
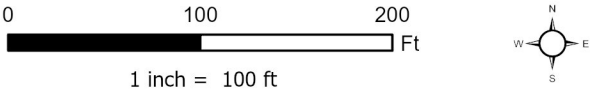





Legend

● Soil Sample Location    ● Spill Origin     Spill Area



Project No: 018-065	<b>Emerald 39 Lateral</b> Chevron USA, Inc. Rio Blanco County, Colorado Lot 2 Section 31 T2S R102W	 <b>ENTRADA</b> CONSULTING GROUP	330 Grand Avenue, Unit C Grand Junction, CO 81501 970-549-1015	Figure
Map By: NDB				1
Date: 12/14/2020				

**Table 1**  
**Emerald 39 Spill**  
**Soil Data Summary**

SAMPLE SUMMARY	
Location Description	Emerald 39 Spill
Sample Type	Soil

LABORATORY DATA SUMMARY							
Sample ID	Emerald 39 Inj Leak	EM39-SS1	EM39-SS2	EM39-SS3	EM39-BG1	COGCC TABLE 910-1 CONCENTRATION LEVELS	UNITS
Depth	6"	0-6"	0-6"	0-6"	0-6"		
Sample Date	9/16/2020	10/5/2020	10/5/2020	10/5/2020	10/5/2020		
Analytical Parameters							
TPH							
TPH Gasoline Range Organics	<3.2	<2.8	<2.1	<2.7	NT	500	mg/kg
TPH Diesel Range Organics	43	46	790	71	NT		
BTEX							
Benzene	<0.022	<0.0067	<0.0066	<0.0070	NT	0.17	mg/kg
Toluene	<0.013	<0.011	<0.011	<0.011	NT	85	mg/kg
Ethylbenzene	<0.0097	<0.0083	<0.0081	<0.0086	NT	100	mg/kg
Total Xylene	<0.061	0.063 J	0.064 J	0.11 J	NT	175	mg/kg
Metals							
Arsenic	7.0	5.4	4.5	4.8	3.9	0.39	mg/kg
Barium	230	150	380	190	110	15,000	mg/kg
Cadmium	0.16 J	0.18	0.21	0.21	0.18 J	70	mg/kg
Chromium	9.8	8.6	6.9	8.0	12	NA	mg/kg
Copper	12 B	11	8.6	10	16	3,100	mg/kg
Lead	23	16	29	15	16	400	mg/kg
Mercury	0.031	0.021	0.028	0.054	0.017 J	23	mg/kg
Nickel	21	12	9.6	12	14	1,600	mg/kg
Selenium	1.2	0.77	0.9	0.86	1.2	390	mg/kg
Silver	0.065 J	0.066 J	<0.056	<0.57	<0.22	390	mg/kg
Zinc	68	52	58	53	63	23,000	mg/kg
SAR Metals Analysis							
Calcium	1200	1400	280	1500	67	NA	mg/L
Magnesium	170	450	52	140	16	NA	mg/L
Sodium	4800	1700	1500	4500	50	NA	mg/L
Sodium Adsorption Ratio	35	10	22	30	1.4	<12	ratio
Polynuclear Aromatic Hydrocarbons							
Acenaphthene	<0.0085	<0.00093	<0.0018	0.0046	NT	1,000	mg/kg
Anthracene	<0.0090	<0.0016	<0.0031	0.0073	NT	1,000	mg/kg
Benzo(a)anthracene	<0.0097	0.0037 J	<0.0038	0.0027 J	NT	0.22	mg/kg
Benzo(a)pyrene	<0.0080	0.0028 J	<0.0025	0.0028 J	NT	0.022	mg/kg
Benzo(b)fluoranthene	<0.0085	0.0047 J	<0.0022	0.0033 J	NT	0.22	mg/kg
Benzo(k)fluoranthene	<0.0082	<0.0014	<0.0027	<0.0013	NT	2.2	mg/kg
Chrysene	<0.0092	<0.00099	<0.0019	<0.00094	NT	22	mg/kg
Dibenzo(a,h)anthracene	0.0082	<0.0011	<0.0022	<0.0011	NT	0.022	mg/kg
Fluoranthene	<0.0079	<0.00088	<0.0017	0.0047	NT	1,000	mg/kg
Fluorene	<0.0078	<0.0016	0.0054 J	0.008	NT	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	<0.0087	<0.0017	<0.0033	0.0032 J	NT	0.22	mg/kg
Napthalene	<0.0097	<0.0021	<0.0040	<0.0020	NT	23	mg/kg
Pyrene	0.0098	<0.00079	<0.0015	0.0046	NT	1,000	mg/kg
General Chemistry							
Chromium, Hexavalent	<1.0	<0.99	2.3	<0.98	1.3	23	mg/kg
Chromium, Trivalent	9.8	8.6	5	8.0	11	120,000	mg/kg
Specific Conductivity	31	15	9.4	25	0.54	<4 or 2 x the background	mmhos/cm
pH	8.01	7.82	7.54	7.38	8.12	6-9	su

mg/kg - milligrams per kilogram  
mg/L - milligrams per liter  
H - analyzed outside of holding time  
J - indicates an estimated value  
mmhos/cm - millimhos per centimeter  
mv - millivolts  
su - standard units  
NA - not applicable  
NT - parameter was not tested

Over COGCC Table 910-1 concentration levels but under BACKGROUND level.

Over COGCC Table 910-1 concentration levels and not within BACKGROUND level.

Over COGCC Table 910-1 concentration levels



04-Jan-2021

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

Re: **Emerald 39 Spill**

Work Order: **20122015**

Dear Tim,

ALS Environmental received 1 sample on 22-Dec-2020 12:30 PM 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 026-999-449

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

Environmental 

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RIGHT SOLUTIONS RIGHT PARTNER

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**Client:** Entrada Consulting Group  
**Project:** Emerald 39 Spill  
**Work Order:** 20122015

**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>
20122015-01	Emerald 39 Inj. Leak (6' Deep)	Soil		9/16/2020 12:00	12/22/2020 12:30	<input type="checkbox"/>

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**Client:** Entrada Consulting Group  
**Project:** Emerald 39 Spill  
**Work Order:** 20122015

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**Case Narrative**

Sample analyzed after hold time due to being received after expiration date. Results should be considered estimated.

Batch 170002, Method SW6020B, Sample Emerald 39 Inj. Leak (6' Deep) (20122015-01A):  
The concentration in the Method Blank was greater than the quantitation limit for Copper. The sample result was greater than 10x the concentration in the Method Blank; therefore, no qualification is required.

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

<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
°C	Degrees Celcius
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	

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s.u.      Standard Units

# ALS Group, USA

Date: 04-Jan-21

**Client:** Entrada Consulting Group  
**Project:** Emerald 39 Spill  
**Sample ID:** Emerald 39 Inj. Leak (6' Deep)  
**Collection Date:** 9/16/2020 12:00 PM

**Work Order:** 20122015  
**Lab ID:** 20122015-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW3550 / 12/24/20		Analyst: <b>JZB</b>
<b>DRO (C10-C28)</b>	<b>43</b>	H	<b>7.5</b>	<b>26</b>	<b>mg/Kg-dry</b>	1	12/26/2020 23:56
Surr: 4-Terphenyl-d14	63.6			33-111	%REC	1	12/26/2020 23:56
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW5035 / 12/23/20		Analyst: <b>JZB</b>
<b>GRO (C6-C10)</b>	<b>U</b>	H	<b>3.2</b>	<b>7.7</b>	<b>mg/Kg</b>	1	12/24/2020 00:37
Surr: Toluene-d8	98.9			71-123	%REC	1	12/24/2020 00:37
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>		Prep: SW7471 / 12/23/20		Analyst: <b>MAC</b>
<b>Mercury</b>	<b>0.031</b>	H	<b>0.016</b>	<b>0.024</b>	<b>mg/Kg-dry</b>	1	12/23/2020 16:04
<b>METALS BY ICP-MS</b>							
			Method: <b>SW6020B</b>		Prep: SW3050B / 12/29/20		Analyst: <b>STP</b>
<b>Arsenic</b>	<b>7.0</b>		<b>0.051</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	1	12/29/2020 17:47
<b>Barium</b>	<b>230</b>		<b>3.9</b>	<b>4.3</b>	<b>mg/Kg-dry</b>	10	12/30/2020 17:25
<b>Cadmium</b>	<b>0.16</b>	J	<b>0.026</b>	<b>0.17</b>	<b>mg/Kg-dry</b>	1	12/29/2020 17:47
<b>Chromium</b>	<b>9.8</b>		<b>0.19</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	1	12/29/2020 17:47
<b>Copper</b>	<b>12</b>	B	<b>0.43</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	1	12/30/2020 17:34
<b>Lead</b>	<b>23</b>		<b>0.21</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	1	12/29/2020 17:47
<b>Nickel</b>	<b>21</b>		<b>2.2</b>	<b>4.3</b>	<b>mg/Kg-dry</b>	10	12/30/2020 17:25
<b>Selenium</b>	<b>1.2</b>		<b>0.39</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	1	12/29/2020 17:47
<b>Silver</b>	<b>0.065</b>	J	<b>0.056</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	1	12/29/2020 17:47
<b>Zinc</b>	<b>68</b>		<b>0.84</b>	<b>0.85</b>	<b>mg/Kg-dry</b>	1	12/29/2020 17:47
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6020B</b>		Prep: USDA Method 20B / 12/29/20		Analyst: <b>STP</b>
<b>Calcium</b>	<b>1,200</b>		<b>2.5</b>	<b>5.0</b>	<b>mg/L</b>	10	12/29/2020 15:22
<b>Magnesium</b>	<b>170</b>		<b>0.50</b>	<b>2.0</b>	<b>mg/L</b>	10	12/29/2020 15:22
<b>Sodium</b>	<b>4,800</b>		<b>18</b>	<b>20</b>	<b>mg/L</b>	100	12/29/2020 15:44
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 12/29/20		Analyst: <b>STP</b>
<b>Sodium Adsorption Ratio</b>	<b>35</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	1	12/29/2020
<b>POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)</b>							
			Method: <b>SW8270E</b>		Prep: SW3546 / 12/24/20		Analyst: <b>JZB</b>
<b>Acenaphthene</b>	<b>U</b>	H	<b>0.0085</b>	<b>0.010</b>	<b>mg/Kg-dry</b>	1	12/26/2020 20:52
<b>Anthracene</b>	<b>U</b>	H	<b>0.0090</b>	<b>0.010</b>	<b>mg/Kg-dry</b>	1	12/26/2020 20:52
<b>Benzo(a)anthracene</b>	<b>U</b>	H	<b>0.0097</b>	<b>0.010</b>	<b>mg/Kg-dry</b>	1	12/26/2020 20:52
<b>Benzo(a)pyrene</b>	<b>U</b>	H	<b>0.0080</b>	<b>0.010</b>	<b>mg/Kg-dry</b>	1	12/26/2020 20:52
<b>Benzo(b)fluoranthene</b>	<b>U</b>	H	<b>0.0085</b>	<b>0.010</b>	<b>mg/Kg-dry</b>	1	12/26/2020 20:52
<b>Benzo(k)fluoranthene</b>	<b>U</b>	H	<b>0.0082</b>	<b>0.010</b>	<b>mg/Kg-dry</b>	1	12/26/2020 20:52
<b>Chrysene</b>	<b>U</b>	H	<b>0.0092</b>	<b>0.010</b>	<b>mg/Kg-dry</b>	1	12/26/2020 20:52
<b>Dibenzo(a,h)anthracene</b>	<b>0.0082</b>	JH	<b>0.0081</b>	<b>0.010</b>	<b>mg/Kg-dry</b>	1	12/26/2020 20:52
<b>Fluoranthene</b>	<b>U</b>	H	<b>0.0079</b>	<b>0.010</b>	<b>mg/Kg-dry</b>	1	12/26/2020 20:52

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



# ALS Group, USA

Date: 04-Jan-21

**Client:** Entrada Consulting Group  
**Project:** Emerald 39 Spill  
**Sample ID:** Emerald 39 Inj. Leak (6' Deep)  
**Collection Date:** 9/16/2020 12:00 PM

**Work Order:** 20122015  
**Lab ID:** 20122015-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	U	H	0.0078	0.010	mg/Kg-dry	1	12/26/2020 20:52
Indeno(1,2,3-cd)pyrene	U	H	0.0087	0.010	mg/Kg-dry	1	12/26/2020 20:52
Naphthalene	U	H	0.0097	0.010	mg/Kg-dry	1	12/26/2020 20:52
<b>Pyrene</b>	<b>0.0098</b>	<b>JH</b>	<b>0.0096</b>	<b>0.010</b>	<b>mg/Kg-dry</b>	<b>1</b>	<b>12/26/2020 20:52</b>
Surr: 2-Fluorobiphenyl	87.5			20-140	%REC	1	12/26/2020 20:52
Surr: 4-Terphenyl-d14	84.3			22-172	%REC	1	12/26/2020 20:52
Surr: Nitrobenzene-d5	78.6			28-140	%REC	1	12/26/2020 20:52
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260C</b>		Prep: SW5035 / 12/23/20		Analyst: <b>MF</b>
Benzene	U	H	0.022	0.046	mg/Kg-dry	1	12/30/2020 09:29
Ethylbenzene	U	H	0.0097	0.046	mg/Kg-dry	1	12/30/2020 09:29
m,p-Xylene	U	H	0.061	0.092	mg/Kg-dry	1	12/30/2020 09:29
o-Xylene	U	H	0.018	0.046	mg/Kg-dry	1	12/30/2020 09:29
Toluene	U	H	0.013	0.046	mg/Kg-dry	1	12/30/2020 09:29
Xylenes, Total	U	H	0.061	0.14	mg/Kg-dry	1	12/30/2020 09:29
Surr: 1,2-Dichloroethane-d4	100			70-130	%REC	1	12/30/2020 09:29
Surr: 4-Bromofluorobenzene	104			70-130	%REC	1	12/30/2020 09:29
Surr: Dibromofluoromethane	102			70-130	%REC	1	12/30/2020 09:29
Surr: Toluene-d8	102			70-130	%REC	1	12/30/2020 09:29
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 12/29/20		Analyst: <b>QTN</b>
Electrical Conductivity @ Saturation	31		0.011	0.10	mmhos/cm @25°	20	12/29/2020 18:25
<b>CHROMIUM, TRIVALENT</b>			Method: <b>CALCULATION</b>				Analyst: <b>JB</b>
Chromium, Trivalent	9.8	H	1.1	1.3	mg/Kg-dry	1	12/30/2020 14:50
<b>CHROMIUM, HEXAVALENT</b>			Method: <b>SW7196A</b>		Prep: SW3060A / 12/29/20		Analyst: <b>KTP</b>
Chromium, Hexavalent	U	H	1.0	1.2	mg/Kg-dry	1	12/29/2020 16:10
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>KTP</b>
Moisture	21	H	0.10	0.10	% of sample	1	12/28/2020 13:33
<b>SOIL PH MEASURED IN WATER AT NOTED TEMP.</b>			Method: <b>SW9045D</b>		Prep: SW9045D / 12/23/20		Analyst: <b>QTN</b>
pH	8.01	H	0.10	0.100	s.u.	1	12/24/2020 10:32
Temperature	20.9	H	0.10	0.100	°C	1	12/24/2020 10:32

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

**Client:** Entrada Consulting Group  
**Work Order:** 20122015  
**Project:** Emerald 39 Spill

**QC BATCH REPORT**

Batch ID: **169872** Instrument ID **GC8** Method: **SW8015D**

MBLK				Sample ID: <b>DBLKS1-169872-169872</b>		Units: <b>mg/Kg</b>		Analysis Date: <b>12/26/2020 04:44 PM</b>		
Client ID:		Run ID: <b>GC8_201226A</b>		SeqNo: <b>7026724</b>		Prep Date: <b>12/24/2020</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	10								
<i>Surr: 4-Terphenyl-d14</i>	3.285	0	3.33	0	98.6	33-111	0			

LCS				Sample ID: <b>DLCSS1-169872-169872</b>		Units: <b>mg/Kg</b>		Analysis Date: <b>12/26/2020 05:23 PM</b>		
Client ID:		Run ID: <b>GC8_201226A</b>		SeqNo: <b>7026725</b>		Prep Date: <b>12/24/2020</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)	311.7	10	333	0	93.6	80-121	0			
<i>Surr: 4-Terphenyl-d14</i>	3.031	0	3.33	0	91	33-111	0			

MS				Sample ID: <b>20121839-01A MS</b>		Units: <b>mg/Kg</b>		Analysis Date: <b>12/26/2020 06:03 PM</b>		
Client ID:		Run ID: <b>GC8_201226A</b>		SeqNo: <b>7026726</b>		Prep Date: <b>12/24/2020</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)	292.3	9.9	329.9	0.7494	88.4	80-121	0			
<i>Surr: 4-Terphenyl-d14</i>	2.661	0	3.299	0	80.7	33-111	0			

MSD				Sample ID: <b>20121839-01A MSD</b>		Units: <b>mg/Kg</b>		Analysis Date: <b>12/26/2020 06:42 PM</b>		
Client ID:		Run ID: <b>GC8_201226A</b>		SeqNo: <b>7026727</b>		Prep Date: <b>12/24/2020</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)	292.9	9.9	329.6	0.7494	88.7	80-121	292.3	0.21	30	
<i>Surr: 4-Terphenyl-d14</i>	2.686	0	3.296	0	81.5	33-111	2.661	0.938	30	

The following samples were analyzed in this batch:

20122015-01A

Client: Entrada Consulting Group  
 Work Order: 20122015  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **169791** Instrument ID **GC9** Method: **SW8015D**

<b>MBLK</b>		Sample ID: <b>MBLK-169791-169791</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>12/23/2020 11:00 PM</b>		
Client ID:		Run ID: <b>GC9_201223A</b>				SeqNo: <b>7022734</b>		Prep Date: <b>12/23/2020</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								
Surr: Toluene-d8	4915	0	5000	0	98.3	71-123	0			

<b>LCS</b>		Sample ID: <b>LCS-169791-169791</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>12/23/2020 10:12 PM</b>		
Client ID:		Run ID: <b>GC9_201223A</b>				SeqNo: <b>7022759</b>		Prep Date: <b>12/23/2020</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)	227800	5,000	250000	0	91.1	71-123	0			
Surr: Toluene-d8	4342	0	5000	0	86.8	71-123	0			

<b>MS</b>		Sample ID: <b>20122015-01A MS</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>12/24/2020 01:01 AM</b>		
Client ID: <b>Emerald 39 Inj. Leak (6' Deep)</b>		Run ID: <b>GC9_201223A</b>				SeqNo: <b>7022739</b>		Prep Date: <b>12/23/2020</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)	394500	7,500	375800	0	105	71-123	0			H
Surr: Toluene-d8	6728	0	7516	0	89.5	71-123	0			

<b>MSD</b>		Sample ID: <b>20122015-01A MSD</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>12/24/2020 01:24 AM</b>		
Client ID: <b>Emerald 39 Inj. Leak (6' Deep)</b>		Run ID: <b>GC9_201223A</b>				SeqNo: <b>7022740</b>		Prep Date: <b>12/23/2020</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)	366200	7,500	376700	0	97.2	71-123	394500	7.44	30	H
Surr: Toluene-d8	6427	0	7534	0	85.3	71-123	6728	4.57	30	

The following samples were analyzed in this batch: 20122015-01A

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

Client: Entrada Consulting Group  
 Work Order: 20122015  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **169808** Instrument ID **HG4** Method: **SW7471B**

<b>MBLK</b>		Sample ID: <b>MBLK-169808-169808</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>12/23/2020 03:15 PM</b>		
Client ID:		Run ID: <b>HG4_201223A</b>				SeqNo: <b>7022464</b>		Prep Date: <b>12/23/2020</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

<b>LCS</b>		Sample ID: <b>LCS-169808-169808</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>12/23/2020 03:17 PM</b>		
Client ID:		Run ID: <b>HG4_201223A</b>				SeqNo: <b>7022465</b>		Prep Date: <b>12/23/2020</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.17 0.020 0.1665 0 102 80-120 0

<b>MS</b>		Sample ID: <b>20121788-22AMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>12/23/2020 03:54 PM</b>		
Client ID:		Run ID: <b>HG4_201223A</b>				SeqNo: <b>7022486</b>		Prep Date: <b>12/23/2020</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1764 0.018 0.15 0.03777 92.4 75-125 0

<b>MSD</b>		Sample ID: <b>20121788-22AMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>12/23/2020 03:56 PM</b>		
Client ID:		Run ID: <b>HG4_201223A</b>				SeqNo: <b>7022487</b>		Prep Date: <b>12/23/2020</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1865 0.018 0.1528 0.03777 97.4 75-125 0.1764 5.58 35

The following samples were analyzed in this batch:

20122015-01A

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

**Client:** Entrada Consulting Group  
**Work Order:** 20122015  
**Project:** Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **170002** Instrument ID **ICPMS3** Method: **SW6020B**

MBLK Sample ID: <b>MBLK-170002-170002</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>12/29/2020 05:03 PM</b>				
Client ID:		Run ID: <b>ICPMS3_201229B</b>		SeqNo: <b>7036386</b>		Prep Date: <b>12/29/2020</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	U	0.10								
Chromium	U	0.25								
Lead	U	0.25								
Nickel	U	0.25								
Selenium	U	0.25								
Silver	U	0.25								
Zinc	U	0.50								

MBLK Sample ID: <b>MBLK-170002-170002</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>12/30/2020 04:07 PM</b>				
Client ID:		Run ID: <b>ICPMS3_201230B</b>		SeqNo: <b>7041034</b>		Prep Date: <b>12/29/2020</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	0.3007	0.25								

LCS Sample ID: <b>LCS-170002-170002</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>12/29/2020 05:05 PM</b>				
Client ID:		Run ID: <b>ICPMS3_201229B</b>		SeqNo: <b>7036387</b>		Prep Date: <b>12/29/2020</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	5.198	0.25	5	0	104	80-120	0			
Barium	5.34	0.25	5	0	107	80-120	0			
Cadmium	5.118	0.10	5	0	102	80-120	0			
Chromium	5.368	0.25	5	0	107	80-120	0			
Copper	4.831	0.25	5	0	96.6	80-120	0			
Lead	5.389	0.25	5	0	108	80-120	0			
Nickel	5.165	0.25	5	0	103	80-120	0			
Selenium	5.13	0.25	5	0	103	80-120	0			
Silver	5.104	0.25	5	0	102	80-120	0			
Zinc	5.058	0.50	5	0	101	80-120	0			

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

Client: Entrada Consulting Group  
 Work Order: 20122015  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **170002** Instrument ID **ICPMS3** Method: **SW6020B**

MS				Sample ID: <b>20121930-05BMS</b>			Units: <b>mg/Kg</b>		Analysis Date: <b>12/29/2020 05:38 PM</b>	
Client ID:		Run ID: <b>ICPMS3_201229B</b>			SeqNo: <b>7036406</b>		Prep Date: <b>12/29/2020</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.43	0.36	7.184	3.013	103	75-125	0			
Barium	41.78	0.36	7.184	30.99	150	75-125	0			SO
Cadmium	6.303	0.14	7.184	0.121	86.1	75-125	0			
Chromium	17.1	0.36	7.184	8.737	116	75-125	0			
Lead	18.31	0.36	7.184	14.95	46.7	75-125	0			S
Nickel	13.4	0.36	7.184	6.563	95.2	75-125	0			
Selenium	7.252	0.36	7.184	0.283	97	75-125	0			
Silver	6.161	0.36	7.184	0.02316	85.4	75-125	0			
Zinc	32.85	0.72	7.184	25.83	97.6	75-125	0			

MS				Sample ID: <b>20121930-05BMS</b>			Units: <b>mg/Kg</b>		Analysis Date: <b>12/30/2020 05:07 PM</b>	
Client ID:		Run ID: <b>ICPMS3_201230B</b>			SeqNo: <b>7041070</b>		Prep Date: <b>12/29/2020</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	13.58	0.36	7.184	5.669	110	75-125	0			B

MSD				Sample ID: <b>20121930-05BMSD</b>			Units: <b>mg/Kg</b>		Analysis Date: <b>12/29/2020 05:40 PM</b>	
Client ID:		Run ID: <b>ICPMS3_201229B</b>			SeqNo: <b>7036407</b>		Prep Date: <b>12/29/2020</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.69	0.37	7.31	3.013	105	75-125	10.43	2.49	20	
Barium	48.18	0.37	7.31	30.99	235	75-125	41.78	14.2	20	SO
Cadmium	6.465	0.15	7.31	0.121	86.8	75-125	6.303	2.53	20	
Chromium	16.87	0.37	7.31	8.737	111	75-125	17.1	1.39	20	
Lead	18.74	0.37	7.31	14.95	51.8	75-125	18.31	2.32	20	S
Nickel	13.44	0.37	7.31	6.563	94	75-125	13.4	0.259	20	
Selenium	7.286	0.37	7.31	0.283	95.8	75-125	7.252	0.462	20	
Silver	6.336	0.37	7.31	0.02316	86.4	75-125	6.161	2.79	20	
Zinc	33.02	0.73	7.31	25.83	98.3	75-125	32.85	0.526	20	

MSD				Sample ID: <b>20121930-05BMSD</b>			Units: <b>mg/Kg</b>		Analysis Date: <b>12/30/2020 05:09 PM</b>	
Client ID:		Run ID: <b>ICPMS3_201230B</b>			SeqNo: <b>7041071</b>		Prep Date: <b>12/29/2020</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	13.87	0.37	7.31	5.669	112	75-125	13.58	2.14	20	B

The following samples were analyzed in this batch: 20122015-01A

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

Client: Entrada Consulting Group  
 Work Order: 20122015  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **170019** Instrument ID **ICPMS3** Method: **SW6020B**

DUP				Sample ID: 20122018-01A dup				Units: mg/L		Analysis Date: 12/29/2020 03:25 PM			
Client ID:			Run ID: ICPMS3_201229A			SeqNo: 7035145		Prep Date: 12/29/2020		DF: 10			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Calcium	1462	5.0	0	0	0	0-0	1526	4.28					
Magnesium	269.9	2.0	0	0	0	0-0	273.9	1.44					

DUP				Sample ID: 20122018-01A dup				Units: mg/L		Analysis Date: 12/29/2020 03:51 PM	
Client ID:			Run ID: ICPMS3_201229A			SeqNo: 7035153		Prep Date: 12/29/2020		DF: 100	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sodium	4607	20	0	0	0	0-0	4519	1.95			

The following samples were analyzed in this batch:

20122015-01A

Batch ID: **170019** Instrument ID **SAR** Method: **USDA H60 Method**

DUP				Sample ID: 20122018-01A dup				Units: none		Analysis Date: 12/29/2020	
Client ID:			Run ID: SAR_201229A			SeqNo: 7034995		Prep Date: 12/29/2020		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sodium Adsorption Ratio	29.05	0.010	0	0	0		28.59	1.6	50		

The following samples were analyzed in this batch:

20122015-01A

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

Client: Entrada Consulting Group  
 Work Order: 20122015  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **169853** Instrument ID **SVMS6** Method: **SW8270E**

MBLK				Sample ID: <b>SBLKS1-169853-169853</b>		Units: <b>µg/Kg</b>		Analysis Date: <b>12/26/2020 03:37 PM</b>		
Client ID:				Run ID: <b>SVMS6_201226A</b>		SeqNo: <b>7029335</b>		Prep Date: <b>12/24/2020</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	4.2								
Anthracene	U	4.2								
Benzo(a)anthracene	U	4.2								
Benzo(a)pyrene	U	4.2								
Benzo(b)fluoranthene	U	4.2								
Benzo(k)fluoranthene	U	4.2								
Chrysene	U	4.2								
Dibenzo(a,h)anthracene	U	4.2								
Fluoranthene	U	4.2								
Fluorene	U	4.2								
Indeno(1,2,3-cd)pyrene	U	4.2								
Naphthalene	U	4.2								
Pyrene	U	4.2								
Surr: 2-Fluorobiphenyl	2664	0	3333	0	79.9	20-140	0			
Surr: 4-Terphenyl-d14	2637	0	3333	0	79.1	22-172	0			
Surr: Nitrobenzene-d5	2355	0	3333	0	70.7	28-140	0			

LCS				Sample ID: <b>SLCSS1-169853-169853</b>		Units: <b>µg/Kg</b>		Analysis Date: <b>12/26/2020 03:53 PM</b>		
Client ID:				Run ID: <b>SVMS6_201226A</b>		SeqNo: <b>7029336</b>		Prep Date: <b>12/24/2020</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1055	4.2	1333	0	79.1	40-140	0			
Anthracene	1126	4.2	1333	0	84.5	40-140	0			
Benzo(a)anthracene	1140	4.2	1333	0	85.5	40-140	0			
Benzo(a)pyrene	1078	4.2	1333	0	80.9	40-140	0			
Benzo(b)fluoranthene	1095	4.2	1333	0	82.1	40-140	0			
Benzo(k)fluoranthene	1081	4.2	1333	0	81.1	40-140	0			
Chrysene	1142	4.2	1333	0	85.7	40-140	0			
Dibenzo(a,h)anthracene	1151	4.2	1333	0	86.4	40-140	0			
Fluoranthene	1194	4.2	1333	0	89.6	40-140	0			
Fluorene	1001	4.2	1333	0	75.1	40-140	0			
Indeno(1,2,3-cd)pyrene	1105	4.2	1333	0	82.9	40-140	0			
Naphthalene	1133	4.2	1333	0	85	40-140	0			
Pyrene	865.1	4.2	1333	0	64.9	40-140	0			
Surr: 2-Fluorobiphenyl	3092	0	3333	0	92.8	20-140	0			
Surr: 4-Terphenyl-d14	2825	0	3333	0	84.8	22-172	0			
Surr: Nitrobenzene-d5	2065	0	3333	0	62	28-140	0			

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



Client: Entrada Consulting Group  
 Work Order: 20122015  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **169853** Instrument ID **SVMS6** Method: **SW8270E**

MS				Sample ID: <b>20121841-01B MS</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>12/26/2020 04:09 PM</b>	
Client ID:		Run ID: <b>SVMS6_201226A</b>			SeqNo: <b>7029337</b>		Prep Date: <b>12/24/2020</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1039	4.2	1329	3.525	78	40-140	0			
Anthracene	1119	4.2	1329	11.64	83.4	40-140	0			
Benzo(a)anthracene	1075	4.2	1329	25.59	79	40-140	0			
Benzo(a)pyrene	910.5	4.2	1329	21.87	66.9	40-140	0			
Benzo(b)fluoranthene	993.5	4.2	1329	31.88	72.4	40-140	0			
Benzo(k)fluoranthene	955.2	4.2	1329	12.76	70.9	40-140	0			
Chrysene	1091	4.2	1329	27.06	80	40-140	0			
Dibenzo(a,h)anthracene	1057	4.2	1329	5.206	79.2	40-140	0			
Fluoranthene	1111	4.2	1329	45.48	80.2	40-140	0			
Fluorene	1039	4.2	1329	3.363	77.9	40-140	0			
Indeno(1,2,3-cd)pyrene	997.8	4.2	1329	20.74	73.5	40-140	0			
Naphthalene	1106	4.2	1329	0	83.2	40-140	0			
Pyrene	991.6	4.2	1329	47.68	71	40-140	0			
Surr: 2-Fluorobiphenyl	2800	0	3322	0	84.3	20-140	0			
Surr: 4-Terphenyl-d14	2878	0	3322	0	86.6	22-172	0			
Surr: Nitrobenzene-d5	2306	0	3322	0	69.4	28-140	0			

MSD				Sample ID: <b>20121841-01B MSD</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>12/26/2020 04:25 PM</b>	
Client ID:		Run ID: <b>SVMS6_201226A</b>			SeqNo: <b>7029338</b>		Prep Date: <b>12/24/2020</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1056	4.1	1297	3.525	81.2	40-140	1039	1.56	30	
Anthracene	1138	4.1	1297	11.64	86.9	40-140	1119	1.7	30	
Benzo(a)anthracene	1101	4.1	1297	25.59	82.9	40-140	1075	2.36	30	
Benzo(a)pyrene	954.8	4.1	1297	21.87	71.9	40-140	910.5	4.75	30	
Benzo(b)fluoranthene	1046	4.1	1297	31.88	78.3	40-140	993.5	5.2	30	
Benzo(k)fluoranthene	974.5	4.1	1297	12.76	74.2	40-140	955.2	2	30	
Chrysene	1128	4.1	1297	27.06	84.9	40-140	1091	3.41	30	
Dibenzo(a,h)anthracene	1125	4.1	1297	5.206	86.4	40-140	1057	6.18	30	
Fluoranthene	1122	4.1	1297	45.48	83	40-140	1111	0.928	30	
Fluorene	1062	4.1	1297	3.363	81.6	40-140	1039	2.21	30	
Indeno(1,2,3-cd)pyrene	1045	4.1	1297	20.74	79	40-140	997.8	4.61	30	
Naphthalene	1133	4.1	1297	0	87.4	40-140	1106	2.47	30	
Pyrene	996.3	4.1	1297	47.68	73.2	40-140	991.6	0.469	30	
Surr: 2-Fluorobiphenyl	2891	0	3242	0	89.2	20-140	2800	3.2	30	
Surr: 4-Terphenyl-d14	2947	0	3242	0	90.9	22-172	2878	2.38	30	
Surr: Nitrobenzene-d5	2484	0	3242	0	76.6	28-140	2306	7.42	30	

The following samples were analyzed in this batch:

20122015-01A

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

Client: Entrada Consulting Group  
 Work Order: 20122015  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **169782** Instrument ID **VMS8** Method: **SW8260C**

MBLK Sample ID: <b>MBLK-169782-169782</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>12/30/2020 04:52 AM</b>				
Client ID:		Run ID: <b>VMS8_201229B</b>		SeqNo: <b>7037901</b>		Prep Date: <b>12/23/2020</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	0	0	0	0-0	0			
Ethylbenzene	U	30	0	0	0	0-0	0			
m,p-Xylene	U	60	0	0	0	0-0	0			
o-Xylene	U	30	0	0	0	0-0	0			
Toluene	U	30	0	0	0	0-0	0			
Xylenes, Total	U	90	0	0	0	0-0	0			
Surr: 1,2-Dichloroethane-d4	1008	0	1000	0	101	70-130	0			
Surr: 4-Bromofluorobenzene	1039	0	1000	0	104	70-130	0			
Surr: Dibromofluoromethane	1014	0	1000	0	101	70-130	0			
Surr: Toluene-d8	1014	0	1000	0	101	70-130	0			

LCS Sample ID: <b>LCS-169782-169782</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>12/30/2020 04:03 AM</b>				
Client ID:		Run ID: <b>VMS8_201229B</b>		SeqNo: <b>7037899</b>		Prep Date: <b>12/23/2020</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	919	30	1000	0	91.9	75-125	0			
Ethylbenzene	924.5	30	1000	0	92.4	75-125	0			
m,p-Xylene	1875	60	2000	0	93.8	80-125	0			
o-Xylene	948.5	30	1000	0	94.8	75-125	0			
Toluene	931.5	30	1000	0	93.2	70-125	0			
Xylenes, Total	2824	90	3000	0	94.1	75-125	0			
Surr: 1,2-Dichloroethane-d4	984.5	0	1000	0	98.4	70-130	0			
Surr: 4-Bromofluorobenzene	989	0	1000	0	98.9	70-130	0			
Surr: Dibromofluoromethane	1014	0	1000	0	101	70-130	0			
Surr: Toluene-d8	999	0	1000	0	99.9	70-130	0			

MS Sample ID: <b>20122015-01A MS</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>12/30/2020 10:34 AM</b>				
Client ID: <b>Emerald 39 Inj. Leak (6' Deep)</b>		Run ID: <b>VMS8_201229B</b>		SeqNo: <b>7037922</b>		Prep Date: <b>12/23/2020</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1411	45	1503	0	93.8	75-125	0			H
Ethylbenzene	1448	45	1503	0	96.3	75-125	0			H
m,p-Xylene	2891	90	3006	0	96.2	80-125	0			H
o-Xylene	1448	45	1503	0	96.3	75-125	0			H
Toluene	1431	45	1503	0	95.2	70-125	0			H
Xylenes, Total	4338	140	4510	0	96.2	75-125	0			H
Surr: 1,2-Dichloroethane-d4	1505	0	1503	0	100	70-130	0			
Surr: 4-Bromofluorobenzene	1523	0	1503	0	101	70-130	0			
Surr: Dibromofluoromethane	1511	0	1503	0	100	70-130	0			
Surr: Toluene-d8	1495	0	1503	0	99.4	70-130	0			

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

Client: Entrada Consulting Group  
 Work Order: 20122015  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **169782** Instrument ID **VMS8** Method: **SW8260C**

MSD					Sample ID: 20122015-01A MSD		Units: µg/Kg-dry		Analysis Date: 12/30/2020 10:51 AM		
Client ID: Emerald 39 Inj. Leak (6' Deep)			Run ID: VMS8_201229B			SeqNo: 7037923		Prep Date: 12/23/2020		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Benzene	1517	45	1507	0	101	75-125	1411	7.23	30	H	
Ethylbenzene	1519	45	1507	0	101	75-125	1448	4.81	30	H	
m,p-Xylene	3011	90	3014	0	99.9	80-125	2891	4.07	30	H	
o-Xylene	1500	45	1507	0	99.5	75-125	1448	3.56	30	H	
Toluene	1474	45	1507	0	97.8	70-125	1431	2.94	30	H	
Xylenes, Total	4511	140	4520	0	99.8	75-125	4338	3.9	30	H	
Surr: 1,2-Dichloroethane-d4	1477	0	1507	0	98	70-130	1505	1.93	30		
Surr: 4-Bromofluorobenzene	1544	0	1507	0	102	70-130	1523	1.37	30		
Surr: Dibromofluoromethane	1505	0	1507	0	99.9	70-130	1511	0.407	30		
Surr: Toluene-d8	1485	0	1507	0	98.5	70-130	1495	0.667	30		

The following samples were analyzed in this batch:

20122015-01A

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

**Client:** Entrada Consulting Group  
**Work Order:** 20122015  
**Project:** Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **169839** Instrument ID **WETCHEM** Method: **SW9045D**

<b>LCS</b>		Sample ID: <b>LCS-169839-169839</b>				Units: <b>s.u.</b>		Analysis Date: <b>12/24/2020 10:32 AM</b>		
Client ID:		Run ID: <b>WETCHEM_201224C</b>		SeqNo: <b>7024590</b>		Prep Date: <b>12/23/2020</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	4.03	0.10	4	0	101	90-110	0			

<b>DUP</b>		Sample ID: <b>20122039-01A DUP</b>				Units: <b>s.u.</b>		Analysis Date: <b>12/24/2020 10:32 AM</b>		
Client ID:		Run ID: <b>WETCHEM_201224C</b>		SeqNo: <b>7024596</b>		Prep Date: <b>12/23/2020</b>		DF: <b>1</b>		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.54	0.10	0	0	0	0-0	7.48	0.799	20	
Temperature	20.7	0.10	0	0	0		20.7	0		

The following samples were analyzed in this batch:

20122015-01A

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

**Client:** Entrada Consulting Group  
**Work Order:** 20122015  
**Project:** Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **170019** Instrument ID **WETCHEM** Method: **USDA H60 Method**

<b>DUP</b>		Sample ID: <b>20122018-01A DUP</b>				Units: <b>mmhos/cm @25°</b>		Analysis Date: <b>12/29/2020 06:25 PM</b>		
Client ID:		Run ID: <b>WETCHEM_201229T</b>		SeqNo: <b>7035822</b>		Prep Date: <b>12/29/2020</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	31.66	0.10	0	0	0		31.18	1.53	50	

The following samples were analyzed in this batch:

20122015-01A

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

Client: Entrada Consulting Group  
 Work Order: 20122015  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **170029** Instrument ID **WETCHEM** Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-170029-170029</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>12/29/2020 04:10 PM</b>		
Client ID:		Run ID: <b>WETCHEM_201229P</b>				SeqNo: <b>7035279</b>		Prep Date: <b>12/29/2020</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 0.99

<b>LCS</b>		Sample ID: <b>LCS-170029-170029</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>12/29/2020 04:10 PM</b>		
Client ID:		Run ID: <b>WETCHEM_201229P</b>				SeqNo: <b>7035280</b>		Prep Date: <b>12/29/2020</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 5.129 0.99 4.95 0 104 80-120 0

<b>MS</b>		Sample ID: <b>20122018-01A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>12/29/2020 04:10 PM</b>		
Client ID:		Run ID: <b>WETCHEM_201229P</b>				SeqNo: <b>7035283</b>		Prep Date: <b>12/29/2020</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 5.598 0.98 4.902 0.02941 114 75-125 0 H

<b>MS</b>		Sample ID: <b>20122018-01A MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>12/29/2020 04:10 PM</b>		
Client ID:		Run ID: <b>WETCHEM_201229P</b>				SeqNo: <b>7035285</b>		Prep Date: <b>12/29/2020</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 2068 97 1890 0.02941 109 75-125 0 H

<b>MSD</b>		Sample ID: <b>20122018-01A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>12/29/2020 04:10 PM</b>		
Client ID:		Run ID: <b>WETCHEM_201229P</b>				SeqNo: <b>7035284</b>		Prep Date: <b>12/29/2020</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 5.267 0.99 4.95 0.02941 106 75-125 5.598 6.09 20 H

The following samples were analyzed in this batch:

20122015-01A

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

**Client:** Entrada Consulting Group  
**Work Order:** 20122015  
**Project:** Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **R306890** Instrument ID **MOIST** Method: **SW3550C**

<b>MBLK</b>		Sample ID: <b>WBLKS-R306890</b>				Units: % of sample		Analysis Date: <b>12/28/2020 01:33 PM</b>		
Client ID:		Run ID: <b>MOIST_201228D</b>				SeqNo: <b>7032043</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	0.10								

<b>LCS</b>		Sample ID: <b>LCS-R306890</b>				Units: % of sample		Analysis Date: <b>12/28/2020 01:33 PM</b>		
Client ID:		Run ID: <b>MOIST_201228D</b>				SeqNo: <b>7032042</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	0.10	100	0	100	98-102	0			

<b>DUP</b>		Sample ID: <b>20122019-01A DUP</b>				Units: % of sample		Analysis Date: <b>12/28/2020 01:33 PM</b>		
Client ID:		Run ID: <b>MOIST_201228D</b>				SeqNo: <b>7032038</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	15.88	0.10	0	0	0	0-0	16.26	2.36	10	H

The following samples were analyzed in this batch:

20122015-01A

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



# Chain of Custody Form

Page 1 of 1

COC ID: 123456

☐ Cincinnati, OH  
+1 513 733 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

Customer Information			ALS Project Manager:				Work Order #:		20122015									
Project Information			Parameter/Method Request for Analysis															
Purchase Order		Project Name	Emerald 39 Spill				A	TPH (GRO & DRO)										
Work Order		Project Number	018-065				B	BTEx										
Company Name	Entrada Consulting Group		Bill To Company	Entrada Consulting Group				C	PAH (See Attached List) CO Table 910									
Send Report To	Tim Dobransky		Invoice Attn	Tim Dobransky				D	Electrical Conductivity									
Address	330 Grand Ave, STE C		Address					E	Sodium Adsorption Ratio									
City/State/Zip	Grand Junction, CO 81501		City/State/Zip					F	pH									
Phone	970.270.2986		Phone					G	Metals (See Attached List) CO Table 910									
Fax			Fax					H	Arsenic Only									
e-Mail Address	tdobransky@entradainc.com		e-Mail Address					I										
J																		
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
1	Emerald 39 Inj. Leak (6' Deep)	09/16/20	1200	Soil	8	1	X	X	X	X	X	X	X					
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
Sampler(s): Please Print & Sign			Shipment Method:		Required Turnaround Time:				Other				Results Due Date:					
CVX			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: Chevron Pricing Applies - Per Bruce Schlatter												
		12/21/20																
Relinquished by:		Date:	Time:	Received by (Laboratory):		Cooler Temp. QC Package: (Check Box Below)												
		12-21-20	1830			<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												
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):		Other:												
KEJ		12/22/20	1525			19.9												
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: **ENTRADA**

Date/Time Received: **22-Dec-20 12:30**

Work Order: **20122015**

Received by: **KRW**

Checklist completed by **Keith Wierenga**

22-Dec-20

Reviewed by: **Chad Whelton**

22-Dec-20

eSignature

Date

eSignature

Date

Matrices: **Soil**

Carrier name: **FedEx**

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

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

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

Chain of custody present? Yes ☒ No ☐

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

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

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

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

Sample(s) received on ice? Yes ☒ No ☐

Temperature(s)/Thermometer(s): **1.9/2.9 C** **IR3**

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: **12/22/2020 3:24:18 PM**

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

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

pH adjusted? Yes ☐ No ☐ N/A ☒

pH adjusted by: **-**

Login Notes:

-----

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



20-Oct-2020

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

Re: **Emerald 39 Spill**

Work Order: **20100817**

Dear Tim,

ALS Environmental received 4 samples on 08-Oct-2020 10:30 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 32.

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

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

Sincerely,

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

Electronically approved by: Chad Whelton

Chad Whelton  
Project Manager

## Report of Laboratory Analysis

Certificate No: MN 026-999-449

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

Environmental 

[www.alsglobal.com](http://www.alsglobal.com)

RIGHT SOLUTIONS RIGHT PARTNER

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**Client:** Entrada Consulting Group  
**Project:** Emerald 39 Spill  
**Work Order:** 20100817

---

**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>
20100817-01	EM 39-SS1	Soil		10/5/2020 11:30	10/8/2020 10:30	<input type="checkbox"/>
20100817-02	EM 39-SS2	Soil		10/5/2020 11:45	10/8/2020 10:30	<input type="checkbox"/>
20100817-03	EM 39-SS3	Soil		10/5/2020 12:00	10/8/2020 10:30	<input type="checkbox"/>
20100817-04	EM 39-BG1	Soil		10/5/2020 12:15	10/8/2020 10:30	<input type="checkbox"/>

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**Client:** Entrada Consulting Group  
**Project:** Emerald 39 Spill  
**Work Order:** 20100817

---

**Case Narrative**

Batch 165797, Method SW8270E, Sample EM 39-SS2 (20100817-02A): The PAH reporting limits are elevated due to dilution needed to eliminate matrix-related interference.

Batch 165797, Method SW8270E, Sample EM 39-SS2 (20100817-02A): One or more surrogate recoveries were below the lower control limits. The sample results may be biased low.

Batch 165859, Method SW8270E, Sample EM 39-SS3 (20100817-03A): One or more surrogate recoveries were below the lower control limits. The sample results may be biased low.

Batch 165927, Method SW7196A, Sample 20100817-01A MS/MSD: The MS/MSD recovery was below the lower control limit for hexavalent chromium. The corresponding result in the parent sample may be biased low.

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

<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
°C	Degrees Celcius
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: 20-Oct-20

**Client:** Entrada Consulting Group  
**Project:** Emerald 39 Spill  
**Sample ID:** EM 39-SS1  
**Collection Date:** 10/5/2020 11:30 AM

**Work Order:** 20100817  
**Lab ID:** 20100817-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW3550 / 10/12/20		Analyst: <b>JZB</b>
<b>DRO (C10-C28)</b>	<b>46</b>		<b>3.3</b>	<b>12</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 06:22
Surr: 4-Terphenyl-d14	56.7			33-111	%REC	1	10/13/2020 06:22
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW5035 / 10/14/20		Analyst: <b>JZB</b>
<b>GRO (C6-C10)</b>	<b>U</b>		<b>2.8</b>	<b>6.8</b>	<b>mg/Kg</b>	<b>1</b>	10/14/2020 21:00
Surr: Toluene-d8	90.5			71-123	%REC	1	10/14/2020 21:00
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>		Prep: SW7471 / 10/12/20		Analyst: <b>MAC</b>
<b>Mercury</b>	<b>0.021</b>		<b>0.012</b>	<b>0.018</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/12/2020 15:13
<b>METALS BY ICP-MS</b>							
			Method: <b>SW6020B</b>		Prep: SW3050B / 10/13/20		Analyst: <b>STP</b>
<b>Arsenic</b>	<b>5.4</b>		<b>0.053</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 23:59
<b>Barium</b>	<b>150</b>		<b>0.40</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 23:59
<b>Cadmium</b>	<b>0.18</b>		<b>0.026</b>	<b>0.18</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 23:59
<b>Chromium</b>	<b>8.6</b>		<b>0.19</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 23:59
<b>Copper</b>	<b>11</b>		<b>0.44</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 23:59
<b>Lead</b>	<b>16</b>		<b>0.21</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 23:59
<b>Nickel</b>	<b>12</b>		<b>0.23</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 23:59
<b>Selenium</b>	<b>0.77</b>		<b>0.40</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 15:55
<b>Silver</b>	<b>0.066</b>	J	<b>0.058</b>	<b>0.44</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 23:59
<b>Zinc</b>	<b>52</b>		<b>0.86</b>	<b>0.88</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 23:59
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6020B</b>		Prep: USDA Method 20B / 10/14/20		Analyst: <b>STP</b>
<b>Calcium</b>	<b>1,400</b>		<b>2.5</b>	<b>5.0</b>	<b>mg/L</b>	<b>10</b>	10/14/2020 19:48
<b>Magnesium</b>	<b>450</b>		<b>0.50</b>	<b>2.0</b>	<b>mg/L</b>	<b>10</b>	10/14/2020 19:48
<b>Sodium</b>	<b>1,700</b>		<b>18</b>	<b>20</b>	<b>mg/L</b>	<b>100</b>	10/15/2020 14:40
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 10/14/20		Analyst: <b>STP</b>
<b>Sodium Adsorption Ratio</b>	<b>10</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	<b>1</b>	10/14/2020
<b>POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)</b>							
			Method: <b>SW8270E</b>		Prep: SW3546 / 10/12/20		Analyst: <b>JZB</b>
<b>Acenaphthene</b>	<b>U</b>		<b>0.00093</b>	<b>0.0048</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 03:04
<b>Anthracene</b>	<b>U</b>		<b>0.0016</b>	<b>0.0048</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 03:04
<b>Benzo(a)anthracene</b>	<b>0.0037</b>	J	<b>0.0020</b>	<b>0.0048</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 03:04
<b>Benzo(a)pyrene</b>	<b>0.0028</b>	J	<b>0.0013</b>	<b>0.0048</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 03:04
<b>Benzo(b)fluoranthene</b>	<b>0.0047</b>	J	<b>0.0011</b>	<b>0.0048</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 03:04
<b>Benzo(k)fluoranthene</b>	<b>U</b>		<b>0.0014</b>	<b>0.0048</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 03:04
<b>Chrysene</b>	<b>U</b>		<b>0.00099</b>	<b>0.0048</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 03:04
<b>Dibenzo(a,h)anthracene</b>	<b>U</b>		<b>0.0011</b>	<b>0.0048</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 03:04
<b>Fluoranthene</b>	<b>U</b>		<b>0.00088</b>	<b>0.0048</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 03:04

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

# ALS Group, USA

Date: 20-Oct-20

**Client:** Entrada Consulting Group  
**Project:** Emerald 39 Spill  
**Sample ID:** EM 39-SS1  
**Collection Date:** 10/5/2020 11:30 AM

**Work Order:** 20100817  
**Lab ID:** 20100817-01  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	U		0.0016	0.0048	mg/Kg-dry	1	10/13/2020 03:04
Indeno(1,2,3-cd)pyrene	U		0.0017	0.0048	mg/Kg-dry	1	10/13/2020 03:04
Naphthalene	U		0.0021	0.0048	mg/Kg-dry	1	10/13/2020 03:04
Pyrene	U		0.00079	0.0048	mg/Kg-dry	1	10/13/2020 03:04
Surr: 2-Fluorobiphenyl	87.7			20-140	%REC	1	10/13/2020 03:04
Surr: 4-Terphenyl-d14	56.8			22-172	%REC	1	10/13/2020 03:04
Surr: Nitrobenzene-d5	63.9			28-140	%REC	1	10/13/2020 03:04
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260C</b>		Prep: SW5035 / 10/14/20		Analyst: <b>JNS</b>
<b>Benzene</b>	<b>0.0073</b>	<b>J</b>	<b>0.0068</b>	<b>0.040</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/15/2020 03:48
Ethylbenzene	U		0.0084	0.040	mg/Kg-dry	1	10/15/2020 03:48
m,p-Xylene	U		0.053	0.080	mg/Kg-dry	1	10/15/2020 03:48
o-Xylene	U		0.015	0.040	mg/Kg-dry	1	10/15/2020 03:48
Toluene	U		0.011	0.040	mg/Kg-dry	1	10/15/2020 03:48
Xylenes, Total	U		0.053	0.12	mg/Kg-dry	1	10/15/2020 03:48
Surr: 1,2-Dichloroethane-d4	103			70-130	%REC	1	10/15/2020 03:48
Surr: 4-Bromofluorobenzene	104			70-130	%REC	1	10/15/2020 03:48
Surr: Dibromofluoromethane	101			70-130	%REC	1	10/15/2020 03:48
Surr: Toluene-d8	98.5			70-130	%REC	1	10/15/2020 03:48
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 10/14/20		Analyst: <b>QTN</b>
<b>Electrical Conductivity @ Saturation</b>	<b>15</b>		<b>0.011</b>	<b>0.10</b>	<b>mmhos/cm @25°</b>	<b>20</b>	10/15/2020 11:07
<b>CHROMIUM, TRIVALENT</b>			Method: <b>CALCULATION</b>				Analyst: <b>JB</b>
<b>Chromium, Trivalent</b>	<b>8.6</b>		<b>0.99</b>	<b>1.2</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 19:00
<b>CHROMIUM, HEXAVALENT</b>			Method: <b>SW7196A</b>		Prep: SW3060A / 10/14/20		Analyst: <b>RZM</b>
<b>Chromium, Hexavalent</b>	U		0.99	1.2	mg/Kg-dry	1	10/14/2020 16:34
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>ERW</b>
<b>Moisture</b>	<b>14</b>		<b>0.10</b>	<b>0.10</b>	<b>% of sample</b>	<b>1</b>	10/16/2020 14:41
<b>SOIL PH MEASURED IN WATER AT NOTED TEMP.</b>			Method: <b>SW9045D</b>		Prep: SW9045D / 10/9/20		Analyst: <b>QTN</b>
<b>pH</b>	<b>7.82</b>		<b>0.10</b>	<b>0.100</b>	<b>s.u.</b>	<b>1</b>	10/12/2020 10:52
<b>Temperature</b>	<b>20.7</b>		<b>0.10</b>	<b>0.100</b>	<b>°C</b>	<b>1</b>	10/12/2020 10:52

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



# ALS Group, USA

Date: 20-Oct-20

**Client:** Entrada Consulting Group  
**Project:** Emerald 39 Spill  
**Sample ID:** EM 39-SS2  
**Collection Date:** 10/5/2020 11:45 AM

**Work Order:** 20100817  
**Lab ID:** 20100817-02  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW3550 / 10/12/20		Analyst: <b>JZB</b>
<b>DRO (C10-C28)</b>	<b>790</b>		<b>3.2</b>	<b>11</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 07:40
<i>Surr: 4-Terphenyl-d14</i>	<i>71.7</i>			<i>33-111</i>	<i>%REC</i>	<i>1</i>	10/13/2020 07:40
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW5035 / 10/14/20		Analyst: <b>JZB</b>
<b>GRO (C6-C10)</b>	<b>U</b>		<b>2.1</b>	<b>5.1</b>	<b>mg/Kg</b>	<b>1</b>	10/14/2020 20:14
<i>Surr: Toluene-d8</i>	<i>95.8</i>			<i>71-123</i>	<i>%REC</i>	<i>1</i>	10/14/2020 20:14
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>		Prep: SW7471 / 10/12/20		Analyst: <b>MAC</b>
<b>Mercury</b>	<b>0.028</b>		<b>0.013</b>	<b>0.019</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/12/2020 15:15
<b>METALS BY ICP-MS</b>							
			Method: <b>SW6020B</b>		Prep: SW3050B / 10/13/20		Analyst: <b>STP</b>
<b>Arsenic</b>	<b>4.5</b>		<b>0.051</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 00:01
<b>Barium</b>	<b>380</b>		<b>3.9</b>	<b>4.3</b>	<b>mg/Kg-dry</b>	<b>10</b>	10/14/2020 15:56
<b>Cadmium</b>	<b>0.21</b>		<b>0.026</b>	<b>0.17</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 00:01
<b>Chromium</b>	<b>6.9</b>		<b>0.19</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 00:01
<b>Copper</b>	<b>8.6</b>		<b>0.43</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 00:01
<b>Lead</b>	<b>29</b>		<b>0.20</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 00:01
<b>Nickel</b>	<b>9.6</b>		<b>0.22</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 00:01
<b>Selenium</b>	<b>0.90</b>		<b>0.39</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 16:03
<b>Silver</b>	<b>U</b>		<b>0.056</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 00:01
<b>Zinc</b>	<b>58</b>		<b>0.83</b>	<b>0.85</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 00:01
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6020B</b>		Prep: USDA Method 20B / 10/14/20		Analyst: <b>STP</b>
<b>Calcium</b>	<b>280</b>		<b>2.5</b>	<b>5.0</b>	<b>mg/L</b>	<b>10</b>	10/14/2020 19:51
<b>Magnesium</b>	<b>52</b>		<b>0.50</b>	<b>2.0</b>	<b>mg/L</b>	<b>10</b>	10/14/2020 19:51
<b>Sodium</b>	<b>1,500</b>		<b>1.8</b>	<b>2.0</b>	<b>mg/L</b>	<b>10</b>	10/14/2020 19:51
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 10/14/20		Analyst: <b>STP</b>
<b>Sodium Adsorption Ratio</b>	<b>22</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	<b>1</b>	10/14/2020
<b>POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)</b>							
			Method: <b>SW8270E</b>		Prep: SW3546 / 10/12/20		Analyst: <b>JZB</b>
<b>Acenaphthene</b>	<b>U</b>		<b>0.0018</b>	<b>0.0092</b>	<b>mg/Kg-dry</b>	<b>2</b>	10/13/2020 12:48
<b>Anthracene</b>	<b>U</b>		<b>0.0031</b>	<b>0.0092</b>	<b>mg/Kg-dry</b>	<b>2</b>	10/13/2020 12:48
<b>Benzo(a)anthracene</b>	<b>U</b>		<b>0.0038</b>	<b>0.0092</b>	<b>mg/Kg-dry</b>	<b>2</b>	10/13/2020 12:48
<b>Benzo(a)pyrene</b>	<b>U</b>		<b>0.0025</b>	<b>0.0092</b>	<b>mg/Kg-dry</b>	<b>2</b>	10/13/2020 12:48
<b>Benzo(b)fluoranthene</b>	<b>U</b>		<b>0.0022</b>	<b>0.0092</b>	<b>mg/Kg-dry</b>	<b>2</b>	10/13/2020 12:48
<b>Benzo(k)fluoranthene</b>	<b>U</b>		<b>0.0027</b>	<b>0.0092</b>	<b>mg/Kg-dry</b>	<b>2</b>	10/13/2020 12:48
<b>Chrysene</b>	<b>U</b>		<b>0.0019</b>	<b>0.0092</b>	<b>mg/Kg-dry</b>	<b>2</b>	10/13/2020 12:48
<b>Dibenzo(a,h)anthracene</b>	<b>U</b>		<b>0.0022</b>	<b>0.0092</b>	<b>mg/Kg-dry</b>	<b>2</b>	10/13/2020 12:48
<b>Fluoranthene</b>	<b>U</b>		<b>0.0017</b>	<b>0.0092</b>	<b>mg/Kg-dry</b>	<b>2</b>	10/13/2020 12:48

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

# ALS Group, USA

Date: 20-Oct-20

**Client:** Entrada Consulting Group  
**Project:** Emerald 39 Spill  
**Sample ID:** EM 39-SS2  
**Collection Date:** 10/5/2020 11:45 AM

**Work Order:** 20100817  
**Lab ID:** 20100817-02  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Fluorene</b>	<b>0.0054</b>	J	<b>0.0030</b>	<b>0.0092</b>	<b>mg/Kg-dry</b>	2	10/13/2020 12:48
Indeno(1,2,3-cd)pyrene	U		0.0033	0.0092	mg/Kg-dry	2	10/13/2020 12:48
Naphthalene	U		0.0040	0.0092	mg/Kg-dry	2	10/13/2020 12:48
Pyrene	U		0.0015	0.0092	mg/Kg-dry	2	10/13/2020 12:48
Surr: 2-Fluorobiphenyl	32.5			20-140	%REC	2	10/13/2020 12:48
Surr: 4-Terphenyl-d14	18.6	S		22-172	%REC	2	10/13/2020 12:48
Surr: Nitrobenzene-d5	36.2			28-140	%REC	2	10/13/2020 12:48
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260C</b>		Prep: SW5035 / 10/14/20		Analyst: <b>JNS</b>
Benzene	U		0.0066	0.039	mg/Kg-dry	1	10/15/2020 08:41
Ethylbenzene	U		0.0081	0.039	mg/Kg-dry	1	10/15/2020 08:41
<b>m,p-Xylene</b>	<b>0.064</b>	J	<b>0.051</b>	<b>0.077</b>	<b>mg/Kg-dry</b>	1	10/15/2020 08:41
o-Xylene	U		0.015	0.039	mg/Kg-dry	1	10/15/2020 08:41
Toluene	U		0.011	0.039	mg/Kg-dry	1	10/15/2020 08:41
<b>Xylenes, Total</b>	<b>0.064</b>	J	<b>0.051</b>	<b>0.12</b>	<b>mg/Kg-dry</b>	1	10/15/2020 08:41
Surr: 1,2-Dichloroethane-d4	99.8			70-130	%REC	1	10/15/2020 08:41
Surr: 4-Bromofluorobenzene	105			70-130	%REC	1	10/15/2020 08:41
Surr: Dibromofluoromethane	101			70-130	%REC	1	10/15/2020 08:41
Surr: Toluene-d8	98.6			70-130	%REC	1	10/15/2020 08:41
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 10/14/20		Analyst: <b>QTN</b>
<b>Electrical Conductivity @ Saturation</b>	<b>9.4</b>		<b>0.011</b>	<b>0.10</b>	<b>mmhos/cm @25°</b>	20	10/15/2020 11:07
<b>CHROMIUM, TRIVALENT</b>			Method: <b>CALCULATION</b>				Analyst: <b>JB</b>
<b>Chromium, Trivalent</b>	<b>4.6</b>		<b>0.97</b>	<b>1.1</b>	<b>mg/Kg-dry</b>	1	10/14/2020 19:00
<b>CHROMIUM, HEXAVALENT</b>			Method: <b>SW7196A</b>		Prep: SW3060A / 10/14/20		Analyst: <b>RZM</b>
<b>Chromium, Hexavalent</b>	<b>2.3</b>		<b>0.97</b>	<b>1.1</b>	<b>mg/Kg-dry</b>	1	10/14/2020 16:34
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>ERW</b>
<b>Moisture</b>	<b>13</b>		<b>0.10</b>	<b>0.10</b>	<b>% of sample</b>	1	10/16/2020 14:41
<b>SOIL PH MEASURED IN WATER AT NOTED TEMP.</b>			Method: <b>SW9045D</b>		Prep: SW9045D / 10/9/20		Analyst: <b>QTN</b>
<b>pH</b>	<b>7.54</b>		<b>0.10</b>	<b>0.100</b>	<b>s.u.</b>	1	10/12/2020 10:52
<b>Temperature</b>	<b>20.6</b>		<b>0.10</b>	<b>0.100</b>	<b>°C</b>	1	10/12/2020 10:52

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

# ALS Group, USA

Date: 20-Oct-20

**Client:** Entrada Consulting Group  
**Project:** Emerald 39 Spill  
**Sample ID:** EM 39-SS3  
**Collection Date:** 10/5/2020 12:00 PM

**Work Order:** 20100817  
**Lab ID:** 20100817-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>DIESEL RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW3550 / 10/12/20		Analyst: <b>JZB</b>
<b>DRO (C10-C28)</b>	<b>71</b>		<b>3.1</b>	<b>11</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 08:55
Surr: 4-Terphenyl-d14	59.9			33-111	%REC	1	10/13/2020 08:55
<b>GASOLINE RANGE ORGANICS BY GC-FID</b>							
			Method: <b>SW8015D</b>		Prep: SW5035 / 10/14/20		Analyst: <b>JZB</b>
<b>GRO (C6-C10)</b>	<b>U</b>		<b>2.7</b>	<b>6.4</b>	<b>mg/Kg</b>	<b>1</b>	10/14/2020 20:36
Surr: Toluene-d8	111			71-123	%REC	1	10/14/2020 20:36
<b>MERCURY BY CVAA</b>							
			Method: <b>SW7471B</b>		Prep: SW7471 / 10/12/20		Analyst: <b>MAC</b>
<b>Mercury</b>	<b>0.054</b>		<b>0.013</b>	<b>0.020</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/12/2020 15:16
<b>METALS BY ICP-MS</b>							
			Method: <b>SW6020B</b>		Prep: SW3050B / 10/13/20		Analyst: <b>STP</b>
<b>Arsenic</b>	<b>4.8</b>		<b>0.052</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 00:06
<b>Barium</b>	<b>190</b>		<b>4.0</b>	<b>4.3</b>	<b>mg/Kg-dry</b>	<b>10</b>	10/14/2020 15:58
<b>Cadmium</b>	<b>0.21</b>		<b>0.026</b>	<b>0.17</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 00:06
<b>Chromium</b>	<b>8.0</b>		<b>0.19</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 00:06
<b>Copper</b>	<b>10</b>		<b>0.43</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 00:06
<b>Lead</b>	<b>15</b>		<b>0.21</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 00:06
<b>Nickel</b>	<b>12</b>		<b>0.23</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 00:06
<b>Selenium</b>	<b>0.86</b>		<b>0.40</b>	<b>0.43</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 16:05
Silver	U		0.057	0.43	mg/Kg-dry	1	10/14/2020 00:06
<b>Zinc</b>	<b>53</b>		<b>0.85</b>	<b>0.87</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/14/2020 00:06
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: <b>SW6020B</b>		Prep: USDA Method 20B / 10/14/20		Analyst: <b>STP</b>
<b>Calcium</b>	<b>1,500</b>		<b>2.5</b>	<b>5.0</b>	<b>mg/L</b>	<b>10</b>	10/14/2020 19:53
<b>Magnesium</b>	<b>140</b>		<b>0.50</b>	<b>2.0</b>	<b>mg/L</b>	<b>10</b>	10/14/2020 19:53
<b>Sodium</b>	<b>4,500</b>		<b>18</b>	<b>20</b>	<b>mg/L</b>	<b>100</b>	10/15/2020 14:43
<b>SODIUM ADSORPTION RATIO</b>							
			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 10/14/20		Analyst: <b>STP</b>
<b>Sodium Adsorption Ratio</b>	<b>30</b>		<b>0.010</b>	<b>0.010</b>	<b>none</b>	<b>1</b>	10/14/2020
<b>POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)</b>							
			Method: <b>SW8270E</b>		Prep: SW3546 / 10/13/20		Analyst: <b>JZB</b>
<b>Acenaphthene</b>	<b>0.0046</b>		<b>0.00088</b>	<b>0.0045</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 15:35
<b>Anthracene</b>	<b>0.0073</b>		<b>0.0015</b>	<b>0.0045</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 15:35
<b>Benzo(a)anthracene</b>	<b>0.0027</b>	J	<b>0.0019</b>	<b>0.0045</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 15:35
<b>Benzo(a)pyrene</b>	<b>0.0028</b>	J	<b>0.0012</b>	<b>0.0045</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 15:35
<b>Benzo(b)fluoranthene</b>	<b>0.0033</b>	J	<b>0.0011</b>	<b>0.0045</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 15:35
Benzo(k)fluoranthene	U		0.0013	0.0045	mg/Kg-dry	1	10/13/2020 15:35
Chrysene	U		0.00094	0.0045	mg/Kg-dry	1	10/13/2020 15:35
Dibenzo(a,h)anthracene	U		0.0011	0.0045	mg/Kg-dry	1	10/13/2020 15:35
<b>Fluoranthene</b>	<b>0.0047</b>		<b>0.00084</b>	<b>0.0045</b>	<b>mg/Kg-dry</b>	<b>1</b>	10/13/2020 15:35

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

# ALS Group, USA

Date: 20-Oct-20

**Client:** Entrada Consulting Group  
**Project:** Emerald 39 Spill  
**Sample ID:** EM 39-SS3  
**Collection Date:** 10/5/2020 12:00 PM

**Work Order:** 20100817  
**Lab ID:** 20100817-03  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>Fluorene</b>	<b>0.0080</b>		<b>0.0015</b>	<b>0.0045</b>	mg/Kg-dry	1	10/13/2020 15:35
<b>Indeno(1,2,3-cd)pyrene</b>	<b>0.0032</b>	J	<b>0.0016</b>	<b>0.0045</b>	mg/Kg-dry	1	10/13/2020 15:35
Naphthalene	U		0.0020	0.0045	mg/Kg-dry	1	10/13/2020 15:35
<b>Pyrene</b>	<b>0.0046</b>		<b>0.00075</b>	<b>0.0045</b>	mg/Kg-dry	1	10/13/2020 15:35
Surr: 2-Fluorobiphenyl	14.4	S		20-140	%REC	1	10/13/2020 15:35
Surr: 4-Terphenyl-d14	12.4	S		22-172	%REC	1	10/13/2020 15:35
Surr: Nitrobenzene-d5	13.2	S		28-140	%REC	1	10/13/2020 15:35
<b>VOLATILE ORGANIC COMPOUNDS</b>			Method: <b>SW8260C</b>		Prep: SW5035 / 10/14/20		Analyst: <b>JNS</b>
Benzene	U		0.0070	0.041	mg/Kg-dry	1	10/15/2020 08:58
Ethylbenzene	U		0.0086	0.041	mg/Kg-dry	1	10/15/2020 08:58
<b>m,p-Xylene</b>	<b>0.089</b>		<b>0.054</b>	<b>0.082</b>	mg/Kg-dry	1	10/15/2020 08:58
<b>o-Xylene</b>	<b>0.025</b>	J	<b>0.016</b>	<b>0.041</b>	mg/Kg-dry	1	10/15/2020 08:58
Toluene	U		0.011	0.041	mg/Kg-dry	1	10/15/2020 08:58
<b>Xylenes, Total</b>	<b>0.11</b>	J	<b>0.054</b>	<b>0.12</b>	mg/Kg-dry	1	10/15/2020 08:58
Surr: 1,2-Dichloroethane-d4	102			70-130	%REC	1	10/15/2020 08:58
Surr: 4-Bromofluorobenzene	106			70-130	%REC	1	10/15/2020 08:58
Surr: Dibromofluoromethane	101			70-130	%REC	1	10/15/2020 08:58
Surr: Toluene-d8	99.5			70-130	%REC	1	10/15/2020 08:58
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>			Method: <b>USDA H60 METHOD 2</b>		Prep: USDA Method 20B / 10/14/20		Analyst: <b>QTN</b>
<b>Electrical Conductivity @ Saturation</b>	<b>25</b>		<b>0.011</b>	<b>0.10</b>	mmhos/cm @25°	20	10/15/2020 11:07
<b>CHROMIUM, TRIVALENT</b>			Method: <b>CALCULATION</b>				Analyst: <b>JB</b>
<b>Chromium, Trivalent</b>	<b>8.0</b>		<b>0.98</b>	<b>1.2</b>	mg/Kg-dry	1	10/14/2020 19:00
<b>CHROMIUM, HEXAVALENT</b>			Method: <b>SW7196A</b>		Prep: SW3060A / 10/14/20		Analyst: <b>RZM</b>
<b>Chromium, Hexavalent</b>	U		0.98	1.2	mg/Kg-dry	1	10/14/2020 16:34
<b>MOISTURE</b>			Method: <b>SW3550C</b>				Analyst: <b>ERW</b>
<b>Moisture</b>	<b>14</b>		<b>0.10</b>	<b>0.10</b>	% of sample	1	10/16/2020 14:41
<b>SOIL PH MEASURED IN WATER AT NOTED TEMP.</b>			Method: <b>SW9045D</b>		Prep: SW9045D / 10/9/20		Analyst: <b>QTN</b>
<b>pH</b>	<b>7.38</b>		<b>0.10</b>	<b>0.100</b>	s.u.	1	10/12/2020 10:52
<b>Temperature</b>	<b>20.3</b>		<b>0.10</b>	<b>0.100</b>	°C	1	10/12/2020 10:52

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

# ALS Group, USA

Date: 20-Oct-20

**Client:** Entrada Consulting Group  
**Project:** Emerald 39 Spill  
**Sample ID:** EM 39-BG1  
**Collection Date:** 10/5/2020 12:15 PM

**Work Order:** 20100817  
**Lab ID:** 20100817-04  
**Matrix:** SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<b>MERCURY BY CVAA</b>							
			Method: SW7471B		Prep: SW7471 / 10/12/20		Analyst: <b>MAC</b>
Mercury	0.017	J	0.015	0.023	mg/Kg-dry	1	10/12/2020 15:18
<b>METALS ANALYSIS BY ICP</b>							
			Method: SW6010D		Prep: SW3050B / 10/14/20		Analyst: <b>DSC</b>
Arsenic	3.9		0.12	0.47	mg/Kg-dry	1	10/16/2020 19:48
Barium	110		0.58	0.93	mg/Kg-dry	1	10/16/2020 19:48
Cadmium	0.18	J	0.15	0.93	mg/Kg-dry	1	10/16/2020 19:48
Chromium	12		0.28	0.47	mg/Kg-dry	1	10/16/2020 19:48
Copper	16		0.69	0.93	mg/Kg-dry	1	10/16/2020 19:48
Lead	16		0.37	0.47	mg/Kg-dry	1	10/16/2020 19:48
Nickel	14		0.19	0.47	mg/Kg-dry	1	10/16/2020 19:48
Selenium	1.2		0.26	0.93	mg/Kg-dry	1	10/16/2020 19:48
Silver	U		0.22	0.47	mg/Kg-dry	1	10/16/2020 19:48
Zinc	63		0.89	0.93	mg/Kg-dry	1	10/16/2020 19:48
<b>SOLUBLE CATIONS FOR SAR</b>							
			Method: SW6020B		Prep: USDA Method 20B / 10/14/20		Analyst: <b>STP</b>
Calcium	67		2.5	5.0	mg/L	10	10/14/2020 19:55
Magnesium	16		0.50	2.0	mg/L	10	10/14/2020 19:55
Sodium	50		1.8	2.0	mg/L	10	10/14/2020 19:55
<b>SODIUM ADSORPTION RATIO</b>							
			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 10/14/20		Analyst: <b>STP</b>
Sodium Adsorption Ratio	1.4		0.010	0.010	none	1	10/14/2020
<b>ELECTRICAL CONDUCTIVITY (SAR)</b>							
			Method: USDA H60 METHOD 2		Prep: USDA Method 20B / 10/14/20		Analyst: <b>QTN</b>
Electrical Conductivity @ Saturation	0.54		0.011	0.10	mmhos/cm @25°	20	10/15/2020 11:07
<b>CHROMIUM, TRIVALENT</b>							
			Method: CALCULATION				Analyst: <b>JB</b>
Chromium, Trivalent	11		0.96	1.1	mg/Kg-dry	1	10/19/2020 10:15
<b>CHROMIUM, HEXAVALENT</b>							
			Method: SW7196A		Prep: SW3060A / 10/14/20		Analyst: <b>RZM</b>
Chromium, Hexavalent	1.3		0.96	1.1	mg/Kg-dry	1	10/14/2020 16:34
<b>MOISTURE</b>							
			Method: SW3550C				Analyst: <b>ERW</b>
Moisture	12		0.10	0.10	% of sample	1	10/16/2020 15:37
<b>SOIL PH MEASURED IN WATER AT NOTED TEMP.</b>							
			Method: SW9045D		Prep: SW9045D / 10/9/20		Analyst: <b>QTN</b>
pH	8.12		0.10	0.100	s.u.	1	10/12/2020 10:52
Temperature	20.4		0.10	0.100	°C	1	10/12/2020 10:52

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

**Client:** Entrada Consulting Group  
**Work Order:** 20100817  
**Project:** Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **165766** Instrument ID **GC8** Method: **SW8015D**

MBLK				Sample ID: <b>DBLKS1-165766-165766</b>		Units: <b>mg/Kg</b>	Analysis Date: <b>10/13/2020 01:11 AM</b>			
Client ID:		Run ID: <b>GC8_201012A</b>		SeqNo: <b>6786234</b>		Prep Date: <b>10/12/2020</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	10								
<i>Surr: 4-Terphenyl-d14</i>	2.277	0	3.33	0	68.4	33-111	0			

LCS				Sample ID: <b>DLCSS1-165766-165766</b>		Units: <b>mg/Kg</b>	Analysis Date: <b>10/13/2020 01:50 AM</b>			
Client ID:		Run ID: <b>GC8_201012A</b>		SeqNo: <b>6786235</b>		Prep Date: <b>10/12/2020</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)	325.2	10	333	0	97.7	80-121	0			
<i>Surr: 4-Terphenyl-d14</i>	2.02	0	3.33	0	60.7	33-111	0			

MS				Sample ID: <b>20100515-01A MS</b>		Units: <b>mg/Kg</b>	Analysis Date: <b>10/13/2020 02:29 AM</b>			
Client ID:		Run ID: <b>GC8_201012A</b>		SeqNo: <b>6786236</b>		Prep Date: <b>10/12/2020</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)	299.7	9.4	314.3	16.49	90.1	80-121	0			
<i>Surr: 4-Terphenyl-d14</i>	1.908	0	3.143	0	60.7	33-111	0			

MSD				Sample ID: <b>20100515-01A MSD</b>		Units: <b>mg/Kg</b>	Analysis Date: <b>10/13/2020 03:08 AM</b>			
Client ID:		Run ID: <b>GC8_201012A</b>		SeqNo: <b>6786237</b>		Prep Date: <b>10/12/2020</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)	292.3	9.5	317.3	16.49	86.9	80-121	299.7	2.49	30	
<i>Surr: 4-Terphenyl-d14</i>	1.948	0	3.173	0	61.4	33-111	1.908	2.08	30	

The following samples were analyzed in this batch:

20100817-01A	20100817-02A	20100817-03A
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Client: Entrada Consulting Group  
 Work Order: 20100817  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **165963** Instrument ID **GC9** Method: **SW8015D**

<b>MBLK</b>		Sample ID: <b>MBLK-165963-165963</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/14/2020 07:51 PM</b>		
Client ID:		Run ID: <b>GC9_201014A</b>				SeqNo: <b>6793060</b>		Prep Date: <b>10/14/2020</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								
Surr: Toluene-d8	4732	0	5000	0	94.6	71-123	0			

<b>LCS</b>		Sample ID: <b>LCS-165963-165963</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/14/2020 07:04 PM</b>		
Client ID:		Run ID: <b>GC9_201014A</b>				SeqNo: <b>6793071</b>		Prep Date: <b>10/14/2020</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)	238600	5,000	250000	0	95.5	71-123	0			
Surr: Toluene-d8	4116	0	5000	0	82.3	71-123	0			

<b>MS</b>		Sample ID: <b>20100817-01A MS</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/14/2020 09:23 PM</b>		
Client ID: <b>EM 39-SS1</b>		Run ID: <b>GC9_201014A</b>				SeqNo: <b>6793064</b>		Prep Date: <b>10/14/2020</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)	287100	6,800	339200	1227	84.3	71-123	0			
Surr: Toluene-d8	5747	0	6785	0	84.7	71-123	0			

<b>MSD</b>		Sample ID: <b>20100817-01A MSD</b>				Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/14/2020 09:46 PM</b>		
Client ID: <b>EM 39-SS1</b>		Run ID: <b>GC9_201014A</b>				SeqNo: <b>6793065</b>		Prep Date: <b>10/14/2020</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)	271100	6,300	316000	1227	85.4	71-123	287100	5.75	30	
Surr: Toluene-d8	5266	0	6321	0	83.3	71-123	5747	8.74	30	

The following samples were analyzed in this batch:

20100817-01A	20100817-02A	20100817-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Entrada Consulting Group  
 Work Order: 20100817  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **165789** Instrument ID **HG4** Method: **SW7471B**

<b>MBLK</b>		Sample ID: <b>MBLK-165789-165789</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/12/2020 03:00 PM</b>		
Client ID:		Run ID: <b>HG4_201012A</b>				SeqNo: <b>6784357</b>		Prep Date: <b>10/12/2020</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

<b>LCS</b>		Sample ID: <b>LCS-165789-165789</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/12/2020 03:07 PM</b>		
Client ID:		Run ID: <b>HG4_201012A</b>				SeqNo: <b>6784361</b>		Prep Date: <b>10/12/2020</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1625 0.020 0.1665 0 97.6 80-120 0

<b>MS</b>		Sample ID: <b>20100925-01BMS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/12/2020 03:43 PM</b>		
Client ID:		Run ID: <b>HG4_201012A</b>				SeqNo: <b>6784381</b>		Prep Date: <b>10/12/2020</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1453 0.017 0.1376 0.005086 102 75-125 0

<b>MSD</b>		Sample ID: <b>20100925-01BMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/12/2020 03:45 PM</b>		
Client ID:		Run ID: <b>HG4_201012A</b>				SeqNo: <b>6784382</b>		Prep Date: <b>10/12/2020</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1445 0.017 0.1401 0.005086 99.5 75-125 0.1453 0.591 35

The following samples were analyzed in this batch:

20100817-01A	20100817-02A	20100817-03A
20100817-04A		

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



**Client:** Entrada Consulting Group  
**Work Order:** 20100817  
**Project:** Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **165936** Instrument ID **ICP2** Method: **SW6010D**

Sample ID: <b>MBLK-165936-165936</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/16/2020 05:48 PM</b>				
Client ID:		Run ID: <b>ICP2_201016A</b>			SeqNo: <b>6803817</b>		Prep Date: <b>10/14/2020</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	0.50								
Cadmium	U	0.50								
Chromium	U	0.25								
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-165936-165936			Units: mg/Kg		Analysis Date: 10/16/2020 05:53 PM		
Client ID:			Run ID: ICP2_201016A			SeqNo: 6803818		Prep Date: 10/14/2020		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Arsenic	4.825	0.25	5	0	96.5	80-120	0					
Barium	5.236	0.50	5	0	105	80-120	0					
Cadmium	4.95	0.50	5	0	99	80-120	0					
Chromium	5.392	0.25	5	0	108	80-120	0					
Copper	5.085	0.50	5	0	102	80-120	0					
Lead	5.22	0.25	5	0	104	80-120	0					
Nickel	5.019	0.25	5	0	100	80-120	0					
Selenium	4.75	0.50	5	0	95	80-120	0					
Silver	5.107	0.25	5	0	102	80-120	0					
Zinc	4.665	0.50	5	0	93.3	80-120	0					

MS				Sample ID: 20100800-09AMS			Units: mg/Kg		Analysis Date: 10/16/2020 07:03 PM		
Client ID:			Run ID: ICP2_201016A			SeqNo: 6803832		Prep Date: 10/14/2020		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Arsenic	7.654	0.37	7.321	0.8294	93.2	75-125	0				
Barium	22.25	0.73	7.321	13.15	124	75-125	0				
Cadmium	7.138	0.73	7.321	0.03466	97	75-125	0				
Chromium	12.94	0.37	7.321	5.164	106	75-125	0				
Copper	11.01	0.73	7.321	4.171	93.5	75-125	0				
Lead	10.46	0.37	7.321	2.911	103	75-125	0				
Nickel	10.46	0.37	7.321	3.513	94.9	75-125	0				
Selenium	6.969	0.73	7.321	-0.2347	98.4	75-125	0				
Silver	7.377	0.37	7.321	-0.1228	102	75-125	0				
Zinc	13.55	0.73	7.321	6.972	89.8	75-125	0				

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

**Client:** Entrada Consulting Group  
**Work Order:** 20100817  
**Project:** Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **165936** Instrument ID **ICP2** Method: **SW6010D**

MSD		Sample ID: <b>20100800-09AMSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/16/2020 07:08 PM</b>		
Client ID:		Run ID: <b>ICP2_201016A</b>				SeqNo: <b>6803833</b>		Prep Date: <b>10/14/2020</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	7.575	0.37	7.375	0.8294	91.5	75-125	7.654	1.04	20	
Barium	18.19	0.74	7.375	13.15	68.4	75-125	22.25	20.1	20	SR
Cadmium	7.168	0.74	7.375	0.03466	96.7	75-125	7.138	0.427	20	
Chromium	12.38	0.37	7.375	5.164	97.8	75-125	12.94	4.44	20	
Copper	10.61	0.74	7.375	4.171	87.3	75-125	11.01	3.74	20	
Lead	10.01	0.37	7.375	2.911	96.3	75-125	10.46	4.32	20	
Nickel	10.66	0.37	7.375	3.513	97	75-125	10.46	1.94	20	
Selenium	6.976	0.74	7.375	-0.2347	97.8	75-125	6.969	0.103	20	
Silver	7.345	0.37	7.375	-0.1228	101	75-125	7.377	0.427	20	
Zinc	13.05	0.74	7.375	6.972	82.4	75-125	13.55	3.77	20	

The following samples were analyzed in this batch:

20100817-04A

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

Client: Entrada Consulting Group  
 Work Order: 20100817  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **165847** Instrument ID **ICPMS3** Method: **SW6020B**

Sample ID: <b>MBLK-165847-165847</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/13/2020 11:33 PM</b>				
Client ID:		Run ID: <b>ICPMS3_201013B</b>			SeqNo: <b>6787999</b>		Prep Date: <b>10/13/2020</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	U	0.10								
Chromium	U	0.25								
Copper	U	0.25								
Lead	U	0.25								
Nickel	U	0.25								
Selenium	U	0.25								
Silver	U	0.25								
Zinc	U	0.50								

LCS				Sample ID: LCS-165847-165847				Units: mg/Kg			Analysis Date: 10/13/2020 11:34 PM		
Client ID:			Run ID: ICPMS3_201013B				SeqNo: 6788000			Prep Date: 10/13/2020		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Arsenic	5.056	0.25	5	0	101	80-120	0						
Barium	5.821	0.25	5	0	116	80-120	0						
Cadmium	5.749	0.10	5	0	115	80-120	0						
Chromium	5.18	0.25	5	0	104	80-120	0						
Copper	5.211	0.25	5	0	104	80-120	0						
Lead	5.776	0.25	5	0	116	80-120	0						
Nickel	4.997	0.25	5	0	99.9	80-120	0						
Silver	5.028	0.25	5	0	101	80-120	0						
Zinc	5.086	0.50	5	0	102	80-120	0						

LCS				Sample ID: LCS-165847-165847				Units: mg/Kg		Analysis Date: 10/14/2020 03:15 PM		
Client ID:			Run ID: ICPMS3_201014B				SeqNo: 6791643		Prep Date: 10/13/2020		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Selenium	5.001	0.25	5	0	100	80-120	0					

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

**Client:** Entrada Consulting Group  
**Work Order:** 20100817  
**Project:** Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **165847** Instrument ID **ICPMS3** Method: **SW6020B**

MS				Sample ID: <b>20100682-01BMS</b>			Units: <b>mg/Kg</b>		Analysis Date: <b>10/13/2020 11:38 PM</b>	
Client ID:		Run ID: <b>ICPMS3_201013B</b>			SeqNo: <b>6788002</b>		Prep Date: <b>10/13/2020</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.909	0.37	7.364	3.385	88.6	75-125	0			
Barium	90.75	0.37	7.364	45.94	608	75-125	0			SO
Cadmium	5.865	0.15	7.364	-0.04709	80.3	75-125	0			
Chromium	25.49	0.37	7.364	12.67	174	75-125	0			S
Copper	18.43	0.37	7.364	9.621	120	75-125	0			
Lead	14.71	0.37	7.364	6.011	118	75-125	0			
Nickel	25.76	0.37	7.364	14.59	152	75-125	0			S
Selenium	6.619	0.37	7.364	0.863	78.2	75-125	0			
Silver	5.891	0.37	7.364	0.02006	79.7	75-125	0			
Zinc	39.29	0.74	7.364	26.93	168	75-125	0			S

MSD				Sample ID: <b>20100682-01BMSD</b>			Units: <b>mg/Kg</b>		Analysis Date: <b>10/13/2020 11:40 PM</b>	
Client ID:		Run ID: <b>ICPMS3_201013B</b>			SeqNo: <b>6788003</b>		Prep Date: <b>10/13/2020</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.571	0.36	7.174	3.385	86.2	75-125	9.909	3.46	20	
Barium	79.41	0.36	7.174	45.94	467	75-125	90.75	13.3	20	SO
Cadmium	5.944	0.14	7.174	-0.04709	83.5	75-125	5.865	1.33	20	
Chromium	24.04	0.36	7.174	12.67	158	75-125	25.49	5.87	20	S
Copper	18.79	0.36	7.174	9.621	128	75-125	18.43	1.9	20	S
Lead	15.41	0.36	7.174	6.011	131	75-125	14.71	4.63	20	S
Nickel	24.21	0.36	7.174	14.59	134	75-125	25.76	6.22	20	S
Selenium	6.599	0.36	7.174	0.863	80	75-125	6.619	0.297	20	
Silver	5.754	0.36	7.174	0.02006	79.9	75-125	5.891	2.34	20	
Zinc	38.02	0.72	7.174	26.93	155	75-125	39.29	3.3	20	S

The following samples were analyzed in this batch:

20100817-01A      20100817-02A      20100817-03A

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

**Client:** Entrada Consulting Group  
**Work Order:** 20100817  
**Project:** Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **165950** Instrument ID **ICPMS4** Method: **SW6020B**

DUP		Sample ID: <b>20100817-01BDUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>10/14/2020 07:50 PM</b>		
Client ID: <b>EM 39-SS1</b>		Run ID: <b>ICPMS4_201014A</b>				SeqNo: <b>6793473</b>		Prep Date: <b>10/14/2020</b>		DF: <b>10</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	1572	5.0	0	0	0	0-0	1429	9.54		
Magnesium	786	2.0	0	0	0	0-0	454.1	53.5		

DUP		Sample ID: <b>20100817-01BDUP</b>				Units: <b>mg/L</b>		Analysis Date: <b>10/15/2020 02:41 PM</b>		
Client ID: <b>EM 39-SS1</b>		Run ID: <b>ICPMS3_201015A</b>				SeqNo: <b>6795867</b>		Prep Date: <b>10/14/2020</b>		DF: <b>100</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium	2468	20	0	0	0	0-0	1703	36.7		

The following samples were analyzed in this batch:

20100817-01B	20100817-02B	20100817-03B
20100817-04B		

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

Client: Entrada Consulting Group  
 Work Order: 20100817  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **165797** Instrument ID **SVMS6** Method: **SW8270E**

MBLK				Sample ID: SBLKS1-165797-165797				Units: µg/Kg			Analysis Date: 10/12/2020 11:09 PM		
Client ID:			Run ID: SVMS6_201012A				SeqNo: 6785585		Prep Date: 10/12/2020		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Acenaphthene	U	4.2											
Anthracene	U	4.2											
Benzo(a)anthracene	U	4.2											
Benzo(a)pyrene	U	4.2											
Benzo(b)fluoranthene	U	4.2											
Benzo(k)fluoranthene	U	4.2											
Chrysene	U	4.2											
Dibenzo(a,h)anthracene	U	4.2											
Fluoranthene	U	4.2											
Fluorene	U	4.2											
Indeno(1,2,3-cd)pyrene	U	4.2											
Naphthalene	U	4.2											
Pyrene	U	4.2											
Surr: 2-Fluorobiphenyl	2999	0	3333	0	90	20-140	0						
Surr: 4-Terphenyl-d14	2527	0	3333	0	75.8	22-172	0						
Surr: Nitrobenzene-d5	2651	0	3333	0	79.5	28-140	0						

LCS				Sample ID: SLCSS1-165797-165797		Units: µg/Kg		Analysis Date: 10/12/2020 11:25 PM		
Client ID:		Run ID: SVMS6_201012A			SeqNo: 6785586		Prep Date: 10/12/2020		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1108	4.2	1333		0	83.1	40-140	0		
Anthracene	1125	4.2	1333		0	84.4	40-140	0		
Benzo(a)anthracene	1133	4.2	1333		0	85	40-140	0		
Benzo(a)pyrene	1114	4.2	1333		0	83.6	40-140	0		
Benzo(b)fluoranthene	1196	4.2	1333		0	89.7	40-140	0		
Benzo(k)fluoranthene	1115	4.2	1333		0	83.7	40-140	0		
Chrysene	1119	4.2	1333		0	84	40-140	0		
Dibenzo(a,h)anthracene	1141	4.2	1333		0	85.6	40-140	0		
Fluoranthene	1159	4.2	1333		0	87	40-140	0		
Fluorene	1075	4.2	1333		0	80.6	40-140	0		
Indeno(1,2,3-cd)pyrene	1101	4.2	1333		0	82.6	40-140	0		
Naphthalene	1155	4.2	1333		0	86.6	40-140	0		
Pyrene	839.4	4.2	1333		0	63	40-140	0		
Surr: 2-Fluorobiphenyl	3125	0	3333		0	93.7	20-140	0		
Surr: 4-Terphenyl-d14	2469	0	3333		0	74.1	22-172	0		
Surr: Nitrobenzene-d5	2282	0	3333		0	68.5	28-140	0		

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

Client: Entrada Consulting Group  
 Work Order: 20100817  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **165797** Instrument ID **SVMS6** Method: **SW8270E**

MS				Sample ID: <b>20100682-02A MS</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>10/12/2020 11:41 PM</b>	
Client ID:		Run ID: <b>SVMS6_201012A</b>			SeqNo: <b>6785587</b>		Prep Date: <b>10/12/2020</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1076	4.1	1314	0	81.8	40-140	0			
Anthracene	1069	4.1	1314	0	81.3	40-140	0			
Benzo(a)anthracene	1103	4.1	1314	2.222	83.7	40-140	0			
Benzo(a)pyrene	1030	4.1	1314	5.025	78	40-140	0			
Benzo(b)fluoranthene	1141	4.1	1314	6.932	86.2	40-140	0			
Benzo(k)fluoranthene	1141	4.1	1314	1.758	86.7	40-140	0			
Chrysene	1072	4.1	1314	0	81.6	40-140	0			
Dibenzo(a,h)anthracene	1037	4.1	1314	0	78.9	40-140	0			
Fluoranthene	1113	4.1	1314	3.98	84.4	40-140	0			
Fluorene	1003	4.1	1314	0	76.3	40-140	0			
Indeno(1,2,3-cd)pyrene	984.2	4.1	1314	5.241	74.5	40-140	0			
Naphthalene	1125	4.1	1314	0	85.6	40-140	0			
Pyrene	882.3	4.1	1314	2.819	66.9	40-140	0			
Surr: 2-Fluorobiphenyl	3120	0	3287	0	94.9	20-140	0			
Surr: 4-Terphenyl-d14	2579	0	3287	0	78.5	22-172	0			
Surr: Nitrobenzene-d5	2671	0	3287	0	81.3	28-140	0			

MSD				Sample ID: <b>20100682-02A MSD</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>10/12/2020 11:56 PM</b>	
Client ID:		Run ID: <b>SVMS6_201012A</b>			SeqNo: <b>6785588</b>		Prep Date: <b>10/12/2020</b>		DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1126	4.0	1287	0	87.5	40-140	1076	4.58	30	
Anthracene	1128	4.0	1287	0	87.6	40-140	1069	5.39	30	
Benzo(a)anthracene	1161	4.0	1287	2.222	90.1	40-140	1103	5.16	30	
Benzo(a)pyrene	1069	4.0	1287	5.025	82.6	40-140	1030	3.71	30	
Benzo(b)fluoranthene	1179	4.0	1287	6.932	91	40-140	1141	3.29	30	
Benzo(k)fluoranthene	1173	4.0	1287	1.758	91	40-140	1141	2.78	30	
Chrysene	1127	4.0	1287	0	87.5	40-140	1072	4.94	30	
Dibenzo(a,h)anthracene	1070	4.0	1287	0	83.1	40-140	1037	3.1	30	
Fluoranthene	1194	4.0	1287	3.98	92.5	40-140	1113	7.01	30	
Fluorene	1060	4.0	1287	0	82.4	40-140	1003	5.52	30	
Indeno(1,2,3-cd)pyrene	1016	4.0	1287	5.241	78.5	40-140	984.2	3.18	30	
Naphthalene	1205	4.0	1287	0	93.6	40-140	1125	6.86	30	
Pyrene	934.5	4.0	1287	2.819	72.4	40-140	882.3	5.75	30	
Surr: 2-Fluorobiphenyl	3275	0	3218	0	102	20-140	3120	4.82	30	
Surr: 4-Terphenyl-d14	2745	0	3218	0	85.3	22-172	2579	6.23	30	
Surr: Nitrobenzene-d5	2737	0	3218	0	85	28-140	2671	2.41	30	

The following samples were analyzed in this batch:

20100817-01A 20100817-02A

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

Client: Entrada Consulting Group  
 Work Order: 20100817  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **165859** Instrument ID **SVMS6** Method: **SW8270E**

MBLK				Sample ID: SBLKS1-165859-165859				Units: µg/Kg			Analysis Date: 10/14/2020 12:53 PM		
Client ID:			Run ID: SVMS6_201014A				SeqNo: 6791275		Prep Date: 10/13/2020		DF: 2		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Acenaphthene	U	4.2											
Anthracene	U	4.2											
Benzo(a)anthracene	U	4.2											
Benzo(a)pyrene	U	4.2											
Benzo(b)fluoranthene	U	4.2											
Benzo(k)fluoranthene	U	4.2											
Chrysene	U	4.2											
Dibenzo(a,h)anthracene	U	4.2											
Fluoranthene	U	4.2											
Fluorene	U	4.2											
Indeno(1,2,3-cd)pyrene	U	4.2											
Naphthalene	U	4.2											
Pyrene	U	4.2											
Surr: 2-Fluorobiphenyl	3324	0	3333		0	99.7	20-140		0				
Surr: 4-Terphenyl-d14	3527	0	3333		0	106	22-172		0				
Surr: Nitrobenzene-d5	3251	0	3333		0	97.5	28-140		0				

LCS				Sample ID: SLCSS1-165859-165859		Units: µg/Kg		Analysis Date: 10/14/2020 01:08 PM		
Client ID:		Run ID: SVMS6_201014A			SeqNo: 6791276		Prep Date: 10/13/2020		DF: 2	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1176	8.3	1333	0	88.2	40-140	0			
Anthracene	1181	8.3	1333	0	88.6	40-140	0			
Benzo(a)anthracene	1211	8.3	1333	0	90.8	40-140	0			
Benzo(a)pyrene	1175	8.3	1333	0	88.2	40-140	0			
Benzo(b)fluoranthene	1208	8.3	1333	0	90.6	40-140	0			
Benzo(k)fluoranthene	1148	8.3	1333	0	86.1	40-140	0			
Chrysene	1232	8.3	1333	0	92.4	40-140	0			
Dibenzo(a,h)anthracene	1283	8.3	1333	0	96.2	40-140	0			
Fluoranthene	1112	8.3	1333	0	83.4	40-140	0			
Fluorene	1159	8.3	1333	0	87	40-140	0			
Indeno(1,2,3-cd)pyrene	1360	8.3	1333	0	102	40-140	0			
Naphthalene	1222	8.3	1333	0	91.6	40-140	0			
Pyrene	1280	8.3	1333	0	96	40-140	0			
Surr: 2-Fluorobiphenyl	3259	0	3333	0	97.8	20-140	0			
Surr: 4-Terphenyl-d14	3438	0	3333	0	103	22-172	0			
Surr: Nitrobenzene-d5	2831	0	3333	0	84.9	28-140	0			

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



Client: Entrada Consulting Group  
 Work Order: 20100817  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **165859** Instrument ID **SVMS6** Method: **SW8270E**

MS				Sample ID: <b>20100832-07B MS</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>10/14/2020 01:24 PM</b>	
Client ID:		Run ID: <b>SVMS6_201014A</b>			SeqNo: <b>6791277</b>		Prep Date: <b>10/13/2020</b>		DF: <b>2</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1150	8.3	1320	2.441	87	40-140	0			
Anthracene	1176	8.3	1320	5.641	88.7	40-140	0			
Benzo(a)anthracene	1244	8.3	1320	20.86	92.7	40-140	0			
Benzo(a)pyrene	1135	8.3	1320	21.59	84.4	40-140	0			
Benzo(b)fluoranthene	1195	8.3	1320	30.99	88.2	40-140	0			
Benzo(k)fluoranthene	1174	8.3	1320	10.01	88.2	40-140	0			
Chrysene	1266	8.3	1320	22.96	94.2	40-140	0			
Dibenzo(a,h)anthracene	1242	8.3	1320	2.886	93.9	40-140	0			
Fluoranthene	1212	8.3	1320	44.61	88.5	40-140	0			
Fluorene	1134	8.3	1320	0	85.9	40-140	0			
Indeno(1,2,3-cd)pyrene	1301	8.3	1320	18.75	97.2	40-140	0			
Naphthalene	1200	8.3	1320	0	90.9	40-140	0			
Pyrene	1378	8.3	1320	38.71	102	40-140	0			
Surr: 2-Fluorobiphenyl	3220	0	3300	0	97.6	20-140	0			
Surr: 4-Terphenyl-d14	3266	0	3300	0	99	22-172	0			
Surr: Nitrobenzene-d5	2803	0	3300	0	84.9	28-140	0			

MSD				Sample ID: <b>20100832-07B MSD</b>			Units: <b>µg/Kg</b>		Analysis Date: <b>10/14/2020 01:40 PM</b>	
Client ID:		Run ID: <b>SVMS6_201014A</b>			SeqNo: <b>6791278</b>		Prep Date: <b>10/13/2020</b>		DF: <b>2</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1146	8.2	1317	2.441	86.9	40-140	1150	0.341	30	
Anthracene	1171	8.2	1317	5.641	88.5	40-140	1176	0.469	30	
Benzo(a)anthracene	1207	8.2	1317	20.86	90.1	40-140	1244	3.04	30	
Benzo(a)pyrene	1125	8.2	1317	21.59	83.8	40-140	1135	0.885	30	
Benzo(b)fluoranthene	1181	8.2	1317	30.99	87.4	40-140	1195	1.1	30	
Benzo(k)fluoranthene	1144	8.2	1317	10.01	86.1	40-140	1174	2.6	30	
Chrysene	1234	8.2	1317	22.96	92	40-140	1266	2.57	30	
Dibenzo(a,h)anthracene	1263	8.2	1317	2.886	95.7	40-140	1242	1.69	30	
Fluoranthene	1104	8.2	1317	44.61	80.5	40-140	1212	9.32	30	
Fluorene	1122	8.2	1317	0	85.2	40-140	1134	1.01	30	
Indeno(1,2,3-cd)pyrene	1353	8.2	1317	18.75	101	40-140	1301	3.89	30	
Naphthalene	1186	8.2	1317	0	90.1	40-140	1200	1.14	30	
Pyrene	1303	8.2	1317	38.71	96	40-140	1378	5.61	30	
Surr: 2-Fluorobiphenyl	3197	0	3292	0	97.1	20-140	3220	0.695	30	
Surr: 4-Terphenyl-d14	3300	0	3292	0	100	22-172	3266	1.06	30	
Surr: Nitrobenzene-d5	2811	0	3292	0	85.4	28-140	2803	0.268	30	

The following samples were analyzed in this batch:

20100817-03A

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

Client: Entrada Consulting Group  
 Work Order: 20100817  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **165964** Instrument ID **VMS8** Method: **SW8260C**

MS				Sample ID: <b>20100817-01A MS</b>			Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/15/2020 09:14 AM</b>	
Client ID: <b>EM 39-SS1</b>				Run ID: <b>VMS8_201014B</b>			SeqNo: <b>6795807</b>		Prep Date: <b>10/14/2020</b>	
									DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1426	39	1315	7.31	108	75-125	0			
Ethylbenzene	1592	39	1315	0	121	75-125	0			
m,p-Xylene	2827	79	2630	0	107	80-125	0			
o-Xylene	1573	39	1315	0	120	75-125	0			
Toluene	1477	39	1315	0	112	70-125	0			
Xylenes, Total	4400	120	3946	0	112	75-125	0			
Surr: 1,2-Dichloroethane-d4	1318	0	1315	0	100	70-130	0			
Surr: 4-Bromofluorobenzene	1340	0	1315	0	102	70-130	0			
Surr: Dibromofluoromethane	1329	0	1315	0	101	70-130	0			
Surr: Toluene-d8	1299	0	1315	0	98.8	70-130	0			

MSD				Sample ID: <b>20100817-01A MSD</b>			Units: <b>µg/Kg-dry</b>		Analysis Date: <b>10/15/2020 09:30 AM</b>	
Client ID: <b>EM 39-SS1</b>				Run ID: <b>VMS8_201014B</b>			SeqNo: <b>6795808</b>		Prep Date: <b>10/14/2020</b>	
									DF: <b>1</b>	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1447	39	1315	7.31	109	75-125	1426	1.46	30	
Ethylbenzene	1598	39	1315	0	121	75-125	1592	0.371	30	
m,p-Xylene	2790	79	2630	0	106	80-125	2827	1.33	30	
o-Xylene	1566	39	1315	0	119	75-125	1573	0.419	30	
Toluene	1488	39	1315	0	113	70-125	1477	0.71	30	
Xylenes, Total	4356	120	3946	0	110	75-125	4400	1.01	30	
Surr: 1,2-Dichloroethane-d4	1310	0	1315	0	99.6	70-130	1318	0.601	30	
Surr: 4-Bromofluorobenzene	1318	0	1315	0	100	70-130	1340	1.63	30	
Surr: Dibromofluoromethane	1303	0	1315	0	99.1	70-130	1329	2	30	
Surr: Toluene-d8	1269	0	1315	0	96.5	70-130	1299	2.3	30	

The following samples were analyzed in this batch:

20100817-01A	20100817-02A	20100817-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

**Client:** Entrada Consulting Group  
**Work Order:** 20100817  
**Project:** Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **165725** Instrument ID **WETCHEM** Method: **SW9045D**

<b>LCS</b>		Sample ID: <b>LCS-165725-165725</b>				Units: <b>s.u.</b>		Analysis Date: <b>10/12/2020 10:52 AM</b>		
Client ID:		Run ID: <b>WETCHEM_201012I</b>				SeqNo: <b>6783211</b>		Prep Date: <b>10/9/2020</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	3.96	0.10	4	0	99	90-110	0			

<b>DUP</b>		Sample ID: <b>20100730-07A DUP</b>				Units: <b>s.u.</b>		Analysis Date: <b>10/12/2020 10:52 AM</b>		
Client ID:		Run ID: <b>WETCHEM_201012I</b>				SeqNo: <b>6783213</b>		Prep Date: <b>10/9/2020</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.86	0.10	0	0	0	0-0	7.83	0.382	20	
Temperature	20.7	0.10	0	0	0		20.7	0		

<b>DUP</b>		Sample ID: <b>20100819-01A DUP</b>				Units: <b>s.u.</b>		Analysis Date: <b>10/12/2020 10:52 AM</b>		
Client ID:		Run ID: <b>WETCHEM_201012I</b>				SeqNo: <b>6783228</b>		Prep Date: <b>10/9/2020</b>		DF: <b>1</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.51	0.10	0	0	0	0-0	7.56	0.664	20	
Temperature	20.4	0.10	0	0	0		20.5	0.489		

The following samples were analyzed in this batch:

20100817-01A	20100817-02A	20100817-03A
20100817-04A		

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

Client: Entrada Consulting Group  
 Work Order: 20100817  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **165927** Instrument ID **WETCHEM** Method: **SW7196A**

<b>MBLK</b>		Sample ID: <b>MBLK-165927-165927</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/14/2020 04:34 PM</b>		
Client ID:		Run ID: <b>WETCHEM_201014M</b>				SeqNo: <b>6791980</b>		Prep Date: <b>10/14/2020</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-165927-165927</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/14/2020 04:34 PM</b>		
Client ID:		Run ID: <b>WETCHEM_201014M</b>				SeqNo: <b>6791981</b>		Prep Date: <b>10/14/2020</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 4.87 1.0 5 0 97.4 80-120 0

<b>MS</b>		Sample ID: <b>20100817-01A MS</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/14/2020 04:34 PM</b>		
Client ID: <b>EM 39-SS1</b>		Run ID: <b>WETCHEM_201014M</b>				SeqNo: <b>6791983</b>		Prep Date: <b>10/14/2020</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 3.55 1.0 5 0.67 57.6 75-125 0 S

<b>MS</b>		Sample ID: <b>20100817-01A MSI</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/14/2020 04:34 PM</b>		
Client ID: <b>EM 39-SS1</b>		Run ID: <b>WETCHEM_201014M</b>				SeqNo: <b>6791985</b>		Prep Date: <b>10/14/2020</b>		DF: <b>200</b>
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4044 200 4586 0.67 88.2 75-125 0

<b>MSD</b>		Sample ID: <b>20100817-01A MSD</b>				Units: <b>mg/Kg</b>		Analysis Date: <b>10/14/2020 04:34 PM</b>		
Client ID: <b>EM 39-SS1</b>		Run ID: <b>WETCHEM_201014M</b>				SeqNo: <b>6791984</b>		Prep Date: <b>10/14/2020</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 3.55 1.0 5 0.67 57.6 75-125 3.55 0 20 S

The following samples were analyzed in this batch:

20100817-01A	20100817-02A	20100817-03A
20100817-04A		

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

**Client:** Entrada Consulting Group  
**Work Order:** 20100817  
**Project:** Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **165950** Instrument ID **WETCHEM** Method: **USDA H60 Method**

<b>DUP</b>		Sample ID: <b>20100817-01B DUP</b>				Units: <b>mmhos/cm @25°</b>		Analysis Date: <b>10/15/2020 11:07 AM</b>		
Client ID: <b>EM 39-SS1</b>		Run ID: <b>WETCHEM_201015D</b>		SeqNo: <b>6795093</b>		Prep Date: <b>10/14/2020</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	15.46	0.10	0	0	0		15.04	2.75	50	

The following samples were analyzed in this batch:

20100817-01B	20100817-02B	20100817-03B
20100817-04B		

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

Client: Entrada Consulting Group  
 Work Order: 20100817  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **R300632** Instrument ID **MOIST** Method: **SW3550C**

<b>MBLK</b>		Sample ID: <b>WBLKS-R300632</b>				Units: % of sample		Analysis Date: <b>10/16/2020 02:41 PM</b>		
Client ID:		Run ID: <b>MOIST_201016B</b>				SeqNo: <b>6805363</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 0.10

<b>LCS</b>		Sample ID: <b>LCS-R300632</b>				Units: % of sample		Analysis Date: <b>10/16/2020 02:41 PM</b>		
Client ID:		Run ID: <b>MOIST_201016B</b>				SeqNo: <b>6805362</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 99.99 0.10 100 0 100 98-102 0

<b>DUP</b>		Sample ID: <b>20100800-01A DUP</b>				Units: % of sample		Analysis Date: <b>10/16/2020 02:41 PM</b>		
Client ID:		Run ID: <b>MOIST_201016B</b>				SeqNo: <b>6805347</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 5.72 0.10 0 0 0 0-0 5.68 0.702 10

<b>DUP</b>		Sample ID: <b>20100800-11B DUP</b>				Units: % of sample		Analysis Date: <b>10/16/2020 02:41 PM</b>		
Client ID:		Run ID: <b>MOIST_201016B</b>				SeqNo: <b>6805358</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 2.1 0.10 0 0 0 0-0 2.11 0.475 10

The following samples were analyzed in this batch:

20100817-01A 20100817-02A 20100817-03A

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

Client: Entrada Consulting Group  
 Work Order: 20100817  
 Project: Emerald 39 Spill

## QC BATCH REPORT

Batch ID: **R300634** Instrument ID **MOIST** Method: **SW3550C**

<b>MBLK</b>		Sample ID: <b>WBLKS-R300634</b>				Units: % of sample		Analysis Date: <b>10/16/2020 03:37 PM</b>		
Client ID:		Run ID: <b>MOIST_201016C</b>				SeqNo: <b>6805395</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	0.10								

<b>LCS</b>		Sample ID: <b>LCS-R300634</b>				Units: % of sample		Analysis Date: <b>10/16/2020 03:37 PM</b>		
Client ID:		Run ID: <b>MOIST_201016C</b>				SeqNo: <b>6805394</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	99.99	0.10	100	0	100	98-102	0			

<b>DUP</b>		Sample ID: <b>20100817-04A DUP</b>				Units: % of sample		Analysis Date: <b>10/16/2020 03:37 PM</b>		
Client ID: <b>EM 39-BG1</b>		Run ID: <b>MOIST_201016C</b>				SeqNo: <b>6805379</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	11.98	0.10	0	0	0	0-0	12.02	0.333	10	

<b>DUP</b>		Sample ID: <b>20100819-02A DUP</b>				Units: % of sample		Analysis Date: <b>10/16/2020 03:37 PM</b>		
Client ID:		Run ID: <b>MOIST_201016C</b>				SeqNo: <b>6805382</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	14.14	0.10	0	0	0	0-0	13.99	1.07	10	

The following samples were analyzed in this batch:

20100817-04A

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



# Chain of Custody Form

Page 1 of 1

COC ID: 123456

☐ Cincinnati, OH  
+1 513 733 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

Customer Information		Project Information					Parameter/Method Request for Analysis													
Purchase Order		Project Name	Emerald 39 Spill					A TPH (GRO & DRO)												
Work Order		Project Number	018-065					B BTEX												
Company Name	Entrada Consulting Group	Bill To Company	Entrada Consulting Group					C PAH (See Attached List) CO Table 910												
Send Report To	Tim Dobransky	Invoice Attn.	Tim Dobransky					D Electrical Conductivity												
Address	330 Grand Ave, STE C	Address						E Sodium Adsorption Ratio												
City/State/Zip	Grand Junction, CO 81501	City/State/Zip						F pH												
Phone	970.270.2986	Phone						G Metals (See Attached List) CO Table 910												
Fax		Fax						H Arsenic Only												
e-Mail Address	tdobransky@entradainc.com	e-Mail Address						I												
								J												
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold			
1	EM 39-SS1	10/05/20	1130	Soil	8	2	X	X	X	X	X	X	X							
2	EM 39-SS2	10/05/20	1145	Soil	8	2	X	X	X	X	X	X	X							
3	EM 39-SS3	10/05/20	1200	Soil	8	2	X	X	X	X	X	X	X							
4	EM 39-BG1	10/05/20	1215	Soil	8	2				X	X	X	X							
5																				
6																				
7																				
8																				
9																				
10																				
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time:				Other				Results Due Date:								
<i>[Signature]</i>		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>	10/6/20	1200	<i>[Signature]</i>				Chevron Pricing Applies - Per Bruce Schlatter													
Relinquished by:	Date:	Time:	Received by (Laboratory):				Cooler Temp.													
<i>[Signature]</i>	10-6-20	1830	<i>[Signature]</i>				4.2°													
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):				QC Package: (Check Box Below)													
<i>[Signature]</i>	10/9/20	0835	<i>[Signature]</i>				<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													
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degree C 9-5035							Other:													

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

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Sample Receipt Checklist

Client Name: **ENTRADA**

Date/Time Received: **08-Oct-20 10:30**

Work Order: **20100817**

Received by: **KRW**

Checklist completed by **Keith Wierenga**

09-Oct-20

Reviewed by: **Chad Whelton**

09-Oct-20

eSignature

Date

eSignature

Date

Matrices: **Soil**

Carrier name: **FedEx**

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

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

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

Chain of custody present? Yes ☒ No ☐

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

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

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

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

Sample(s) received on ice? Yes ☒ No ☐

Temperature(s)/Thermometer(s): **4.2/5.2 C** **IR3**

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: **10/9/2020 8:40:44 AM**

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

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

pH adjusted? Yes ☐ No ☐ N/A ☒

pH adjusted by: **-**

Login Notes:

-----

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction: