803876  
**Project:** Bruton 19-06 Cuttings

## QC BATCH REPORT

Batch ID: **115549** Instrument ID **VMS7** Method: **SW8260B**

MBLK				Sample ID: MBLK-115549-115549				Units: µg/Kg-dry			Analysis Date: 3/19/2018 12:25 PM		
Client ID:			Run ID: VMS7_180319A				SeqNo: 4940633		Prep Date: 3/16/2018		DF: 1		
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	1011	0	1000	0	101	70-130		0					
Surr: 4-Bromofluorobenzene	984.5	0	1000	0	98.4	70-130		0					
Surr: Dibromofluoromethane	952.5	0	1000	0	95.2	70-130		0					
Surr: Toluene-d8	933	0	1000	0	93.3	70-130		0					

LCS				Sample ID: LCS-115549-115549			Units: µg/Kg-dry		Analysis Date: 3/19/2018 11:22 AM		
Client ID:			Run ID: VMS7_180319A			SeqNo: 4940629		Prep Date: 3/16/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1037	30	1000	0	104	75-125	0				
Ethylbenzene	1070	30	1000	0	107	75-125	0				
m,p-Xylene	2182	60	2000	0	109	80-125	0				
o-Xylene	1108	30	1000	0	111	75-125	0				
Toluene	1095	30	1000	0	110	70-125	0				
Xylenes, Total	3289	90	3000	0	110	75-125	0				
Surr: 1,2-Dichloroethane-d4	966.5	0	1000	0	96.6	70-130	0				
Surr: 4-Bromofluorobenzene	1016	0	1000	0	102	70-130	0				
Surr: Dibromofluoromethane	1012	0	1000	0	101	70-130	0				
Surr: Toluene-d8	984	0	1000	0	98.4	70-130	0				

MS				Sample ID: 1803875-01A MS		Units: µg/Kg-dry		Analysis Date: 3/19/2018 08:20 PM		
Client ID:			Run ID: VMS7_180319A		SeqNo: 4940643		Prep Date: 3/16/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1323	30	1000	288	104	75-125		0		
Ethylbenzene	1324	30	1000	152	117	75-125		0		
m,p-Xylene	4745	60	2000	2572	109	80-125		0		
o-Xylene	1403	30	1000	242.5	116	75-125		0		
Toluene	2996	30	1000	2167	83	70-125		0		
Xylenes, Total	6148	90	3000	2814	111	75-125		0		
Surr: 1,2-Dichloroethane-d4	951	0	1000	0	95.1	70-130		0		
Surr: 4-Bromofluorobenzene	1007	0	1000	0	101	70-130		0		
Surr: Dibromofluoromethane	963	0	1000	0	96.3	70-130		0		
Surr: Toluene-d8	975	0	1000	0	97.5	70-130		0		

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



**Client:** Entrada Consulting Group  
**Work Order:** 1803876  
**Project:** Bruton 19-06 Cuttings

## QC BATCH REPORT

Batch ID: **115549** Instrument ID **VMS7** Method: **SW8260B**

MSD				Sample ID: <b>1803875-01A MSD</b>			Units: <b>µg/Kg-dry</b>		Analysis Date: <b>3/19/2018 08:41 PM</b>	
Client ID:				Run ID: <b>VMS7_180319A</b>			SeqNo: <b>4940645</b>		Prep Date: <b>3/16/2018</b>	
									DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1336	30	1000	288	105	75-125	1323	0.94	30	
Ethylbenzene	1280	30	1000	152	113	75-125	1324	3.38	30	
m,p-Xylene	4480	60	2000	2572	95.4	80-125	4745	5.73	30	
o-Xylene	1392	30	1000	242.5	115	75-125	1403	0.823	30	
Toluene	2716	30	1000	2167	54.9	70-125	2996	9.82	30	S
Xylenes, Total	5872	90	3000	2814	102	75-125	6148	4.59	30	
Surr: 1,2-Dichloroethane-d4	972	0	1000	0	97.2	70-130	951	2.18	30	
Surr: 4-Bromofluorobenzene	1006	0	1000	0	101	70-130	1007	0.0994	30	
Surr: Dibromofluoromethane	972.5	0	1000	0	97.2	70-130	963	0.982	30	
Surr: Toluene-d8	971	0	1000	0	97.1	70-130	975	0.411	30	

The following samples were analyzed in this batch:

1803876-01A	1803876-02A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Entrada Consulting Group  
**Work Order:** 1803876  
**Project:** Bruton 19-06 Cuttings

## QC BATCH REPORT

Batch ID: **115500** Instrument ID **WETCHEM** Method: **SW9045D**

LCS				Sample ID: LCS-115500-115500				Units: s.u.			Analysis Date: 3/16/2018 02:30 PM			
Client ID:				Run ID: WETCHEM_180316C				SeqNo: 4937503			Prep Date: 3/15/2018		DF: 1	
Analyte		Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		

pH	3.93	0.10	4	0	98.2	90-110	0			
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DUP		Sample ID: 1803834-03A DUP				Units: s.u.		Analysis Date: 3/16/2018 02:30 PM		
Client ID:		Run ID: WETCHEM_180316C				SeqNo: 4937507		Prep Date: 3/15/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

pH	5.52	0.10	0	0	0	0-0	5.49	0.545	20	
----	------	------	---	---	---	-----	------	-------	----	--

DUP		Sample ID: 1803878-02A DUP					Units: s.u.		Analysis Date: 3/16/2018 02:30 PM		
Client ID:			Run ID: WETCHEM_180316C			SeqNo: 4937518		Prep Date: 3/15/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

pH	8.68	0.10	0	0	0	0-0	8.95	3.06	20	
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The following samples were analyzed in this batch:

1803876-01A	1803876-02A
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Entrada Consulting Group  
**Work Order:** 1803876  
**Project:** Bruton 19-06 Cuttings

## QC BATCH REPORT

Batch ID: **115599** Instrument ID **WETCHEM** Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-115599-115599</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/20/2018 10:30 AM</b>		
Client ID:		Run ID: <b>WETCHEM_180320A</b>				SeqNo: <b>4940808</b>		Prep Date: <b>3/19/2018</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 0.97

<b>LCS</b>		Sample ID: <b>LCS-115599-115599</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/20/2018 10:30 AM</b>		
Client ID:		Run ID: <b>WETCHEM_180320A</b>				SeqNo: <b>4940809</b>		Prep Date: <b>3/19/2018</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 5.02 0.99 4.95 0 101 80-120 0

<b>MS</b>		Sample ID: <b>1803875-01A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/20/2018 10:30 AM</b>		
Client ID:		Run ID: <b>WETCHEM_180320A</b>				SeqNo: <b>4940812</b>		Prep Date: <b>3/19/2018</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 3.876 0.95 4.762 0.57 69.4 75-125 0 S

<b>MS</b>		Sample ID: <b>1803875-01A MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/20/2018 10:30 AM</b>		
Client ID:		Run ID: <b>WETCHEM_180320A</b>				SeqNo: <b>4940814</b>		Prep Date: <b>3/19/2018</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 1430 93 1623 0.57 88 75-125 0

<b>MSD</b>		Sample ID: <b>1803875-01A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>3/20/2018 10:30 AM</b>		
Client ID:		Run ID: <b>WETCHEM_180320A</b>				SeqNo: <b>4940813</b>		Prep Date: <b>3/19/2018</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 3.876 0.95 4.762 0.57 69.4 75-125 3.876 0 20 S

The following samples were analyzed in this batch:

1803876-01A 1803876-02A

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

**Client:** Entrada Consulting Group  
**Work Order:** 1803876  
**Project:** Bruton 19-06 Cuttings

## QC BATCH REPORT

Batch ID: **115644** Instrument ID **Titration 1** Method: **USDA H60 Metho**

<b>DUP</b>		Sample ID: <b>1803876-02BDUP</b>				Units: <b>mmhos/cm @25°</b>		Analysis Date: <b>3/20/2018 01:30 PM</b>		
Client ID: <b>Bruton 19-06 CS2</b>			Run ID: <b>TITRATOR 1_180320A</b>		SeqNo: <b>4941355</b>		Prep Date: <b>3/20/2018</b>		DF: <b>20</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	3.862	0.10	0	0	0		4.164	7.51	50	

The following samples were analyzed in this batch:

1803876-01B	1803876-02B
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**Note:** See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Entrada Consulting Group  
**Work Order:** 1803876  
**Project:** Bruton 19-06 Cuttings

## QC BATCH REPORT

Batch ID: **R231993** Instrument ID **MOIST** Method: **SW3550C**

<b>MBLK</b>		Sample ID: <b>WBLKS-R231993</b>				Units: % of sample		Analysis Date: <b>3/19/2018 02:00 PM</b>		
Client ID:		Run ID: <b>MOIST_180319B</b>				SeqNo: <b>4940538</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-R231993</b>				Units: % of sample		Analysis Date: <b>3/19/2018 02:00 PM</b>		
Client ID:		Run ID: <b>MOIST_180319B</b>				SeqNo: <b>4940536</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>1803842-17B DUP</b>				Units: % of sample		Analysis Date: <b>3/19/2018 02:00 PM</b>		
Client ID:		Run ID: <b>MOIST_180319B</b>				SeqNo: <b>4940514</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 16.29 0.050 0 0 0 0-0 15.33 6.07 10

<b>DUP</b>		Sample ID: <b>1803875-01A DUP</b>				Units: % of sample		Analysis Date: <b>3/19/2018 02:00 PM</b>		
Client ID:		Run ID: <b>MOIST_180319B</b>				SeqNo: <b>4940525</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 18.48 0.050 0 0 0 0-0 16.62 10.6 10 R

The following samples were analyzed in this batch:

1803876-01A 1803876-02A

**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

☐ Everett, WA  
+1 425 356 2600

☐ Fort Collins, CO  
+1 970 490 1511

☒ Holland, MI  
+1 616 399 6070

☐ Houston, TX  
+1 281 530 5656

☐ Middletown, PA  
+1 717 944 5541

☐ Salt Lake City, UT  
+1 801 266 7700

☐ Spring City, PA  
+1 610 948 4903

☐ York, PA  
+1 717 505 5280

ALS Project Manager:

Work Order #:

1803876

Customer Information		Project Information					Parameter/Method Request for Analysis											
Purchase Order		Project Name	Bruton 19-06 Cuttings			A	COGCC Table 910-1 Analysis											
Work Order		Project Number				B												
Company Name	Entrada Consulting Group	Bill To Company	Entrada Consulting Group			C												
Send Report To	Stuart Hall	Invoice Attn.	Stuart Hall			D												
Address	240 Mesa Ave.	Address	240 Mesa Ave			E												
						F												
City/State/Zip	Grand Junction, CO 81501	City/State/Zip	Grand Junction, CO 81501			G												
Phone	970-712-7329	Phone				H												
Fax		Fax				I												
e-Mail Address	shall@entradainc.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	Bruton 19-06 CS1	03/12/18	1525	ss		3	x											
	Bruton 19-06 CS2	03/12/18	1535	ss		3	x											
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time:				<input type="checkbox"/> Other _____				Results Due Date:						
Stuart Hall		FedEx		<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														
Relinquished by:	Date:	Time:	Received by:		Notes:													
<i>[Signature]</i>	3/15/18	1200	<i>[Signature]</i>															
Relinquished by:	Date:	Time:	Received by (Laboratory):		Cooler Temp.		QC Package: (Check Box Below)											
<i>[Signature]</i>	3/13/18	1830	<i>[Signature]</i>		28°C		<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Std QC + Raw Data <input type="checkbox"/> Level IV: SW846 CLP-Like <input type="checkbox"/> Other: _____											
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):															
<i>[Signature]</i>	3/14/18	1535	<i>[Signature]</i>															
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-8036																		

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

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Sample Receipt Checklist

Client Name: **ENTRADA**

Date/Time Received: **14-Mar-18 09:00**

Work Order: **1803876**

Received by: **KRW**

Checklist completed by Keith Wurenga  
eSignature

14-Mar-18  
Date

Reviewed by: Chad Whelton  
eSignature

16-Mar-18  
Date

Matrices: **Soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.8/2.8 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>3/14/2018 3:37:31 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: