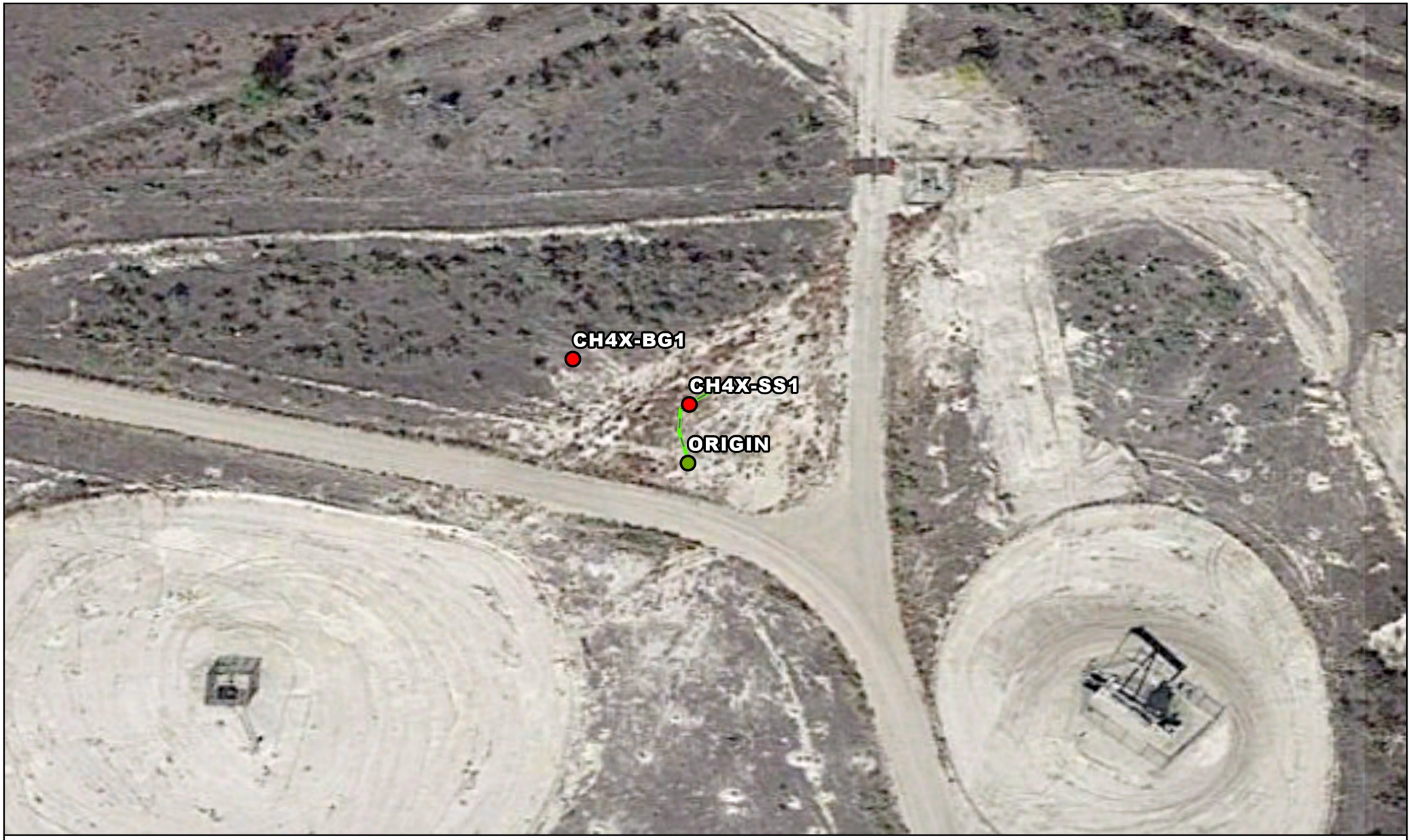

Legend

Origin | Soil Sample Location | Spill Path | Spill Area

0 60 120 Ft

1 inch = 60 ft

N W E S

Project No: 018-065 Map By: NDB Date: 2-7-2018	Cobb Stringer Hefley 4X Spill Chevron USA, Inc. Rio Blanco County, Colorado NE/4 NW/4 Sec 15 T1S R103W	ENTRADA CONSULTING GROUP	330 Grand Avenue, Unit C Grand Junction, CO 81501 970-549-1015	Figure 1

Table 1
Cobb Stringer Hefley 4X Spill
Soil Data Summary

SAMPLE SUMMARY	
Location Description	Cobb Stringer Hefley 4x Spill
Sample Type	Soil

LABORATORY DATA SUMMARY				
Sample ID	CH4X-SS1	CH4X-BG1	**COGCC TABLE 910-1 CONCENTRATION LEVELS**	**UNITS**
Depth	0-6"	0-6"		
Sample Date	11/8/2018	11/8/2018		
Analytical Parameters				
TPH				
TPH Gasoline Range Organics	<2.7	NT	500	mg/kg
TPH Diesel Range Organics	<3.1	NT		
BTEX				
Benzene	<0.0065	NT	0.17	mg/kg
Toluene	<0.010	NT	85	mg/kg
Ethylbenzene	0.0095 J	NT	100	mg/kg
Total Xylene	<0.033	NT	175	mg/kg
Metals				
Arsenic	3.8	4.0	0.39	mg/kg
Barium	160	100	15,000	mg/kg
Cadmium	0.23 J	0.23 J	70	mg/kg
Chromium	9.4	9.3	NA	mg/kg
Copper	13	12	3,100	mg/kg
Lead	11	9.1	400	mg/kg
Mercury	0.019 J	0.014 J	23	mg/kg
Nickel	9.2	9.3	1,600	mg/kg
Selenium	0.25 J	0.35 J	390	mg/kg
Silver	<0.050	<0.053	390	mg/kg
Zinc	51	48	23,000	mg/kg
SAR Metals Analysis				
Calcium	110	59	NA	mg/L
Magnesium	23	16	NA	mg/L
Sodium	120	65	NA	mg/L
Sodium Adsorption Ratio	2.7	1.9	<12	ratio
Polynuclear Aromatic Hyrdrocarbons				
Acenaphthene	<0.0052	NT	1,000	mg/kg
Anthracene	<0.0050	NT	1,000	mg/kg
Benzo(a)anthracene	<0.0062	NT	0.22	mg/kg
Benzo(a)pyrene	<0.0044	NT	0.022	mg/kg
Benzo(b)fluoranthene	<0.0053	NT	0.22	mg/kg
Benzo(k)fluoranthene	<0.0054	NT	2.2	mg/kg
Chrysene	<0.0058	NT	22	mg/kg
Dibenzo(a,h)anthracene	<0.0039	NT	0.022	mg/kg
Fluoranthene	<0.0034	NT	1,000	mg/kg
Fluorene	<0.0052	NT	1,000	mg/kg
Indeno(1,2,3-cd)pyrene	<0.0050	NT	0.22	mg/kg
Napthalene	<0.0046	NT	23	mg/kg
Pyrene	<0.0013	NT	1,000	mg/kg
General Chemistry				
Chromium, Hexavalent	<0.36	0.36 J	23	mg/kg
Chromium, Trivalent	9.4	8.9	120,000	mg/kg
Specific Conductivity	1.4	0.80	<4 or 2 x the background	mmhos/cm
pH	8.47	8.51	6-9	su

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

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

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

Over COGCC Table 910-1 concentration levels

30-Nov-2018

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

Re: **Cobb Stringer Hefley 4X Spill** Work Order: **1811792**

Dear Tim,

ALS Environmental received 2 samples on 10-Nov-2018 10:00 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 27.

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,

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 998501

ALS Group, USA

Date: 30-Nov-18

Client: Entrada Consulting Group
Project: Cobb Stringer Hefley 4X Spill
Work Order: **1811792**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1811792-01	CH4X-SS1	Soil		11/8/2018 13:20	11/10/2018 10:00	☐
1811792-02	CH4X-BG1	Soil		11/8/2018 13:30	11/10/2018 10:00	☐

ALS Group, USA

Date: 30-Nov-18

Client: Entrada Consulting Group
Project: Cobb Stringer Hefley 4X Spill
Work Order: 1811792

Case Narrative

Batch 128657, Method CR6_7196_S, Sample 1811792-01A MSD: The RPD between the MS and MSD was outside the control limit for Hexavalent Chromium. The corresponding result in the parent sample should be considered estimated.

Qualifier	Description
*	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.

Acronym	Description
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

Units Reported	Description
% of sample	Percent of Sample
mg/Kg	Milligrams per Kilogram
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter
mmhos/cm @25°C	Millimhos-Centimeter at 25 Degrees Celcius
none	
s.u.	Standard Units

ALS Group, USA

Date: *30-Nov-18*

Client: Entrada Consulting Group
Project: Cobb Stringer Hefley 4X Spill
Sample ID: CH4X-SS1
Collection Date: 11/8/2018 01:20 PM

Work Order: 1811792
Lab ID: 1811792-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID		Method: **SW8015M**			Prep: SW3546 / 11/16/18		Analyst: **RP**
DRO (C10-C28)	U		3.1	5.4	mg/Kg-dry	1	11/16/2018 19:04
Surr: 4-Terphenyl-d14	*88.0*			*33-111*	*%REC*	1	11/16/2018 19:04
GASOLINE RANGE ORGANICS BY GC-FID		Method: **SW8015D**			Prep: SW5035 / 11/13/18		Analyst: **RP**
GRO (C6-C10)	U		2.7	6.4	mg/Kg	1	11/16/2018 20:51
Surr: Toluene-d8	*91.8*			*71-123*	*%REC*	1	11/16/2018 20:51
MERCURY BY CVAA		Method: **SW7471B**			Prep: SW7471 / 11/13/18		Analyst: **RSH**
Mercury	**0.019**	J	**0.0020**	**0.020**	**mg/Kg-dry**	1	11/13/2018 18:57
METALS ANALYSIS BY ICP		Method: **SW846 6010C**			Prep: SW3050B / 11/15/18		Analyst: **ABL**
Arsenic	**3.8**		**0.11**	**0.41**	**mg/Kg-dry**	1	11/16/2018 01:32
Barium	**160**		**0.16**	**0.41**	**mg/Kg-dry**	1	11/16/2018 01:32
Cadmium	**0.23**	J	**0.039**	**0.81**	**mg/Kg-dry**	1	11/16/2018 01:32
Chromium	**9.4**		**0.023**	**0.41**	**mg/Kg-dry**	1	11/16/2018 01:32
Copper	**13**		**0.18**	**0.81**	**mg/Kg-dry**	1	11/16/2018 01:32
Lead	**11**		**0.086**	**0.41**	**mg/Kg-dry**	1	11/16/2018 01:32
Nickel	**9.2**		**0.16**	**0.41**	**mg/Kg-dry**	1	11/16/2018 01:32
Selenium	**0.25**	J	**0.23**	**0.81**	**mg/Kg-dry**	1	11/16/2018 01:32
Silver	U		0.050	0.41	mg/Kg-dry	1	11/16/2018 01:32
Zinc	**51**		**0.068**	**0.85**	**mg/Kg-dry**	1	11/27/2018 09:11
SOLUBLE CATIONS FOR SAR		Method: **SW6020A**			Prep: USDA Method 20B / 11/21/18		Analyst: **STP**
Calcium	**110**		**0.86**	**5.0**	**mg/L**	10	11/21/2018 14:51
Magnesium	**23**		**0.068**	**2.0**	**mg/L**	10	11/21/2018 14:51
Sodium	**120**		**0.34**	**2.0**	**mg/L**	10	11/21/2018 14:51
SODIUM ADSORPTION RATIO		Method: **USDA H60 METHOD 2**			Prep: USDA Method 20B / 11/21/18		Analyst: **STP**
Sodium Adsorption Ratio	**2.7**		**0.010**	**0.010**	**none**	1	11/21/2018
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3546 / 11/16/18		Analyst: **KAW**
Acenaphthene	U		0.0052	0.0072	mg/Kg-dry	1	11/16/2018 14:05
Anthracene	U		0.0050	0.0072	mg/Kg-dry	1	11/16/2018 14:05
Benzo(a)anthracene	U		0.0062	0.0072	mg/Kg-dry	1	11/16/2018 14:05
Benzo(a)pyrene	U		0.0044	0.0072	mg/Kg-dry	1	11/16/2018 14:05
Benzo(b)fluoranthene	U		0.0053	0.0072	mg/Kg-dry	1	11/16/2018 14:05
Benzo(k)fluoranthene	U		0.0054	0.0072	mg/Kg-dry	1	11/16/2018 14:05
Chrysene	U		0.0058	0.0072	mg/Kg-dry	1	11/16/2018 14:05
Dibenzo(a,h)anthracene	U		0.0039	0.0072	mg/Kg-dry	1	11/16/2018 14:05
Fluoranthene	U		0.0034	0.0072	mg/Kg-dry	1	11/16/2018 14:05

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

Client: Entrada Consulting Group
Project: Cobb Stringer Hefley 4X Spill
Sample ID: CH4X-SS1
Collection Date: 11/8/2018 01:20 PM

Work Order: 1811792
Lab ID: 1811792-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Fluorene	U		0.0052	0.0072	mg/Kg-dry	1	11/16/2018 14:05
Indeno(1,2,3-cd)pyrene	U		0.0050	0.0072	mg/Kg-dry	1	11/16/2018 14:05
Naphthalene	U		0.0046	0.0072	mg/Kg-dry	1	11/16/2018 14:05
Pyrene	U		0.0013	0.0072	mg/Kg-dry	1	11/16/2018 14:05
Surr: 2-Fluorobiphenyl	*61.4*			*44-107*	*%REC*	1	11/16/2018 14:05
Surr: 4-Terphenyl-d14	*75.5*			*52-123*	*%REC*	1	11/16/2018 14:05
Surr: Nitrobenzene-d5	*52.7*			*41-94*	*%REC*	1	11/16/2018 14:05
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260C**		Prep: SW5035 / 11/13/18		Analyst: **LSY**
Benzene	U		0.0065	0.038	mg/Kg	1	11/20/2018 07:02
Ethylbenzene	**0.0095**	J	**0.0081**	**0.038**	**mg/Kg**	1	11/20/2018 07:02
m,p-Xylene	U		0.018	0.076	mg/Kg	1	11/20/2018 07:02
o-Xylene	U		0.015	0.038	mg/Kg	1	11/20/2018 07:02
Toluene	U		0.010	0.038	mg/Kg	1	11/20/2018 07:02
Xylenes, Total	U		0.033	0.11	mg/Kg	1	11/20/2018 07:02
Surr: 1,2-Dichloroethane-d4	*107*			*70-130*	*%REC*	1	11/20/2018 07:02
Surr: 4-Bromofluorobenzene	*95.7*			*70-130*	*%REC*	1	11/20/2018 07:02
Surr: Dibromofluoromethane	*86.9*			*70-130*	*%REC*	1	11/20/2018 07:02
Surr: Toluene-d8	*99.8*			*70-130*	*%REC*	1	11/20/2018 07:02
ELECTRICAL CONDUCTIVITY (SAR)		Method:	**USDA H60 METHOD 2**		Prep: USDA Method 20B / 11/21/18		Analyst: **JB**
Electrical Conductivity @ Saturation	**1.4**		**0.011**	**0.10**	**mmhos/cm @25°**	20	11/25/2018 20:40
CHROMIUM, TRIVALENT		Method:	**CALCULATION**				Analyst: **JB**
Chromium, Trivalent	**9.4**		**0.35**	**1.1**	**mg/Kg-dry**	1	11/29/2018 12:45
CHROMIUM, HEXAVALENT		Method:	**SW7196A**		Prep: SW3060A / 11/28/18		Analyst: **JSH**
Chromium, Hexavalent	U		0.36	1.2	mg/Kg-dry	1	11/29/2018 16:00
MOISTURE		Method:	**SW3550C**				Analyst: **RBS**
Moisture	**12**		**0.025**	**0.050**	**% of sample**	1	11/21/2018 10:28
PH		Method:	**SW9045D**		Prep: EXTRACT / 11/15/18		Analyst: **RZM**
pH	**8.47**		**0.10**	**0.100**	**s.u.**	1	11/16/2018 09:15

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

ALS Group, USA

Date: *30-Nov-18*

Client: Entrada Consulting Group
Project: Cobb Stringer Hefley 4X Spill
Sample ID: CH4X-BG1
Collection Date: 11/8/2018 01:30 PM

Work Order: 1811792
Lab ID: 1811792-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA		Method: **SW7471B**			Prep: SW7471 / 11/13/18		Analyst: **RSH**
Mercury	**0.014**	J	**0.0020**	**0.020**	**mg/Kg-dry**	1	11/13/2018 18:59
METALS ANALYSIS BY ICP		Method: **SW846 6010C**			Prep: SW3050B / 11/15/18		Analyst: **ABL**
Arsenic	**4.0**		**0.11**	**0.43**	**mg/Kg-dry**	1	11/16/2018 15:41
Barium	**100**		**0.17**	**0.43**	**mg/Kg-dry**	1	11/16/2018 15:41
Cadmium	**0.23**	J	**0.041**	**0.85**	**mg/Kg-dry**	1	11/16/2018 15:41
Chromium	**9.3**		**0.024**	**0.43**	**mg/Kg-dry**	1	11/16/2018 15:41
Copper	**12**		**0.19**	**0.85**	**mg/Kg-dry**	1	11/16/2018 15:41
Lead	**9.1**		**0.090**	**0.43**	**mg/Kg-dry**	1	11/16/2018 15:41
Nickel	**9.3**		**0.17**	**0.43**	**mg/Kg-dry**	1	11/16/2018 15:41
Selenium	**0.35**	J	**0.24**	**0.85**	**mg/Kg-dry**	1	11/16/2018 15:41
Silver	U		0.053	0.43	mg/Kg-dry	1	11/16/2018 15:41
Zinc	**48**		**0.061**	**0.76**	**mg/Kg-dry**	1	11/27/2018 09:17
SOLUBLE CATIONS FOR SAR		Method: **SW6020A**			Prep: USDA Method 20B / 11/21/18		Analyst: **STP**
Calcium	**59**		**0.86**	**5.0**	**mg/L**	10	11/21/2018 14:54
Magnesium	**16**		**0.068**	**2.0**	**mg/L**	10	11/21/2018 14:54
Sodium	**65**		**0.34**	**2.0**	**mg/L**	10	11/21/2018 14:54
SODIUM ADSORPTION RATIO		Method: **USDA H60 METHOD 2**			Prep: USDA Method 20B / 11/21/18		Analyst: **STP**
Sodium Adsorption Ratio	**1.9**		**0.010**	**0.010**	**none**	1	11/21/2018
ELECTRICAL CONDUCTIVITY (SAR)		Method: **USDA H60 METHOD 2**			Prep: USDA Method 20B / 11/21/18		Analyst: **JB**
Electrical Conductivity @ Saturation	**0.80**		**0.011**	**0.10**	**mmhos/cm @25°**	20	11/25/2018 20:40
CHROMIUM, TRIVALENT		Method: **CALCULATION**					Analyst: **JB**
Chromium, Trivalent	**8.9**		**0.35**	**1.1**	**mg/Kg-dry**	1	11/29/2018 12:45
CHROMIUM, HEXAVALENT		Method: **SW7196A**			Prep: SW3060A / 11/28/18		Analyst: **JSH**
Chromium, Hexavalent	**0.36**	J	**0.34**	**1.1**	**mg/Kg-dry**	1	11/29/2018 16:00
MOISTURE		Method: **SW3550C**					Analyst: **RBS**
Moisture	**12**		**0.025**	**0.050**	**% of sample**	1	11/21/2018 10:28
PH		Method: **SW9045D**			Prep: EXTRACT / 11/15/18		Analyst: **RZM**
pH	**8.51**		**0.10**	**0.100**	**s.u.**	1	11/16/2018 09:15

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

ALS Group, USA

Date: 30-Nov-18

Client: Entrada Consulting Group

Work Order: 1811792

Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **128068** Instrument ID **GC8** Method: **SW8015M**

MBLK Sample ID: **DBLKS1-128068-128068** Units: **mg/Kg** Analysis Date: **11/16/2018 05:08 PM**

Client ID: Run ID: **GC8_181116A** SeqNo: **5392578** Prep Date: **11/16/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	U	5.0								
Surr: 4-Terphenyl-d14	*3.012*	0	*3.33*	0	*90.5*	*33-111*	0			

LCS Sample ID: **DLCSS1-128068-128068** Units: **mg/Kg** Analysis Date: **11/16/2018 05:37 PM**

Client ID: Run ID: **GC8_181116A** SeqNo: **5392580** Prep Date: **11/16/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	238.7	5.0	333	0	71.7	58-111	0			
Surr: 4-Terphenyl-d14	*3.654*	0	*3.33*	0	*110*	*33-111*	0			

MS Sample ID: **1811792-01A MS** Units: **mg/Kg** Analysis Date: **11/16/2018 06:06 PM**

Client ID: **CH4X-SS1** Run ID: **GC8_181116A** SeqNo: **5392582** Prep Date: **11/16/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	236.1	5.0	330.7	0	71.4	58-111	0			
Surr: 4-Terphenyl-d14	*3.191*	0	*3.307*	0	*96.5*	*33-111*	0			

MSD Sample ID: **1811792-01A MSD** Units: **mg/Kg** Analysis Date: **11/16/2018 06:35 PM**

Client ID: **CH4X-SS1** Run ID: **GC8_181116A** SeqNo: **5392584** Prep Date: **11/16/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	220.9	4.9	327.9	0	67.4	58-111	236.1	6.66	30	
Surr: 4-Terphenyl-d14	*2.866*	0	*3.279*	0	*87.4*	*33-111*	3.191	*10.7*	*30*	

The following samples were analyzed in this batch: 1811792-01A

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **127900** Instrument ID **GC9** Method: **SW8015D**

MBLK Sample ID: **MBLK-127900-127900** Units: **µg/Kg-dry** Analysis Date: **11/15/2018 06:43 PM**
Client ID: Run ID: **GC9_181115A** SeqNo: **5389777** Prep Date: **11/13/2018** DF: **1**

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	*4483*	0	*5000*	0	*89.7*	*71-123*	0			

LCS Sample ID: **LCS-127900-127900** Units: **µg/Kg-dry** Analysis Date: **11/15/2018 02:21 PM**
Client ID: Run ID: **GC9_181115A** SeqNo: **5387937** Prep Date: **11/13/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	512200	5,000	500000	0	102	71-123	0			
Surr: Toluene-d8	*5128*	0	*5000*	0	*103*	*71-123*	0			

MS Sample ID: **1811771-03A MS** Units: **µg/Kg-dry** Analysis Date: **11/16/2018 11:45 PM**
Client ID: Run ID: **GC9_181115A** SeqNo: **5393599** Prep Date: **11/13/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	576800	5,800	581100	0	99.3	71-123	0			
Surr: Toluene-d8	*6147*	0	*5811*	0	*106*	*71-123*	0			

MSD Sample ID: **1811771-03A MSD** Units: **µg/Kg-dry** Analysis Date: **11/17/2018 12:43 PM**
Client ID: Run ID: **GC9_181115A** SeqNo: **5393615** Prep Date: **11/13/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	544300	5,800	581100	0	93.7	71-123	576800	5.79	30	
Surr: Toluene-d8	*6040*	0	*5811*	0	*104*	*71-123*	6147	*1.75*	*30*	

The following samples were analyzed in this batch: 1811792-01A

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **127858** Instrument ID **HG4** Method: **SW7471B**

MBLK Sample ID: **MBLK-127858-127858** Units: **mg/Kg** Analysis Date: **11/13/2018 05:40 PM**
Client ID: Run ID: **HG4_181113A** SeqNo: **5384323** Prep Date: **11/13/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.008083	0.020								J

LCS Sample ID: **LCS-127858-127858** Units: **mg/Kg** Analysis Date: **11/13/2018 05:43 PM**
Client ID: Run ID: **HG4_181113A** SeqNo: **5384324** Prep Date: **11/13/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1932	0.020	0.1665	0	116	80-120	0			

MS Sample ID: **1811791-03B MS** Units: **mg/Kg** Analysis Date: **11/13/2018 06:34 PM**
Client ID: Run ID: **HG4_181113A** SeqNo: **5384345** Prep Date: **11/13/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1674	0.016	0.1323	0.06596	76.7	75-125	0			

MSD Sample ID: **1811791-03B MSD** Units: **mg/Kg** Analysis Date: **11/13/2018 06:37 PM**
Client ID: Run ID: **HG4_181113A** SeqNo: **5384346** Prep Date: **11/13/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.1631	0.016	0.1325	0.06596	73.3	75-125	0.1674	2.63	35	S

The following samples were analyzed in this batch: 1811792-01A 1811792-02A

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **128058** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK Sample ID: **MBLK-128058-128058** Units: **mg/Kg** Analysis Date: **11/15/2018 10:21 PM**
Client ID: Run ID: **ICP2_181115A** SeqNo: **5388361** Prep Date: **11/15/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								
Barium	U	0.25								
Cadmium	U	0.50								
Chromium	0.1285	0.25								J
Copper	U	0.50								
Lead	U	0.25								
Nickel	U	0.25								
Selenium	U	0.50								
Silver	U	0.25								

MBLK Sample ID: **MBLK-128058-128058** Units: **mg/Kg** Analysis Date: **11/20/2018 04:03 PM**
Client ID: Run ID: **ICP2_181120A** SeqNo: **5398347** Prep Date: **11/15/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								
Barium	U	0.25								
Cadmium	U	0.50								
Chromium	0.119	0.25								J
Copper	U	0.50								
Lead	U	0.25								
Nickel	U	0.25								
Selenium	U	0.50								
Silver	U	0.25								
Zinc	0.675	0.50								

LCS Sample ID: **LCS-128058-128058** Units: **mg/Kg** Analysis Date: **11/16/2018 01:45 PM**
Client ID: Run ID: **ICP2_181116A** SeqNo: **5391887** Prep Date: **11/15/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.581	0.25	4.912	0	93.3	80-120	0			
Barium	4.558	0.25	4.912	0	92.8	80-120	0			
Cadmium	4.907	0.49	4.912	0	99.9	80-120	0			
Chromium	4.867	0.25	4.912	0	99.1	80-120	0			
Copper	5.034	0.49	4.912	0	102	80-120	0			
Lead	4.923	0.25	4.912	0	100	80-120	0			
Nickel	4.984	0.25	4.912	0	101	80-120	0			
Selenium	4.66	0.49	4.912	0	94.9	80-120	0			
Silver	5	0.25	4.912	0	102	80-120	0			
Zinc	5.269	0.49	4.912	0	107	80-120	0			

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **128058** Instrument ID **ICP2** Method: **SW846 6010C**

MS Sample ID: **1811793-02AMS** Units: **mg/Kg** Analysis Date: **11/16/2018 04:29 PM**
Client ID: Run ID: **ICP2_181116A** SeqNo: **5391942** Prep Date: **11/15/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	10.48	0.36	7.257	3.832	91.6	75-125	0			
Barium	76.01	0.36	7.257	65.18	149	75-125	0			SO
Cadmium	6.88	0.73	7.257	0.1891	92.2	75-125	0			
Chromium	19.33	0.36	7.257	9.108	141	75-125	0			S
Copper	22.62	0.73	7.257	14.8	108	75-125	0			
Lead	18.77	0.36	7.257	12.28	89.5	75-125	0			
Nickel	20.07	0.36	7.257	13.53	90.2	75-125	0			
Selenium	7.884	0.73	7.257	1.058	94.1	75-125	0			
Silver	7.52	0.36	7.257	-0.08613	105	75-125	0			
Zinc	74.35	0.73	7.257	63.88	144	75-125	0			SO

MSD Sample ID: **1811793-02AMSD** Units: **mg/Kg** Analysis Date: **11/16/2018 04:35 PM**
Client ID: Run ID: **ICP2_181116A** SeqNo: **5391943** Prep Date: **11/15/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	11.66	0.37	7.321	3.832	107	75-125	10.48	10.7	20	
Barium	83.69	0.37	7.321	65.18	253	75-125	76.01	9.62	20	SO
Cadmium	8.045	0.73	7.321	0.1891	107	75-125	6.88	15.6	20	
Chromium	20.35	0.37	7.321	9.108	154	75-125	19.33	5.12	20	S
Copper	24.68	0.73	7.321	14.8	135	75-125	22.62	8.74	20	S
Lead	20.1	0.37	7.321	12.28	107	75-125	18.77	6.83	20	
Nickel	21.4	0.37	7.321	13.53	107	75-125	20.07	6.39	20	
Selenium	9.102	0.73	7.321	1.058	110	75-125	7.884	14.3	20	
Silver	8.915	0.37	7.321	-0.08613	123	75-125	7.52	17	20	
Zinc	76.94	0.73	7.321	63.88	178	75-125	74.35	3.43	20	SO

The following samples were analyzed in this batch: 1811792-02A

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **128067** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK Sample ID: **MBLK-128067-128067** Units: **mg/Kg** Analysis Date: **11/15/2018 11:47 PM**
Client ID: Run ID: **ICP2_181115A** SeqNo: **5388375** Prep Date: **11/15/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								
Barium	U	0.25								
Cadmium	U	0.50								
Chromium	0.03678	0.25								J
Copper	U	0.50								
Lead	U	0.25								
Nickel	U	0.25								
Selenium	U	0.50								
Silver	U	0.25								
Zinc	0.1502	0.50								J

LCS Sample ID: **LCS-128067-128067** Units: **mg/Kg** Analysis Date: **11/16/2018 01:57 PM**
Client ID: Run ID: **ICP2_181116A** SeqNo: **5391889** Prep Date: **11/15/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.378	0.24	4.822	0	90.8	80-120	0			
Barium	4.431	0.24	4.822	0	91.9	80-120	0			
Cadmium	4.711	0.48	4.822	0	97.7	80-120	0			
Chromium	5.3	0.24	4.822	0	110	80-120	0			
Copper	4.824	0.48	4.822	0	100	80-120	0			
Lead	4.706	0.24	4.822	0	97.6	80-120	0			
Nickel	4.802	0.24	4.822	0	99.6	80-120	0			
Selenium	4.378	0.48	4.822	0	90.8	80-120	0			
Silver	4.807	0.24	4.822	0	99.7	80-120	0			

MS Sample ID: **1811977-01AMS** Units: **mg/Kg** Analysis Date: **11/16/2018 06:17 PM**
Client ID: Run ID: **ICP2_181116A** SeqNo: **5391981** Prep Date: **11/15/2018** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	17.37	3.7	7.418	10.83	88.1	75-125	0			
Barium	8.457	3.7	7.418	1.635	92	75-125	0			
Cadmium	7.04	7.4	7.418	-0.2872	98.8	75-125	0			J
Copper	8.754	7.4	7.418	3.667	68.6	75-125	0			S
Lead	U	3.7	7.418	-21.54	290	75-125	0			S
Nickel	14.99	3.7	7.418	9.027	80.3	75-125	0			
Selenium	25	7.4	7.418	16.41	116	75-125	0			
Silver	35.61	3.7	7.418	28.97	89.4	75-125	0			

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **128067** Instrument ID **ICP2** Method: **SW846 6010C**

MS Sample ID: **1811977-01AMS** Units: **mg/Kg** Analysis Date: **11/21/2018 03:38 PM**
Client ID: Run ID: **ICP2_181121A** SeqNo: **5401298** Prep Date: **11/15/2018** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium	4965	37	7.418	4909	755	75-125	0			SO

MSD Sample ID: **1811977-01AMSD** Units: **mg/Kg** Analysis Date: **11/16/2018 06:23 PM**
Client ID: Run ID: **ICP2_181116A** SeqNo: **5391982** Prep Date: **11/15/2018** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	17.19	3.9	7.776	10.83	81.7	75-125	17.37	1.08	20	
Barium	7.667	3.9	7.776	1.635	77.6	75-125	8.457	9.8	20	
Cadmium	7.076	7.8	7.776	-0.2872	94.7	75-125	7.04	0	20	J
Copper	8.701	7.8	7.776	3.667	64.7	75-125	8.754	0.608	20	S
Lead	U	3.9	7.776	-21.54	277	75-125	-16.02	0	20	S
Nickel	14.46	3.9	7.776	9.027	69.9	75-125	14.99	3.54	20	S
Selenium	24.65	7.8	7.776	16.41	106	75-125	25	1.41	20	
Silver	34.84	3.9	7.776	28.97	75.4	75-125	35.61	2.19	20	

MSD Sample ID: **1811977-01AMSD** Units: **mg/Kg** Analysis Date: **11/21/2018 03:44 PM**
Client ID: Run ID: **ICP2_181121A** SeqNo: **5401300** Prep Date: **11/15/2018** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium	4919	39	7.776	4909	133	75-125	4965	0.924	20	SO

The following samples were analyzed in this batch: 1811792-01A

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **128419** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK Sample ID: **MBLK-128419-128419** Units: **mg/Kg** Analysis Date: **11/27/2018 06:20 A**
Client ID: Run ID: **ICP2_181126A** SeqNo: **5404153** Prep Date: **11/26/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Zinc	0.097	0.50								J

LCS Sample ID: **LCS-128419-128419** Units: **mg/Kg** Analysis Date: **11/27/2018 06:26 A**
Client ID: Run ID: **ICP2_181126A** SeqNo: **5404154** Prep Date: **11/26/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Zinc	4.8	0.50	5	0	96	80-120	0			

MS Sample ID: **18111420-01AMS** Units: **mg/Kg** Analysis Date: **11/27/2018 07:17 A**
Client ID: Run ID: **ICP2_181126A** SeqNo: **5404171** Prep Date: **11/26/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Zinc	3548	0.77	7.669	3631	-1080	75-125	0			SEO

MSD Sample ID: **18111420-01AMSD** Units: **mg/Kg** Analysis Date: **11/27/2018 07:24 A**
Client ID: Run ID: **ICP2_181126A** SeqNo: **5404172** Prep Date: **11/26/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Zinc	3690	0.76	7.634	3631	778	75-125	3548	3.94	20	SEO

The following samples were analyzed in this batch: 1811792-01A 1811792-02A

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **128358** Instrument ID **ICPMS3** Method: **SW6020A**

DUP Sample ID: **1811792-01B DUP** Units: **mg/L** Analysis Date: **11/21/2018 02:53 PM**
Client ID: **CH4X-SS1** Run ID: **ICPMS3_181121A** SeqNo: **5399764** Prep Date: **11/21/2018** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	95.77	5.0	0	0	0	0-0	111.5	15.2		
Magnesium	19.91	2.0	0	0	0	0-0	23.02	14.5		
Sodium	102.3	2.0	0	0	0	0-0	118.4	14.6		

The following samples were analyzed in this batch: 1811792-01B 1811792-02B

Batch ID: **128358** Instrument ID **SAR** Method: **USDA H60 Metho**

DUP Sample ID: **1811792-01B DUP** Units: **none** Analysis Date: **11/21/2018**
Client ID: **CH4X-SS1** Run ID: **SAR_181121A** SeqNo: **5398736** Prep Date: **11/21/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	2.485	0.010	0	0	0		2.667	7.07	50	

The following samples were analyzed in this batch: 1811792-01B 1811792-02B

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **128062** Instrument ID **SVMS9** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-128062-128062** Units: **µg/Kg** Analysis Date: **11/16/2018 11:22 A**
Client ID: Run ID: **SVMS9_181116A** SeqNo: **5389642** Prep Date: **11/16/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	U	6.7								
Anthracene	U	6.7								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Chrysene	U	6.7								
Dibenzo(a,h)anthracene	U	6.7								
Fluoranthene	U	6.7								
Fluorene	U	6.7								
Indeno(1,2,3-cd)pyrene	U	6.7								
Naphthalene	U	6.7								
Pyrene	U	6.7								
Surr: 2-Fluorobiphenyl	*2435*	0	*3333*	0	*73*	*44-107*	0			
Surr: 4-Terphenyl-d14	*2837*	0	*3333*	0	*85.1*	*52-123*	0			
Surr: Nitrobenzene-d5	*2026*	0	*3333*	0	*60.8*	*41-94*	0			

LCS Sample ID: **SLCSS1-128062-128062** Units: **µg/Kg** Analysis Date: **11/16/2018 11:45 A**
Client ID: Run ID: **SVMS9_181116A** SeqNo: **5389643** Prep Date: **11/16/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	1089	6.7	1333	0	81.7	55-101	0			
Anthracene	1111	6.7	1333	0	83.4	67-105	0			
Benzo(a)anthracene	1275	6.7	1333	0	95.6	68-105	0			
Benzo(a)pyrene	1253	6.7	1333	0	94	68-110	0			
Benzo(b)fluoranthene	1168	6.7	1333	0	87.6	65-110	0			
Benzo(k)fluoranthene	1126	6.7	1333	0	84.5	66-113	0			
Chrysene	1187	6.7	1333	0	89	68-108	0			
Dibenzo(a,h)anthracene	1360	6.7	1333	0	102	62-119	0			
Fluoranthene	1111	6.7	1333	0	83.4	67-106	0			
Fluorene	1082	6.7	1333	0	81.2	59-107	0			
Indeno(1,2,3-cd)pyrene	1437	6.7	1333	0	108	56-120	0			
Naphthalene	925.3	6.7	1333	0	69.4	46-98	0			
Pyrene	1214	6.7	1333	0	91.1	60-119	0			
Surr: 2-Fluorobiphenyl	*2673*	0	*3333*	0	*80.2*	*44-107*	0			
Surr: 4-Terphenyl-d14	*3030*	0	*3333*	0	*90.9*	*52-123*	0			
Surr: Nitrobenzene-d5	*2244*	0	*3333*	0	*67.3*	*41-94*	0			

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **128062** Instrument ID **SVMS9** Method: **SW846 8270D**

MS Sample ID: **1811792-01A MS** Units: **µg/Kg** Analysis Date: **11/16/2018 01:18 PM**
Client ID: **CH4X-SS1** Run ID: **SVMS9_181116A** SeqNo: **5390205** Prep Date: **11/16/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	989.4	6.6	1321	0	74.9	55-101	0			
Anthracene	1014	6.6	1321	0	76.8	67-105	0			
Benzo(a)anthracene	1137	6.6	1321	0	86.1	68-105	0			
Benzo(a)pyrene	1098	6.6	1321	0	83.1	68-110	0			
Benzo(b)fluoranthene	1021	6.6	1321	0	77.3	65-110	0			
Benzo(k)fluoranthene	991.3	6.6	1321	0	75.1	66-113	0			
Chrysene	1032	6.6	1321	0	78.2	68-108	0			
Dibenzo(a,h)anthracene	1189	6.6	1321	0	90	62-119	0			
Fluoranthene	980.8	6.6	1321	0	74.3	67-106	0			
Fluorene	1010	6.6	1321	0	76.5	59-107	0			
Indeno(1,2,3-cd)pyrene	1263	6.6	1321	0	95.6	56-120	0			
Naphthalene	918.7	6.6	1321	0	69.6	46-98	0			
Pyrene	1092	6.6	1321	0	82.7	60-119	0			
Surr: 2-Fluorobiphenyl	*2551*	0	*3302*	0	*77.2*	*44-107*	0			
Surr: 4-Terphenyl-d14	*2681*	0	*3302*	0	*81.2*	*52-123*	0			
Surr: Nitrobenzene-d5	*2255*	0	*3302*	0	*68.3*	*41-94*	0			

MSD Sample ID: **1811792-01A MSD** Units: **µg/Kg** Analysis Date: **11/16/2018 01:42 PM**
Client ID: **CH4X-SS1** Run ID: **SVMS9_181116A** SeqNo: **5390207** Prep Date: **11/16/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	957.5	6.5	1302	0	73.5	55-101	989.4	3.27	30	
Anthracene	997.9	6.5	1302	0	76.6	67-105	1014	1.58	30	
Benzo(a)anthracene	1131	6.5	1302	0	86.9	68-105	1137	0.517	30	
Benzo(a)pyrene	1107	6.5	1302	0	85	68-110	1098	0.877	30	
Benzo(b)fluoranthene	1027	6.5	1302	0	78.9	65-110	1021	0.601	30	
Benzo(k)fluoranthene	1008	6.5	1302	0	77.4	66-113	991.3	1.63	30	
Chrysene	1022	6.5	1302	0	78.5	68-108	1032	1	30	
Dibenzo(a,h)anthracene	1196	6.5	1302	0	91.8	62-119	1189	0.596	30	
Fluoranthene	978.4	6.5	1302	0	75.1	67-106	980.8	0.246	30	
Fluorene	984.9	6.5	1302	0	75.6	59-107	1010	2.5	30	
Indeno(1,2,3-cd)pyrene	1263	6.5	1302	0	97	56-120	1263	0.0183	30	
Naphthalene	857.9	6.5	1302	0	65.9	46-98	918.7	6.85	30	
Pyrene	1080	6.5	1302	0	82.9	60-119	1092	1.14	30	
Surr: 2-Fluorobiphenyl	*2398*	0	*3257*	0	*73.6*	*44-107*	2551	*6.18*	*40*	
Surr: 4-Terphenyl-d14	*2637*	0	*3257*	0	*81*	*52-123*	2681	*1.66*	*40*	
Surr: Nitrobenzene-d5	*2125*	0	*3257*	0	*65.2*	*41-94*	2255	*5.97*	*40*	

The following samples were analyzed in this batch: 1811792-01A

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **127899** Instrument ID **VMS8** Method: **SW8260C**

MBLK Sample ID: **MBLK-127899-127899** Units: **µg/Kg-dry** Analysis Date: **11/13/2018 04:35 PM**
Client ID: Run ID: **VMS8_181113A** SeqNo: **5384452** Prep Date: **11/13/2018** DF: **1**

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	*1007*	0	*1000*	0	*101*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*990*	0	*1000*	0	*99*	*70-130*	0			
Surr: Dibromofluoromethane	*945.5*	0	*1000*	0	*94.6*	*70-130*	0			
Surr: Toluene-d8	*1004*	0	*1000*	0	*100*	*70-130*	0			

LCS Sample ID: **LCS-127899-127899** Units: **µg/Kg-dry** Analysis Date: **11/13/2018 03:49 PM**
Client ID: Run ID: **VMS8_181113A** SeqNo: **5384451** Prep Date: **11/13/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	971.5	30	1000	0	97.2	75-125	0			
Ethylbenzene	981	30	1000	0	98.1	75-125	0			
m,p-Xylene	1986	60	2000	0	99.3	80-125	0			
o-Xylene	1038	30	1000	0	104	75-125	0			
Toluene	969	30	1000	0	96.9	70-125	0			
Xylenes, Total	3024	90	3000	0	101	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1028*	0	*1000*	0	*103*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1012*	0	*1000*	0	*101*	*70-130*	0			
Surr: Dibromofluoromethane	*1011*	0	*1000*	0	*101*	*70-130*	0			
Surr: Toluene-d8	*997.5*	0	*1000*	0	*99.8*	*70-130*	0			

MS Sample ID: **1811771-03A MS** Units: **µg/Kg-dry** Analysis Date: **11/13/2018 11:26 PM**
Client ID: Run ID: **VMS8_181113A** SeqNo: **5384468** Prep Date: **11/13/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	1031	35	1162	0	88.7	75-125	0			
Ethylbenzene	1073	35	1162	0	92.4	75-125	0			
m,p-Xylene	2198	70	2324	6.392	94.3	80-125	0			
o-Xylene	1143	35	1162	7.554	97.7	75-125	0			
Toluene	1103	35	1162	0	95	70-125	0			
Xylenes, Total	3341	100	3486	0	95.8	75-125	0			
Surr: 1,2-Dichloroethane-d4	*1094*	0	*1162*	0	*94.1*	*70-130*	0			
Surr: 4-Bromofluorobenzene	*1171*	0	*1162*	0	*101*	*70-130*	0			
Surr: Dibromofluoromethane	*1087*	0	*1162*	0	*93.6*	*70-130*	0			
Surr: Toluene-d8	*1158*	0	*1162*	0	*99.6*	*70-130*	0			

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **127899** Instrument ID **VMS8** Method: **SW8260C**

MSD Sample ID: **1811771-03A MSD** Units: **µg/Kg-dry** Analysis Date: **11/13/2018 11:42 PM**

Client ID: Run ID: **VMS8_181113A** SeqNo: **5384469** Prep Date: **11/13/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	944.8	35	1162	0	81.3	75-125	1031	8.71	30	
Ethylbenzene	987.3	35	1162	0	85	75-125	1073	8.35	30	
m,p-Xylene	1991	70	2324	6.392	85.4	80-125	2198	9.88	30	
o-Xylene	1034	35	1162	7.554	88.4	75-125	1143	9.98	30	
Toluene	984.9	35	1162	0	84.8	70-125	1103	11.4	30	
Xylenes, Total	3026	100	3486	0	86.8	75-125	3341	9.91	30	
Surr: 1,2-Dichloroethane-d4	*1066*	0	*1162*	0	*91.8*	*70-130*	1094	*2.53*	*30*	
Surr: 4-Bromofluorobenzene	*1132*	0	*1162*	0	*97.4*	*70-130*	1171	*3.38*	*30*	
Surr: Dibromofluoromethane	*1051*	0	*1162*	0	*90.4*	*70-130*	1087	*3.42*	*30*	
Surr: Toluene-d8	*1140*	0	*1162*	0	*98*	*70-130*	1158	*1.57*	*30*	

The following samples were analyzed in this batch: 1811792-01A

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **128032** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **LCS-128032-128032** Units: **s.u.** Analysis Date: **11/16/2018 09:15 A**

Client ID: Run ID: **WETCHEM_181116A** SeqNo: **5389199** Prep Date: **11/15/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	3.93	0.10	4	0	98.2	90-110	0			

DUP Sample ID: **1811793-03A DUP** Units: **s.u.** Analysis Date: **11/16/2018 09:15 A**

Client ID: Run ID: **WETCHEM_181116A** SeqNo: **5389203** Prep Date: **11/15/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	7.83	0.10	0	0	0	0-0	7.72	1.41	20	

The following samples were analyzed in this batch: 1811792-01A 1811792-02A

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **128358** Instrument ID **WETCHEM** Method: **USDA H60 Metho**

DUP Sample ID: **1811792-01B DUP** Units: **mmhos/cm @25°** Analysis Date: **11/25/2018 08:40 PM**

Client ID: **CH4X-SS1** Run ID: **WETCHEM_181125E** SeqNo: **5401211** Prep Date: **11/21/2018** DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ Saturation	1.22	0.10	0	0	0		1.356	10.6	50	

The following samples were analyzed in this batch: 1811792-01B 1811792-02B

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **128657** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK Sample ID: **MBLK-128657-128657** Units: **mg/Kg** Analysis Date: **11/29/2018 04:00 PM**
Client ID: Run ID: **WETCHEM_181129P** SeqNo: **5409947** Prep Date: **11/28/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	U	1.0								

LCS Sample ID: **LCS-128657-128657** Units: **mg/Kg** Analysis Date: **11/29/2018 04:00 PM**
Client ID: Run ID: **WETCHEM_181129P** SeqNo: **5409948** Prep Date: **11/28/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.36	1.0	5	0	87.2	80-120	0			

MS Sample ID: **1811788-01A MS** Units: **mg/Kg** Analysis Date: **11/29/2018 04:00 PM**
Client ID: Run ID: **WETCHEM_181129P** SeqNo: **5409951** Prep Date: **11/28/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	U	1.0	5	0.1942	-3.88	75-125	0			S

MS Sample ID: **1811788-01A MSI** Units: **mg/Kg** Analysis Date: **11/29/2018 04:00 PM**
Client ID: Run ID: **WETCHEM_181129P** SeqNo: **5409953** Prep Date: **11/28/2018** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	2324	100	2414	0.1942	96.3	75-125	0			

MS Sample ID: **1811792-01A MS** Units: **mg/Kg** Analysis Date: **11/29/2018 04:00 PM**
Client ID: **CH4X-SS1** Run ID: **WETCHEM_181129P** SeqNo: **5409958** Prep Date: **11/28/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.85	1.0	5	0.202	13	75-125	0			JS

MS Sample ID: **1811792-01A MSI** Units: **mg/Kg** Analysis Date: **11/29/2018 04:00 PM**
Client ID: **CH4X-SS1** Run ID: **WETCHEM_181129P** SeqNo: **5409960** Prep Date: **11/28/2018** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1677	100	1902	0.202	88.2	75-125	0			

MSD Sample ID: **1811788-01A MSD** Units: **mg/Kg** Analysis Date: **11/29/2018 04:00 PM**
Client ID: Run ID: **WETCHEM_181129P** SeqNo: **5409952** Prep Date: **11/28/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	2.745	0.98	4.902	0.1942	52	75-125	0.2	173	20	SR

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **128657** Instrument ID **WETCHEM** Method: **SW7196A**

MSD Sample ID: **1811792-01A MSD** Units: **mg/Kg** Analysis Date: **11/29/2018 04:00 PM**

Client ID: **CH4X-SS1** Run ID: **WETCHEM_181129P** SeqNo: **5409959** Prep Date: **11/28/2018** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	1.63	1.0	5	0.202	28.6	75-125	0.85	62.9	20	SR

The following samples were analyzed in this batch: 1811792-01A 1811792-02A

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

Client: Entrada Consulting Group
Work Order: 1811792
Project: Cobb Stringer Hefley 4X Spill

QC BATCH REPORT

Batch ID: **R249870** Instrument ID **MOIST** Method: **SW3550C**

MBLK Sample ID: **WBLKS-R249870** Units: **% of sample** Analysis Date: **11/21/2018 10:28 A**
Client ID: Run ID: **MOIST_181121C** SeqNo: **5400253** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R249870** Units: **% of sample** Analysis Date: **11/21/2018 10:28 A**
Client ID: Run ID: **MOIST_181121C** SeqNo: **5400252** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.98	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **1811969-01B DUP** Units: **% of sample** Analysis Date: **11/21/2018 10:28 A**
Client ID: Run ID: **MOIST_181121C** SeqNo: **5400249** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	31.54	0.050	0	0	0	0-0	31.91	1.17	10	

DUP Sample ID: **1811971-01B DUP** Units: **% of sample** Analysis Date: **11/21/2018 10:28 A**
Client ID: Run ID: **MOIST_181121C** SeqNo: **5400251** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	17.79	0.050	0	0	0	0-0	17.95	0.895	10	

The following samples were analyzed in this batch: 1811792-01A 1811792-02A

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

Chain of Custody Form

ALS Environmental

Page 1 of 1

COC ID: 123456

☐ Cincinnati, OH +1 513 733 5336 ☑ Holland, MI +1 616 399 6070 ☐ Salt Lake City, UT +1 801 266 7700
☐ Everett, WA +1 425 356 2600 ☐ Houston, TX +1 281 530 5656 ☐ Spring City, PA +1 610 948 4903
☐ Fort Collins, CO +1 970 490 1511 ☐ Middletown, PA +1 717 944 5541 ☐ York, PA +1 717 505 5280

ALS Project Manager: | Work Order #: 1811792

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Cobb Stringer Hefley 4X Spill	A	TPH (GRO & DRO)
Work Order		Project Number		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 Unit C	Address	330 Grand Ave Unit C	E	Sodium Adsorption Ratio
				F	pH
City/State/Zip	Grand Junction, CO 81501	City/State/Zip	Grand Junction, CO 81501	G	Metals (See Attached List) CO Table 910
Phone	970.270.2986	Phone	970.270.2986	H	Arsenic Only
Fax		Fax		I	
e-Mail Address	tdobransky@entradainc.com	e-Mail Address	tdobransky@entradainc.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	CH4X-SS1	11/08/18	1320	Soil	8	2	X	X	X	X	X	X	X				
2	CH4X-BG1	11/08/18	1330	Soil	8	2				X	X	X	X				
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign: Dobransky

Shipment Method: FedEx

Required Turnaround Time: ☑STD 10 Wk Days ☐5 Wk Days ☐2 Wk Days ☐24 Hour ☐Other _____

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
	11/9/18		
Relinquished by:	Date:	Time:	Received by (Laboratory):
	11-9-18	1830	11/10/18 1000
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):
	11/12/18	1050	

Notes: Chevron Pricing Applies - Per Bruce Schlatter

Cooler Temp: 4.8°C

QC Package: (Check Box Below)

- x Level II: Standard QC
- ☐ Level III: Std QC + Raw Data
- ☐ Level IV: SW846 CLP-Like
- ☐ Other: _____

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

SDL

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

ALS Group, USA

Sample Receipt Checklist

Client Name: **ENTRADA** Date/Time Received: **10-Nov-18 10:00**

Work Order: **1811792** Received by: **KRW**

Checklist completed by Keith Wierenga (eSignature) 12-Nov-18 (Date) Reviewed by: Chad Whelton (eSignature) 12-Nov-18 (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):	4.8/4.8 C	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	11/12/2018 10:51:20 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: