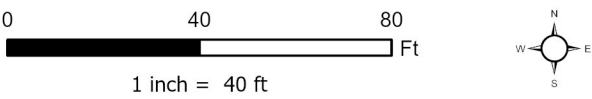




Legend

● Spill Origin ● Soil Sample Location ■ Spill Area





Project No: 021-205	Emerald 4 Spill Scout Energy Partners NENE, Section 36, T2N R103W, 6th PM Rio Blanco County, Colorado	 330 Grand Avenue, Unit C Grand Junction, CO 81501 970-549-1015	Figure
Map By: NDB			
Date: 4/18/2022		 100 Chevron Road Rangely, CO 81648 970-501-5157	1

Table 1
Emerald 4 Spill
Soil Data Summary

SAMPLE SUMMARY	
Location Description	Emerald 4 Spill
Sample Type	Soil

LABORATORY DATA SUMMARY							
Sample ID	Emerald 4 Origin	EM4-SS1	EM4-SS2	EM4-BG1	COGCC TABLE 915-1 CONCENTRATION LEVELS		
Depth	5'	0-6"	0-6"	0-6"			
Sample Date	7/27/2021	8/5/2021	8/5/2021	8/5/2021			
Analytical Parameters					Residential Soil Screening Level	Protection of Groundwater Screening Level	UNITS
TPH							
TPH (C6-C10)	16 H	24 H	170 H	NT	500		mg/kg
TPH (C10-C36)	62 H	100	1500	NT			
Volatile Organic Compounds							
1,2,4-Trimethylbenzene	<0.031 H	0.042 H	0.12 H	NT	30	0.0081	mg/kg
1,3,5-Trimethylbenzene	<0.049 H	<0.047 H	0.092 JH	NT	27	0.0087	mg/kg
Benzene	<0.020 H	<0.020 H	<0.014 H	NT	1.2	0.0026	mg/kg
Toluene	<0.012 H	<0.011 H	<0.0082 H	NT	490	0.69	mg/kg
Ethylbenzene	<0.0089 H	<0.0086 H	<0.0063 H	NT	5.8	0.78	mg/kg
Total Xylene	<0.056 H	<0.054 H	<0.040 H	NT	58	9.9	mg/kg
Metals							
Arsenic	5.7	7.7	5.3	4.9	0.68	0.29	mg/kg
Barium	350	590	68	990	15,000	82	mg/kg
Cadmium	0.27	0.32	0.093 J	0.22	71	0.38	mg/kg
Chromium, Hexavalent	<1.0	1.5	1.1	<0.88	0.3	0.00067	mg/kg
Copper	16	16	7.9	13	3,100	46	mg/kg
Lead	44	45	13	25	400	14	mg/kg
Nickel	17	18	11	15	1,500	26	mg/kg
Selenium	0.88	1.1	0.71	0.92	390	0.26	mg/kg
Silver	0.086 J	0.092 J	0.077 J	0.068 J	390	0.8	mg/kg
Zinc	140	160	58	110	23,000	370	mg/kg
Soil Suitability for Reclamation							
Sodium Adsorption Ratio (SAR)	4.2	31	23	0.74	<6	<6	ratio
Electrical Conductivity (EC)	0.30 H	1.4 H	1.7 H	0.12 H	<4	<4	mmhos/cm
pH	8.30	8.19 H	7.45 H	7.41 H	6 - 8.3	6 - 8.3	su
Boron, Hot Water Soluble	1.1	1.7	2.2	0.93	2	2	mg/l
Polynuclear Aromatic Hydrocarbons							
1-Methylnaphthalene	<0.0030 H	0.006	0.12	NT	18	0.006	mg/kg
2-Methylnaphthalene	<0.0035 H	0.0064	0.12	NT	24	0.019	mg/kg
Acenaphthene	<0.0042 H	<0.0040	<0.0038	NT	360	0.55	mg/kg
Anthracene	<0.0045 H	<0.0042	<0.0040	NT	1,800	5.8	mg/kg
Benzo(a)anthracene	<0.0048 H	0.0140	<0.0043	NT	1.1	0.011	mg/kg
Benzo(a)pyrene	<0.0040 H	<0.0038	<0.0036	NT	0.11	0.24	mg/kg
Benzo(b)fluoranthene	<0.0042 H	<0.0040	<0.0038	NT	1.1	0.3	mg/kg
Benzo(k)fluoranthene	<0.0041 H	<0.0038	<0.0037	NT	11	2.9	mg/kg
Chrysene	<0.0046 H	0.018	<0.0041	NT	110	9	mg/kg
Dibenzo(a,h)anthracene	<0.0040 H	<0.0038	<0.0036	NT	0.11	0.096	mg/kg
Fluoranthene	<0.0039 H	<0.0037	<0.0035	NT	240	8.9	mg/kg
Fluorene	<0.0039 H	<0.0037	0.011	NT	240	0.54	mg/kg
Indeno(1,2,3-cd)pyrene	<0.0043 H	<0.0041	<0.0039	NT	1.1	0.98	mg/kg
Napthalene	<0.0048 H	<0.0045	0.036	NT	2	0.0038	mg/kg
Pyrene	<0.0048 H	<0.0045	<0.0043	NT	180	1.3	mg/kg

mg/kg - milligrams per kilogram
mg/L - milligrams per liter
B - analyte detected in the associated Method Blank above the Reporting Limit
J - indicates an estimated value
H - analyzed outside of holding time
mmhos/cm - millimhos per centimeter
mv - millivolts
su - standard units
NA - not applicable
NT - parameter was not tested

Over COGCC Table 915-1 concentration levels but under BACKGROUND level.
Over COGCC Table 915-1 concentration levels and not within BACKGROUND level.
Over COGCC Table 915-1 concentration levels



20-Aug-2021

Tim Dobransky
Entrada Consulting Group
330 Grand Ave.
Suite C
Grand Junction, CO 81501

Re: **Emerald**

Work Order: **21080846**

Dear Tim,

ALS Environmental received 4 samples on 10-Aug-2021 09:00 AM for the analyses presented in the following report.

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

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

The total number of pages in this report is 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,

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

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: MN 026-999-449

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

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Entrada Consulting Group
Project: Emerald
Work Order: 21080846

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
21080846-01	Emerald 4 Origin (5' bgs)	Soil		7/27/2021 12:00	8/10/2021 09:00	<input type="checkbox"/>
21080846-02	EM4-SS1	Soil		8/5/2021 15:20	8/10/2021 09:00	<input type="checkbox"/>
21080846-03	EM4-SS2	Soil		8/5/2021 15:30	8/10/2021 09:00	<input type="checkbox"/>
21080846-04	EM4-BG1	Soil		8/5/2021 15:40	8/10/2021 09:00	<input type="checkbox"/>

Client: Entrada Consulting Group**Project:** Emerald**Work Order:** 21080846**Case Narrative**

Sample holding time expired before receipt by laboratory. Results should be considered estimated.

Batch 182071, Method SW8270E, Sample EM4-SS2 (21080846-03A): One or more surrogate recoveries were below the lower control limits. The sample results may be biased low.

Batch 182075, Method SW7196A, Sample 21080846-02A MS/MSD: The MS/MSD recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: hexavalent chromium.

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

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

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

ALS Group, USA

Date: 20-Aug-21

Client: Entrada Consulting Group
Project: Emerald
Sample ID: Emerald 4 Origin (5' bgs)
Collection Date: 7/27/2021 12:00 PM

Work Order: 21080846
Lab ID: 21080846-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015D		Prep: SW3550 / 8/13/21		Analyst: SJB
ERO (C10-C36)	62	H	9.1	24	mg/Kg-dry	1	8/16/2021 11:27
Surr: 4-Terphenyl-d14	56.8			33-111	%REC	1	8/16/2021 11:27
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015D		Prep: SW5035A / 8/11/21		Analyst: SJB
GRO (C6-C10)	16	H	2.9	7.0	mg/Kg-dry	1	8/12/2021 09:58
Surr: Toluene-d8	108			71-123	%REC	1	8/12/2021 09:58
METALS BY ICP-MS							
			Method: SW6020B		Prep: SW3050B / 8/12/21		Analyst: DSC
Arsenic	5.7		0.051	0.43	mg/Kg-dry	1	8/12/2021 21:38
Barium	350		3.9	4.3	mg/Kg-dry	10	8/13/2021 12:24
Cadmium	0.27		0.026	0.17	mg/Kg-dry	1	8/12/2021 21:38
Copper	16		0.43	0.43	mg/Kg-dry	1	8/12/2021 21:38
Lead	44		0.20	0.43	mg/Kg-dry	1	8/12/2021 21:38
Nickel	17		0.22	0.43	mg/Kg-dry	1	8/12/2021 21:38
Selenium	0.88		0.39	0.43	mg/Kg-dry	1	8/12/2021 21:38
Silver	0.086	J	0.056	0.43	mg/Kg-dry	1	8/12/2021 21:38
Zinc	140		8.3	8.5	mg/Kg-dry	10	8/13/2021 12:24
SOLUBLE CATIONS FOR SAR							
			Method: SW6020B		Prep: USDA Method 20B / 8/13/21		Analyst: DSC
Calcium	540		2.5	5.0	mg/L	10	8/13/2021 18:00
Magnesium	110		0.50	2.0	mg/L	10	8/13/2021 18:00
Sodium	410		1.8	2.0	mg/L	10	8/13/2021 18:00
HOT WATER SOLUBLE BORON BY ICP-MS							
			Method: SW6020B		Prep: EXTRACT / 8/11/21		Analyst: DSC
Boron (Hot Water Soluble)	1.1		0.019	0.48	mg/Kg-dry	10	8/11/2021 20:47
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 8/13/21		Analyst: DSC
Sodium Adsorption Ratio	4.2		0.010	0.010	none	1	8/13/2021
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)							
			Method: SW8270E		Prep: SW3546 / 8/17/21		Analyst: EEW
1-Methylnaphthalene	U	H	0.0030	0.0050	mg/Kg-dry	1	8/20/2021 00:22
2-Methylnaphthalene	U	H	0.0035	0.0050	mg/Kg-dry	1	8/20/2021 00:22
Acenaphthene	U	H	0.0042	0.0050	mg/Kg-dry	1	8/20/2021 00:22
Anthracene	U	H	0.0045	0.0050	mg/Kg-dry	1	8/20/2021 00:22
Benzo(a)anthracene	U	H	0.0048	0.0050	mg/Kg-dry	1	8/20/2021 00:22
Benzo(a)pyrene	U	H	0.0040	0.0050	mg/Kg-dry	1	8/20/2021 00:22
Benzo(b)fluoranthene	U	H	0.0042	0.0050	mg/Kg-dry	1	8/20/2021 00:22
Benzo(k)fluoranthene	U	H	0.0041	0.0050	mg/Kg-dry	1	8/20/2021 00:22
Chrysene	U	H	0.0046	0.0050	mg/Kg-dry	1	8/20/2021 00:22

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

ALS Group, USA

Date: 20-Aug-21

Client: Entrada Consulting Group
Project: Emerald
Sample ID: Emerald 4 Origin (5' bgs)
Collection Date: 7/27/2021 12:00 PM

Work Order: 21080846
Lab ID: 21080846-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	U	H	0.0040	0.0050	mg/Kg-dry	1	8/20/2021 00:22
Fluoranthene	U	H	0.0039	0.0050	mg/Kg-dry	1	8/20/2021 00:22
Fluorene	U	H	0.0039	0.0050	mg/Kg-dry	1	8/20/2021 00:22
Indeno(1,2,3-cd)pyrene	U	H	0.0043	0.0050	mg/Kg-dry	1	8/20/2021 00:22
Naphthalene	U	H	0.0048	0.0050	mg/Kg-dry	1	8/20/2021 00:22
Pyrene	U	H	0.0048	0.0050	mg/Kg-dry	1	8/20/2021 00:22
Surr: 2-Fluorobiphenyl	83.9			20-140	%REC	1	8/20/2021 00:22
Surr: 4-Terphenyl-d14	72.7			22-172	%REC	1	8/20/2021 00:22
Surr: Nitrobenzene-d5	87.9			28-140	%REC	1	8/20/2021 00:22
VOLATILE ORGANIC COMPOUNDS			Method: SW8260C		Prep: SW5035A / 8/11/21		Analyst: MF
1,2,4-Trimethylbenzene	U	H	0.031	0.042	mg/Kg-dry	1	8/12/2021 10:45
1,3,5-Trimethylbenzene	U	H	0.049	0.14	mg/Kg-dry	1	8/12/2021 10:45
Benzene	U	H	0.020	0.042	mg/Kg-dry	1	8/12/2021 10:45
Ethylbenzene	U	H	0.0089	0.042	mg/Kg-dry	1	8/12/2021 10:45
m,p-Xylene	U	H	0.056	0.084	mg/Kg-dry	1	8/12/2021 10:45
o-Xylene	U	H	0.016	0.042	mg/Kg-dry	1	8/12/2021 10:45
Toluene	U	H	0.012	0.042	mg/Kg-dry	1	8/12/2021 10:45
Xylenes, Total	U	H	0.056	0.13	mg/Kg-dry	1	8/12/2021 10:45
Surr: 1,2-Dichloroethane-d4	102			70-130	%REC	1	8/12/2021 10:45
Surr: 4-Bromofluorobenzene	101			70-130	%REC	1	8/12/2021 10:45
Surr: Dibromofluoromethane	97.8			70-130	%REC	1	8/12/2021 10:45
Surr: Toluene-d8	98.5			70-130	%REC	1	8/12/2021 10:45
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 8/13/21		Analyst: KNC
Electrical Conductivity @ Saturation	0.30	H	0.00055	0.0050	mmhos/cm @25°C	20	8/13/2021 10:06
CHROMIUM, HEXAVALENT			Method: SW7196A		Prep: SW3060A / 8/14/21		Analyst: RZM
Chromium, Hexavalent	U		1.0	1.2	mg/Kg-dry	1	8/16/2021 15:34
MOISTURE			Method: SW3550C				Analyst: ALG
Moisture	17	H	0.10	0.10	% of sample	1	8/11/2021 15:22
PH MEASURED IN SOIL PASTE			Method: USDA METHOD 20B		Prep: USDA Method 20B / 8/13/21		Analyst: QTN
pH @ Saturation	8.30	H	0.12	0.12	s.u.-dry	1	8/13/2021 09:51

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

ALS Group, USA

Date: 20-Aug-21

Client: Entrada Consulting Group
Project: Emerald
Sample ID: EM4-SS1
Collection Date: 8/5/2021 03:20 PM

Work Order: 21080846
Lab ID: 21080846-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015D		Prep: SW3550 / 8/13/21		Analyst: SJB
ERO (C10-C36)	100		8.8	23	mg/Kg-dry	1	8/16/2021 12:04
Surr: 4-Terphenyl-d14	43.9			33-111	%REC	1	8/16/2021 12:04
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015D		Prep: SW5035A / 8/11/21		Analyst: SJB
GRO (C6-C10)	24	H	2.8	6.8	mg/Kg-dry	1	8/12/2021 10:21
Surr: Toluene-d8	110			71-123	%REC	1	8/12/2021 10:21
METALS BY ICP-MS							
			Method: SW6020B		Prep: SW3050B / 8/12/21		Analyst: DSC
Arsenic	7.7		0.050	0.42	mg/Kg-dry	1	8/12/2021 21:40
Barium	590		3.8	4.2	mg/Kg-dry	10	8/13/2021 12:26
Cadmium	0.32		0.025	0.17	mg/Kg-dry	1	8/12/2021 21:40
Copper	16		0.42	0.42	mg/Kg-dry	1	8/12/2021 21:40
Lead	45		0.20	0.42	mg/Kg-dry	1	8/12/2021 21:40
Nickel	18		0.22	0.42	mg/Kg-dry	1	8/12/2021 21:40
Selenium	1.1		0.38	0.42	mg/Kg-dry	1	8/12/2021 21:40
Silver	0.092	J	0.055	0.42	mg/Kg-dry	1	8/12/2021 21:40
Zinc	160		8.2	8.3	mg/Kg-dry	10	8/13/2021 12:26
SOLUBLE CATIONS FOR SAR							
			Method: SW6020B		Prep: USDA Method 20B / 8/13/21		Analyst: DSC
Calcium	1,100		2.5	5.0	mg/L	10	8/13/2021 18:02
Magnesium	240		0.50	2.0	mg/L	10	8/13/2021 18:02
Sodium	4,300		18	20	mg/L	100	8/16/2021 13:54
HOT WATER SOLUBLE BORON BY ICP-MS							
			Method: SW6020B		Prep: EXTRACT / 8/11/21		Analyst: DSC
Boron (Hot Water Soluble)	1.7		0.019	0.48	mg/Kg-dry	10	8/11/2021 20:49
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 8/13/21		Analyst: DSC
Sodium Adsorption Ratio	31		0.010	0.010	none	1	8/13/2021
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)							
			Method: SW8270E		Prep: SW3546 / 8/17/21		Analyst: EEW
1-Methylnaphthalene	0.0060		0.0028	0.0047	mg/Kg-dry	1	8/20/2021 00:38
2-Methylnaphthalene	0.0064		0.0033	0.0047	mg/Kg-dry	1	8/20/2021 00:38
Acenaphthene	U		0.0040	0.0047	mg/Kg-dry	1	8/20/2021 00:38
Anthracene	U		0.0042	0.0047	mg/Kg-dry	1	8/20/2021 00:38
Benzo(a)anthracene	0.014		0.0045	0.0047	mg/Kg-dry	1	8/20/2021 00:38
Benzo(a)pyrene	U		0.0038	0.0047	mg/Kg-dry	1	8/20/2021 00:38
Benzo(b)fluoranthene	U		0.0040	0.0047	mg/Kg-dry	1	8/20/2021 00:38
Benzo(k)fluoranthene	U		0.0038	0.0047	mg/Kg-dry	1	8/20/2021 00:38
Chrysene	0.018		0.0043	0.0047	mg/Kg-dry	1	8/20/2021 00:38

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

ALS Group, USA

Date: 20-Aug-21

Client: Entrada Consulting Group
Project: Emerald
Sample ID: EM4-SS1
Collection Date: 8/5/2021 03:20 PM

Work Order: 21080846
Lab ID: 21080846-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	U		0.0038	0.0047	mg/Kg-dry	1	8/20/2021 00:38
Fluoranthene	U		0.0037	0.0047	mg/Kg-dry	1	8/20/2021 00:38
Fluorene	U		0.0037	0.0047	mg/Kg-dry	1	8/20/2021 00:38
Indeno(1,2,3-cd)pyrene	U		0.0041	0.0047	mg/Kg-dry	1	8/20/2021 00:38
Naphthalene	U		0.0045	0.0047	mg/Kg-dry	1	8/20/2021 00:38
Pyrene	U		0.0045	0.0047	mg/Kg-dry	1	8/20/2021 00:38
Surr: 2-Fluorobiphenyl	42.6			20-140	%REC	1	8/20/2021 00:38
Surr: 4-Terphenyl-d14	36.8			22-172	%REC	1	8/20/2021 00:38
Surr: Nitrobenzene-d5	36.6			28-140	%REC	1	8/20/2021 00:38
VOLATILE ORGANIC COMPOUNDS			Method: SW8260C		Prep: SW5035A / 8/11/21		Analyst: MF
1,2,4-Trimethylbenzene	0.042	H	0.030	0.041	mg/Kg-dry	1	8/12/2021 11:01
1,3,5-Trimethylbenzene	U	H	0.047	0.14	mg/Kg-dry	1	8/12/2021 11:01
Benzene	U	H	0.020	0.041	mg/Kg-dry	1	8/12/2021 11:01
Ethylbenzene	U	H	0.0086	0.041	mg/Kg-dry	1	8/12/2021 11:01
m,p-Xylene	U	H	0.054	0.081	mg/Kg-dry	1	8/12/2021 11:01
o-Xylene	U	H	0.016	0.041	mg/Kg-dry	1	8/12/2021 11:01
Toluene	U	H	0.011	0.041	mg/Kg-dry	1	8/12/2021 11:01
Xylenes, Total	U	H	0.054	0.12	mg/Kg-dry	1	8/12/2021 11:01
Surr: 1,2-Dichloroethane-d4	101			70-130	%REC	1	8/12/2021 11:01
Surr: 4-Bromofluorobenzene	107			70-130	%REC	1	8/12/2021 11:01
Surr: Dibromofluoromethane	95.1			70-130	%REC	1	8/12/2021 11:01
Surr: Toluene-d8	102			70-130	%REC	1	8/12/2021 11:01
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 8/13/21		Analyst: KNC
Electrical Conductivity @ Saturation	1.4	H	0.00055	0.0050	mmhos/cm @25°C	20	8/13/2021 10:06
CHROMIUM, HEXAVALENT			Method: SW7196A		Prep: SW3060A / 8/14/21		Analyst: RZM
Chromium, Hexavalent	1.5		1.0	1.2	mg/Kg-dry	1	8/16/2021 15:34
MOISTURE			Method: SW3550C				Analyst: ALG
Moisture	15		0.10	0.10	% of sample	1	8/12/2021 15:36
PH MEASURED IN SOIL PASTE			Method: USDA METHOD 20B		Prep: USDA Method 20B / 8/13/21		Analyst: QTN
pH @ Saturation	8.19	H	0.12	0.12	s.u.-dry	1	8/13/2021 09:51

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

ALS Group, USA

Date: 20-Aug-21

Client: Entrada Consulting Group
Project: Emerald
Sample ID: EM4-SS2
Collection Date: 8/5/2021 03:30 PM

Work Order: 21080846
Lab ID: 21080846-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: SW8015D		Prep: SW3550 / 8/13/21		Analyst: SJB
ERO (C10-C36)	1,500		8.1	21	mg/Kg-dry	1	8/16/2021 12:42
Surr: 4-Terphenyl-d14	67.3			33-111	%REC	1	8/16/2021 12:42
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: SW8015D		Prep: SW5035A / 8/11/21		Analyst: SJB
GRO (C6-C10)	170	H	12	29	mg/Kg-dry	5	8/16/2021 13:22
Surr: Toluene-d8	107			71-123	%REC	5	8/16/2021 13:22
METALS BY ICP-MS							
			Method: SW6020B		Prep: SW3050B / 8/12/21		Analyst: DSC
Arsenic	5.7		0.052	0.43	mg/Kg-dry	1	8/12/2021 21:42
Barium	730		4.0	4.3	mg/Kg-dry	10	8/13/2021 12:28
Cadmium	0.29		0.026	0.17	mg/Kg-dry	1	8/12/2021 21:42
Copper	16		0.43	0.43	mg/Kg-dry	1	8/12/2021 21:42
Lead	35		0.21	0.43	mg/Kg-dry	1	8/12/2021 21:42
Nickel	18		0.23	0.43	mg/Kg-dry	1	8/12/2021 21:42
Selenium	1.2		0.40	0.43	mg/Kg-dry	1	8/12/2021 21:42
Silver	0.089	J	0.057	0.43	mg/Kg-dry	1	8/12/2021 21:42
Zinc	130		8.5	8.7	mg/Kg-dry	10	8/13/2021 12:28
SOLUBLE CATIONS FOR SAR							
			Method: SW6020B		Prep: USDA Method 20B / 8/13/21		Analyst: DSC
Calcium	2,400		25	50	mg/L	100	8/16/2021 13:59
Magnesium	180		0.50	2.0	mg/L	10	8/13/2021 18:04
Sodium	4,300		18	20	mg/L	100	8/16/2021 13:59
HOT WATER SOLUBLE BORON BY ICP-MS							
			Method: SW6020B		Prep: EXTRACT / 8/11/21		Analyst: DSC
Boron (Hot Water Soluble)	2.2		0.017	0.44	mg/Kg-dry	10	8/11/2021 20:51
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 8/13/21		Analyst: DSC
Sodium Adsorption Ratio	23		0.010	0.010	none	1	8/13/2021
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHS)							
			Method: SW8270E		Prep: SW3546 / 8/17/21		Analyst: EEW
1-Methylnaphthalene	0.12		0.0027	0.0045	mg/Kg-dry	1	8/20/2021 00:53
2-Methylnaphthalene	0.12		0.0031	0.0045	mg/Kg-dry	1	8/20/2021 00:53
Acenaphthene	U		0.0038	0.0045	mg/Kg-dry	1	8/20/2021 00:53
Anthracene	U		0.0040	0.0045	mg/Kg-dry	1	8/20/2021 00:53
Benzo(a)anthracene	U		0.0043	0.0045	mg/Kg-dry	1	8/20/2021 00:53
Benzo(a)pyrene	U		0.0036	0.0045	mg/Kg-dry	1	8/20/2021 00:53
Benzo(b)fluoranthene	U		0.0038	0.0045	mg/Kg-dry	1	8/20/2021 00:53
Benzo(k)fluoranthene	U		0.0037	0.0045	mg/Kg-dry	1	8/20/2021 00:53
Chrysene	U		0.0041	0.0045	mg/Kg-dry	1	8/20/2021 00:53

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

ALS Group, USA

Date: 20-Aug-21

Client: Entrada Consulting Group
Project: Emerald
Sample ID: EM4-SS2
Collection Date: 8/5/2021 03:30 PM

Work Order: 21080846
Lab ID: 21080846-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Dibenzo(a,h)anthracene	U		0.0036	0.0045	mg/Kg-dry	1	8/20/2021 00:53
Fluoranthene	U		0.0035	0.0045	mg/Kg-dry	1	8/20/2021 00:53
Fluorene	0.011		0.0035	0.0045	mg/Kg-dry	1	8/20/2021 00:53
Indeno(1,2,3-cd)pyrene	U		0.0039	0.0045	mg/Kg-dry	1	8/20/2021 00:53
Naphthalene	0.036		0.0043	0.0045	mg/Kg-dry	1	8/20/2021 00:53
Pyrene	U		0.0043	0.0045	mg/Kg-dry	1	8/20/2021 00:53
Surr: 2-Fluorobiphenyl	14.5	S		20-140	%REC	1	8/20/2021 00:53
Surr: 4-Terphenyl-d14	7.45	S		22-172	%REC	1	8/20/2021 00:53
Surr: Nitrobenzene-d5	8.78	S		28-140	%REC	1	8/20/2021 00:53
VOLATILE ORGANIC COMPOUNDS			Method: SW8260C		Prep: SW5035A / 8/11/21		Analyst: MF
1,2,4-Trimethylbenzene	0.12	H	0.022	0.030	mg/Kg-dry	1	8/12/2021 11:18
1,3,5-Trimethylbenzene	0.092	JH	0.035	0.10	mg/Kg-dry	1	8/12/2021 11:18
Benzene	U	H	0.014	0.030	mg/Kg-dry	1	8/12/2021 11:18
Ethylbenzene	U	H	0.0063	0.030	mg/Kg-dry	1	8/12/2021 11:18
m,p-Xylene	U	H	0.040	0.060	mg/Kg-dry	1	8/12/2021 11:18
o-Xylene	U	H	0.012	0.030	mg/Kg-dry	1	8/12/2021 11:18
Toluene	U	H	0.0082	0.030	mg/Kg-dry	1	8/12/2021 11:18
Xylenes, Total	U	H	0.040	0.090	mg/Kg-dry	1	8/12/2021 11:18
Surr: 1,2-Dichloroethane-d4	102			70-130	%REC	1	8/12/2021 11:18
Surr: 4-Bromofluorobenzene	97.3			70-130	%REC	1	8/12/2021 11:18
Surr: Dibromofluoromethane	97.0			70-130	%REC	1	8/12/2021 11:18
Surr: Toluene-d8	97.0			70-130	%REC	1	8/12/2021 11:18
ELECTRICAL CONDUCTIVITY (SAR)			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 8/13/21		Analyst: KNC
Electrical Conductivity @ Saturation	1.7	H	0.00055	0.0050	mmhos/cm @25°C	20	8/13/2021 10:06
CHROMIUM, HEXAVALENT			Method: SW7196A		Prep: SW3060A / 8/14/21		Analyst: RZM
Chromium, Hexavalent	1.1		0.92	1.1	mg/Kg-dry	1	8/16/2021 15:34
MOISTURE			Method: SW3550C				Analyst: ALG
Moisture	8.3		0.10	0.10	% of sample	1	8/12/2021 15:36
PH MEASURED IN SOIL PASTE			Method: USDA METHOD 20B		Prep: USDA Method 20B / 8/13/21		Analyst: QTN
pH @ Saturation	7.45	H	0.11	0.11	s.u.-dry	1	8/13/2021 09:51

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

ALS Group, USA

Date: 20-Aug-21

Client: Entrada Consulting Group
Project: Emerald
Sample ID: EM4-BG1
Collection Date: 8/5/2021 03:40 PM

Work Order: 21080846
Lab ID: 21080846-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
METALS BY ICP-MS							
			Method: SW6020B		Prep: SW3050B / 8/12/21		Analyst: DSC
Arsenic	4.9		0.049	0.41	mg/Kg-dry	1	8/12/2021 21:44
Barium	990		3.8	4.1	mg/Kg-dry	10	8/13/2021 12:30
Cadmium	0.22		0.025	0.16	mg/Kg-dry	1	8/12/2021 21:44
Copper	13		0.41	0.41	mg/Kg-dry	1	8/12/2021 21:44
Lead	25		0.20	0.41	mg/Kg-dry	1	8/12/2021 21:44
Nickel	15		0.21	0.41	mg/Kg-dry	1	8/12/2021 21:44
Selenium	0.92		0.38	0.41	mg/Kg-dry	1	8/12/2021 21:44
Silver	0.068	J	0.054	0.41	mg/Kg-dry	1	8/12/2021 21:44
Zinc	110		8.1	8.2	mg/Kg-dry	10	8/13/2021 12:30
SOLUBLE CATIONS FOR SAR							
			Method: SW6020B		Prep: USDA Method 20B / 8/13/21		Analyst: DSC
Calcium	300		2.5	5.0	mg/L	10	8/13/2021 18:06
Magnesium	21		0.50	2.0	mg/L	10	8/13/2021 18:06
Sodium	49		1.8	2.0	mg/L	10	8/13/2021 18:06
HOT WATER SOLUBLE BORON BY ICP-MS							
			Method: SW6020B		Prep: EXTRACT / 8/11/21		Analyst: DSC
Boron (Hot Water Soluble)	0.93		0.017	0.42	mg/Kg-dry	10	8/11/2021 20:52
SODIUM ADSORPTION RATIO							
			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 8/13/21		Analyst: DSC
Sodium Adsorption Ratio	0.74		0.010	0.010	none	1	8/13/2021
ELECTRICAL CONDUCTIVITY (SAR)							
			Method: USDA H60 METHOD 20B		Prep: USDA Method 20B / 8/13/21		Analyst: KNC
Electrical Conductivity @ Saturation	0.12	H	0.00055	0.0050	mmhos/cm @25°C	20	8/13/2021 10:06
CHROMIUM, HEXAVALENT							
			Method: SW7196A		Prep: SW3060A / 8/14/21		Analyst: RZM
Chromium, Hexavalent		U	0.88	1.0	mg/Kg-dry	1	8/16/2021 15:34
MOISTURE							
			Method: SW3550C				Analyst: ALG
Moisture	4.2		0.10	0.10	% of sample	1	8/12/2021 15:36

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

Client: Entrada Consulting Group
Work Order: 21080846
Project: Emerald

QC BATCH REPORT

Batch ID: **181935** Instrument ID **GC8** Method: **SW8015D**

MBLK				Sample ID: DBLKS1-181935-181935		Units: mg/Kg		Analysis Date: 8/16/2021 04:26 PM		
Client ID:		Run ID: GC8_210816A		SeqNo: 7671801		Prep Date: 8/13/2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
ERO (C10-C36)	U	20								
<i>Surr: 4-Terphenyl-d14</i>	2.267	0	3.33	0	68.1	33-111	0			

LCS				Sample ID: DLCSS1-181935-181935		Units: mg/Kg		Analysis Date: 8/16/2021 01:56 PM		
Client ID:		Run ID: GC8_210816A		SeqNo: 7671797		Prep Date: 8/13/2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
ERO (C10-C36)	696.6	20	667	0	104	51-130	0			
<i>Surr: 4-Terphenyl-d14</i>	2.355	0	3.33	0	70.7	33-111	0			

MS				Sample ID: 21080172-64C MS		Units: mg/Kg		Analysis Date: 8/16/2021 02:34 PM		
Client ID:		Run ID: GC8_210816A		SeqNo: 7671798		Prep Date: 8/13/2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
ERO (C10-C36)	684.4	20	654.4	0	105	51-130	0			
<i>Surr: 4-Terphenyl-d14</i>	2.382	0	3.267	0	72.9	33-111	0			

MSD				Sample ID: 21080172-64C MSD		Units: mg/Kg		Analysis Date: 8/16/2021 03:11 PM		
Client ID:		Run ID: GC8_210816A		SeqNo: 7671799		Prep Date: 8/13/2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
ERO (C10-C36)	678.9	20	650.5	0	104	51-130	684.4	0.8	30	
<i>Surr: 4-Terphenyl-d14</i>	2.361	0	3.248	0	72.7	33-111	2.382	0.881	30	

The following samples were analyzed in this batch:

21080846-01A 21080846-02A 21080846-03A

Client: Entrada Consulting Group
 Work Order: 21080846
 Project: Emerald

QC BATCH REPORT

Batch ID: **181765** Instrument ID **GC9** Method: **SW8015D**

MBLK		Sample ID: MBLK-181765-181765				Units: µg/Kg-dry		Analysis Date: 8/11/2021 07:24 PM		
Client ID:		Run ID: GC9_210811A				SeqNo: 7659310		Prep Date: 8/11/2021		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	4919	0	5000	0	98.4	71-123	0			

LCS		Sample ID: LCS-181765-181765				Units: µg/Kg-dry		Analysis Date: 8/11/2021 06:41 PM		
Client ID:		Run ID: GC9_210811A				SeqNo: 7659309		Prep Date: 8/11/2021		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	211000	5,000	250000	0	84.4	71-123	0			
Surr: Toluene-d8	4874	0	5000	0	97.5	71-123	0			

MS		Sample ID: 21080845-01A MS				Units: µg/Kg-dry		Analysis Date: 8/11/2021 09:57 PM		
Client ID:		Run ID: GC9_210811A				SeqNo: 7659317		Prep Date: 8/11/2021		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	548500	5,400	270100	246500	112	71-123	0			H
Surr: Toluene-d8	5250	0	5401	0	97.2	71-123	0			

MSD		Sample ID: 21080845-01A MSD				Units: µg/Kg-dry		Analysis Date: 8/11/2021 10:19 PM		
Client ID:		Run ID: GC9_210811A				SeqNo: 7659318		Prep Date: 8/11/2021		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	592900	5,400	270100	246500	128	71-123	548500	7.79	30	SH
Surr: Toluene-d8	6162	0	5401	0	114	71-123	5250	16	30	

The following samples were analyzed in this batch:

21080846-01A 21080846-02A 21080846-03A

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

Client: Entrada Consulting Group
Work Order: 21080846
Project: Emerald

QC BATCH REPORT

Batch ID: **181800** Instrument ID **ICPMS3** Method: **SW6020B**

MBLK		Sample ID: MBLK-181800-181800				Units: mg/Kg		Analysis Date: 8/11/2021 08:44 PM		
Client ID:		Run ID: ICPMS3_210811B		SeqNo: 7659155		Prep Date: 8/11/2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron (Hot Water Soluble)	0.02915	0.040								J

LCS		Sample ID: LCS-181800-181800				Units: mg/Kg		Analysis Date: 8/11/2021 08:46 PM		
Client ID:		Run ID: ICPMS3_210811B		SeqNo: 7659156		Prep Date: 8/11/2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Boron (Hot Water Soluble)	0.9376	0.040	1	0	93.8	80-120	0			

The following samples were analyzed in this batch:

21080846-01A	21080846-02A	21080846-03A
21080846-04A		

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

Client: Entrada Consulting Group
 Work Order: 21080846
 Project: Emerald

QC BATCH REPORT

Batch ID: **181832** Instrument ID **ICPMS3** Method: **SW6020B**

MBLK Sample ID: MBLK-181832-181832				Units: mg/Kg		Analysis Date: 8/12/2021 08:43 PM				
Client ID:		Run ID: ICPMS3_210812B		SeqNo: 7662796		Prep Date: 8/12/2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								
Barium	U	0.25								
Cadmium	U	0.10								
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-181832-181832				Units: mg/Kg		Analysis Date: 8/12/2021 08:45 PM				
Client ID:		Run ID: ICPMS3_210812B		SeqNo: 7662797		Prep Date: 8/12/2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.935	0.25	5	0	98.7	80-120	0			
Barium	5.111	0.25	5	0	102	80-120	0			
Cadmium	5.106	0.10	5	0	102	80-120	0			
Copper	5.004	0.25	5	0	100	80-120	0			
Lead	5.013	0.25	5	0	100	80-120	0			
Nickel	5.088	0.25	5	0	102	80-120	0			
Selenium	4.893	0.25	5	0	97.9	80-120	0			
Silver	4.822	0.25	5	0	96.4	80-120	0			

LCS Sample ID: LCS-181832-181832				Units: mg/Kg		Analysis Date: 8/13/2021 12:44 PM				
Client ID:		Run ID: ICPMS4_210813B		SeqNo: 7665562		Prep Date: 8/12/2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Zinc	5.064	0.50	5	0	101	80-120	0			

MS Sample ID: 21080953-01BMS				Units: mg/Kg		Analysis Date: 8/12/2021 09:54 PM				
Client ID:		Run ID: ICPMS3_210812B		SeqNo: 7662825		Prep Date: 8/12/2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.737	0.35	6.925	3.953	83.5	75-125	0			
Cadmium	6.608	0.14	6.925	0.02672	95	75-125	0			
Copper	13.11	0.35	6.925	5.191	114	75-125	0			
Lead	10.33	0.35	6.925	3.158	104	75-125	0			
Selenium	6.491	0.35	6.925	0.1582	91.4	75-125	0			
Silver	6.414	0.35	6.925	0.01058	92.5	75-125	0			

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

Client: Entrada Consulting Group
Work Order: 21080846
Project: Emerald

QC BATCH REPORT

Batch ID: **181832** Instrument ID **ICPMS3** Method: **SW6020B**

MS				Sample ID: 21080953-01BMS			Units: mg/Kg		Analysis Date: 8/13/2021 12:33 PM	
Client ID:		Run ID: ICPMS4_210813B			SeqNo: 7665556		Prep Date: 8/12/2021		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	17.2	0.35	6.925	7.705	137	75-125	0			S
Nickel	12.25	0.35	6.925	5.383	99.1	75-125	0			
Zinc	23.91	0.69	6.925	17.78	88.5	75-125	0			

MSD				Sample ID: 21080953-01BMSD			Units: mg/Kg		Analysis Date: 8/12/2021 09:56 PM	
Client ID:		Run ID: ICPMS3_210812B			SeqNo: 7662826		Prep Date: 8/12/2021		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.597	0.33	6.553	3.953	86.1	75-125	9.737	1.45	20	
Cadmium	6.292	0.13	6.553	0.02672	95.6	75-125	6.608	4.9	20	
Copper	11.59	0.33	6.553	5.191	97.7	75-125	13.11	12.3	20	
Lead	10.31	0.33	6.553	3.158	109	75-125	10.33	0.181	20	
Selenium	6.159	0.33	6.553	0.1582	91.6	75-125	6.491	5.24	20	
Silver	5.933	0.33	6.553	0.01058	90.4	75-125	6.414	7.79	20	

MSD				Sample ID: 21080953-01BMSD			Units: mg/Kg		Analysis Date: 8/13/2021 12:35 PM	
Client ID:		Run ID: ICPMS4_210813B			SeqNo: 7665557		Prep Date: 8/12/2021		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	16.33	0.33	6.553	7.705	132	75-125	17.2	5.21	20	S
Nickel	11.86	0.33	6.553	5.383	98.8	75-125	12.25	3.22	20	
Zinc	24.53	0.66	6.553	17.78	103	75-125	23.91	2.56	20	

The following samples were analyzed in this batch:

21080846-01A	21080846-02A	21080846-03A
21080846-04A		

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

Client: Entrada Consulting Group
Work Order: 21080846
Project: Emerald

QC BATCH REPORT

Batch ID: **181979** Instrument ID **ICPMS4** Method: **SW6020B**

DUP				Sample ID: 21080846-04ADUP			Units: mg/L		Analysis Date: 8/13/2021 06:08 PM		
Client ID: EM4-BG1			Run ID: ICPMS4_210813A			SeqNo: 7666516		Prep Date: 8/13/2021		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Calcium	314.1	5.0	0	0	0	0-0	301.9	3.95			
Magnesium	20.68	2.0	0	0	0	0-0	20.58	0.469			
Sodium	47.28	2.0	0	0	0	0-0	48.98	3.54			

The following samples were analyzed in this batch:

21080846-01A 21080846-02A 21080846-03A
 21080846-04A

Batch ID: **181979** Instrument ID **SAR** Method: **USDA H60 Method**

DUP				Sample ID: 21080846-04ADUP				Units: none		Analysis Date: 8/13/2021		
Client ID: EM4-BG1				Run ID: SAR_210813A				SeqNo: 7682306		Prep Date: 8/13/2021		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
Sodium Adsorption Ratio	0.6977	0.010	0	0	0		0					

The following samples were analyzed in this batch:

21080846-01A 21080846-02A 21080846-03A
 21080846-04A

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

Client: Entrada Consulting Group
 Work Order: 21080846
 Project: Emerald

QC BATCH REPORT

Batch ID: **182071** Instrument ID **SVMS6** Method: **SW8270E**

MBLK				Sample ID: SBLKS1-182071-182071				Units: µg/Kg		Analysis Date: 8/17/2021 04:09 PM		
Client ID:			Run ID: SVMS6_210817A				SeqNo: 7675455		Prep Date: 8/17/2021		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
1-Methylnaphthalene	U	4.2										
2-Methylnaphthalene	U	4.2										
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	3219	0	3333	0	96.6	20-140		0				
Surr: 4-Terphenyl-d14	3440	0	3333	0	103	22-172		0				
Surr: Nitrobenzene-d5	3410	0	3333	0	102	28-140		0				

LCS				Sample ID: SLCSS1-182071-182071			Units: µg/Kg		Analysis Date: 8/18/2021 08:18 PM		
Client ID:		Run ID: SVMS6_210818A			SeqNo: 7678895		Prep Date: 8/17/2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1-Methylnaphthalene	1087	4.2	1333	0	81.5	40-140	0				
2-Methylnaphthalene	1163	4.2	1333	0	87.3	40-140	0				
Acenaphthene	1114	4.2	1333	0	83.6	40-140	0				
Anthracene	1122	4.2	1333	0	84.2	40-140	0				
Benzo(a)anthracene	1161	4.2	1333	0	87.1	40-140	0				
Benzo(a)pyrene	1217	4.2	1333	0	91.3	40-140	0				
Benzo(b)fluoranthene	1026	4.2	1333	0	76.9	40-140	0				
Benzo(k)fluoranthene	1354	4.2	1333	0	102	40-140	0				
Chrysene	1187	4.2	1333	0	89	40-140	0				
Dibenzo(a,h)anthracene	1202	4.2	1333	0	90.2	40-140	0				
Fluoranthene	1388	4.2	1333	0	104	40-140	0				
Fluorene	1113	4.2	1333	0	83.5	40-140	0				
Indeno(1,2,3-cd)pyrene	1048	4.2	1333	0	78.6	40-140	0				
Naphthalene	1211	4.2	1333	0	90.9	40-140	0				
Pyrene	1163	4.2	1333	0	87.3	40-140	0				
Surr: 2-Fluorobiphenyl	3049	0	3333	0	91.5	20-140	0				
Surr: 4-Terphenyl-d14	2978	0	3333	0	89.3	22-172	0				
Surr: Nitrobenzene-d5	2893	0	3333	0	86.8	28-140	0				

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

Client: Entrada Consulting Group
 Work Order: 21080846
 Project: Emerald

QC BATCH REPORT

Batch ID: 182071 Instrument ID SVMS6 Method: SW8270E

MS				Sample ID: 21080953-01B MS			Units: µg/Kg		Analysis Date: 8/19/2021 11:20 PM		
Client ID:			Run ID: SVMS6_210819B			SeqNo: 7681260		Prep Date: 8/17/2021		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1-Methylnaphthalene	1140	4.1	1322	0	86.2	40-140	0				
2-Methylnaphthalene	1089	4.1	1322	0	82.3	40-140	0				
Acenaphthene	1090	4.1	1322	0	82.4	40-140	0				
Anthracene	1212	4.1	1322	0	91.7	40-140	0				
Benzo(a)anthracene	1149	4.1	1322	0	86.9	40-140	0				
Benzo(a)pyrene	1183	4.1	1322	0	89.5	40-140	0				
Benzo(b)fluoranthene	923.2	4.1	1322	0	69.8	40-140	0				
Benzo(k)fluoranthene	1279	4.1	1322	0	96.7	40-140	0				
Chrysene	1175	4.1	1322	0	88.8	40-140	0				
Dibenzo(a,h)anthracene	1059	4.1	1322	0	80.1	40-140	0				
Fluoranthene	1123	4.1	1322	0	84.9	40-140	0				
Fluorene	1099	4.1	1322	0	83.1	40-140	0				
Indeno(1,2,3-cd)pyrene	1149	4.1	1322	0	86.9	40-140	0				
Naphthalene	1174	4.1	1322	0	88.7	40-140	0				
Pyrene	1051	4.1	1322	0	79.5	40-140	0				
Surr: 2-Fluorobiphenyl	2972	0	3306	0	89.9	20-140	0				
Surr: 4-Terphenyl-d14	2861	0	3306	0	86.5	22-172	0				
Surr: Nitrobenzene-d5	2341	0	3306	0	70.8	28-140	0				

MSD				Sample ID: 21080953-01B MSD			Units: µg/Kg		Analysis Date: 8/17/2021 09:54 PM		
Client ID:		Run ID: SVMS6_210817A			SeqNo: 7675473		Prep Date: 8/17/2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1-Methylnaphthalene	1127	4.1	1302	0	86.5	40-140	1140	1.2	30		
2-Methylnaphthalene	1092	4.1	1302	0	83.9	40-140	1089	0.295	30		
Acenaphthene	1089	4.1	1302	0	83.7	40-140	1090	0.0358	30		
Anthracene	1178	4.1	1302	0	90.5	40-140	1212	2.81	30		
Benzo(a)anthracene	1208	4.1	1302	0	92.8	40-140	1149	5.04	30		
Benzo(a)pyrene	1237	4.1	1302	0	95	40-140	1183	4.45	30		
Benzo(b)fluoranthene	969.7	4.1	1302	0	74.5	40-140	923.2	4.92	30		
Benzo(k)fluoranthene	1227	4.1	1302	0	94.3	40-140	1279	4.12	30		
Chrysene	1118	4.1	1302	0	85.8	40-140	1175	4.96	30		
Dibenzo(a,h)anthracene	1522	4.1	1302	0	117	40-140	1059	35.9	30	R	
Fluoranthene	1139	4.1	1302	0	87.5	40-140	1123	1.41	30		
Fluorene	1111	4.1	1302	0	85.3	40-140	1099	1.14	30		
Indeno(1,2,3-cd)pyrene	1333	4.1	1302	0	102	40-140	1149	14.8	30		
Naphthalene	1202	4.1	1302	0	92.3	40-140	1174	2.37	30		
Pyrene	952.1	4.1	1302	0	73.1	40-140	1051	9.86	30		
Surr: 2-Fluorobiphenyl	3210	0	3256	0	98.6	20-140	2972	7.72	30		
Surr: 4-Terphenyl-d14	2935	0	3256	0	90.1	22-172	2861	2.55	30		
Surr: Nitrobenzene-d5	2869	0	3256	0	88.1	28-140	2341	20.3	30		

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

Client: Entrada Consulting Group
Work Order: 21080846
Project: Emerald

QC BATCH REPORT

Batch ID: **182071** Instrument ID **SVMS6** Method: **SW8270E**

The following samples were analyzed in this batch:

21080846-01A	21080846-02A	21080846-03A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Entrada Consulting Group
 Work Order: 21080846
 Project: Emerald

QC BATCH REPORT

Batch ID: **181764** Instrument ID **VMS9** Method: **SW8260C**

MBLK				Sample ID: MBLK-181764-181764				Units: µg/Kg-dry			Analysis Date: 8/11/2021 01:11 PM		
Client ID:			Run ID: VMS9_210811A				SeqNo: 7659515		Prep Date: 8/11/2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
1,2,4-Trimethylbenzene	U	30											
1,3,5-Trimethylbenzene	U	100											
Benzene	U	30											
Ethylbenzene	U	30											
m,p-Xylene	U	60											
o-Xylene	U	30											
Toluene	U	30											
Xylenes, Total	U	90											
Surr: 1,2-Dichloroethane-d4	972.5	0	1000	0	97.2	70-130	0						
Surr: 4-Bromofluorobenzene	1018	0	1000	0	102	70-130	0						
Surr: Dibromofluoromethane	933.5	0	1000	0	93.4	70-130	0						
Surr: Toluene-d8	944.5	0	1000	0	94.4	70-130	0						

LCS				Sample ID: LCS-181764-181764			Units: µg/Kg-dry		Analysis Date: 8/11/2021 01:55 PM		
Client ID:		Run ID: VMS9_210811A			SeqNo: 7659519		Prep Date: 8/11/2021		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,2,4-Trimethylbenzene	979.5	30	1000	0	98	65-135	0				
1,3,5-Trimethylbenzene	994	100	1000	0	99.4	65-135	0				
Benzene	927.5	30	1000	0	92.8	75-125	0				
Ethylbenzene	957.5	30	1000	0	95.8	75-125	0				
m,p-Xylene	2038	60	2000	0	102	80-125	0				
o-Xylene	1004	30	1000	0	100	75-125	0				
Toluene	963	30	1000	0	96.3	70-125	0				
Xylenes, Total	3042	90	3000	0	101	75-125	0				
Surr: 1,2-Dichloroethane-d4	960.5	0	1000	0	96	70-130	0				
Surr: 4-Bromofluorobenzene	990.5	0	1000	0	99	70-130	0				
Surr: Dibromofluoromethane	978	0	1000	0	97.8	70-130	0				
Surr: Toluene-d8	976	0	1000	0	97.6	70-130	0				

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

Client: Entrada Consulting Group
 Work Order: 21080846
 Project: Emerald

QC BATCH REPORT

Batch ID: **181764** Instrument ID **VMS9** Method: **SW8260C**

MS					Sample ID: 21080845-01A MS		Units: µg/Kg-dry		Analysis Date: 8/11/2021 07:32 PM		
Client ID:			Run ID: VMS9_210811A			SeqNo: 7659550		Prep Date: 8/11/2021		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,2,4-Trimethylbenzene	3927	32	1080	3284	59.4	65-135	0			SHH	
1,3,5-Trimethylbenzene	2641	110	1080	1660	90.8	65-135	0			HH	
Benzene	1140	32	1080	0	105	75-125	0			HH	
Ethylbenzene	1181	32	1080	153.4	95.1	75-125	0			HH	
m,p-Xylene	3307	65	2160	1276	94	80-125	0			HH	
o-Xylene	2220	32	1080	1258	89.1	75-125	0			HH	
Toluene	1073	32	1080	15.12	98	70-125	0			HH	
Xylenes, Total	5527	97	3241	2534	92.4	75-125	0			HH	
Surr: 1,2-Dichloroethane-d4	1056	0	1080	0	97.8	70-130	0				
Surr: 4-Bromofluorobenzene	1200	0	1080	0	111	70-130	0				
Surr: Dibromofluoromethane	1016	0	1080	0	94.1	70-130	0				
Surr: Toluene-d8	983.5	0	1080	0	91	70-130	0				

MSD					Sample ID: 21080845-01A MSD		Units: µg/Kg-dry		Analysis Date: 8/11/2021 07:48 PM		
Client ID:			Run ID: VMS9_210811A			SeqNo: 7659551		Prep Date: 8/11/2021		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,2,4-Trimethylbenzene	4237	32	1080	3284	88.1	65-135	3927	7.6	30	HH	
1,3,5-Trimethylbenzene	2846	110	1080	1660	110	65-135	2641	7.5	30	HH	
Benzene	1161	32	1080	0	107	75-125	1140	1.83	30	HH	
Ethylbenzene	1253	32	1080	153.4	102	75-125	1181	5.95	30	HH	
m,p-Xylene	3525	65	2160	1276	104	80-125	3307	6.4	30	HH	
o-Xylene	2376	32	1080	1258	104	75-125	2220	6.77	30	HH	
Toluene	1112	32	1080	15.12	101	70-125	1073	3.51	30	HH	
Xylenes, Total	5901	97	3241	2534	104	75-125	5527	6.55	30	HH	
Surr: 1,2-Dichloroethane-d4	1065	0	1080	0	98.5	70-130	1056	0.764	30		
Surr: 4-Bromofluorobenzene	1258	0	1080	0	116	70-130	1200	4.7	30		
Surr: Dibromofluoromethane	1072	0	1080	0	99.3	70-130	1016	5.38	30		
Surr: Toluene-d8	998.7	0	1080	0	92.4	70-130	983.5	1.53	30		

The following samples were analyzed in this batch:

21080846-01A 21080846-02A 21080846-03A

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

Client: Entrada Consulting Group
 Work Order: 21080846
 Project: Emerald

QC BATCH REPORT

Batch ID: **182075** Instrument ID **WETCHEM** Method: **SW7196A**

MBLK		Sample ID: MBLK-182075-182075				Units: mg/Kg		Analysis Date: 8/16/2021 03:34 PM		
Client ID:		Run ID: WETCHEM_210816E				SeqNo: 7668277		Prep Date: 8/14/2021		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-182075-182075				Units: mg/Kg		Analysis Date: 8/16/2021 03:34 PM		
Client ID:		Run ID: WETCHEM_210816E				SeqNo: 7668278		Prep Date: 8/14/2021		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.75 1.0 5 0 95 80-120 0

MS		Sample ID: 21080846-02A MS				Units: mg/Kg		Analysis Date: 8/16/2021 03:34 PM		
Client ID: EM4-SS1		Run ID: WETCHEM_210816E				SeqNo: 7668284		Prep Date: 8/14/2021		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.25 1.0 5 1.28 59.4 75-125 0 S

MS		Sample ID: 21080846-02A MSI				Units: mg/Kg		Analysis Date: 8/16/2021 03:34 PM		
Client ID: EM4-SS1		Run ID: WETCHEM_210816E				SeqNo: 7668286		Prep Date: 8/14/2021		DF: 200
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 3922 200 4103 1.28 95.6 75-125 0

MSD		Sample ID: 21080846-02A MSD				Units: mg/Kg		Analysis Date: 8/16/2021 03:34 PM		
Client ID: EM4-SS1		Run ID: WETCHEM_210816E				SeqNo: 7668285		Prep Date: 8/14/2021		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Chromium, Hexavalent 4.01 1.0 5 1.28 54.6 75-125 4.25 5.81 20 S

The following samples were analyzed in this batch:

21080846-01A	21080846-02A	21080846-03A
21080846-04A		

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

Client: Entrada Consulting Group
 Work Order: 21080846
 Project: Emerald

QC BATCH REPORT

Batch ID: **R324195** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R324195				Units: % of sample		Analysis Date: 8/11/2021 03:22 PM		
Client ID:		Run ID: MOIST_210811B				SeqNo: 7659022		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture U 0.10

LCS		Sample ID: LCS-R324195				Units: % of sample		Analysis Date: 8/11/2021 03:22 PM		
Client ID:		Run ID: MOIST_210811B				SeqNo: 7659021		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 100 0.10 100 0 100 98-102 0

DUP		Sample ID: 21080631-19A DUP				Units: % of sample		Analysis Date: 8/11/2021 03:22 PM		
Client ID:		Run ID: MOIST_210811B				SeqNo: 7659000		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 5.62 0.10 0 0 0 0-0 4.86 14.5 10 R

DUP		Sample ID: 21080631-23A DUP				Units: % of sample		Analysis Date: 8/11/2021 03:22 PM		
Client ID:		Run ID: MOIST_210811B				SeqNo: 7659005		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 5.95 0.10 0 0 0 0-0 6.49 8.68 10

The following samples were analyzed in this batch:

21080846-01A

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

Client: Entrada Consulting Group
 Work Order: 21080846
 Project: Emerald

QC BATCH REPORT

Batch ID: **R324321** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R324321				Units: % of sample		Analysis Date: 8/12/2021 03:36 PM		
Client ID:		Run ID: MOIST_210812D				SeqNo: 7663466		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.10								

LCS		Sample ID: LCS-R324321				Units: % of sample		Analysis Date: 8/12/2021 03:36 PM		
Client ID:		Run ID: MOIST_210812D				SeqNo: 7663465		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.10	100	0	100	98-102	0			

DUP		Sample ID: 21080693-51B DUP				Units: % of sample		Analysis Date: 8/12/2021 03:36 PM		
Client ID:		Run ID: MOIST_210812D				SeqNo: 7663446		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	5.98	0.10	0	0	0	0-0	5.99	0.167	10	

DUP		Sample ID: 21080710-01A DUP				Units: % of sample		Analysis Date: 8/12/2021 03:36 PM		
Client ID:		Run ID: MOIST_210812D				SeqNo: 7663448		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	7	0.10	0	0	0	0-0	6.66	4.98	10	

The following samples were analyzed in this batch:

21080846-02A	21080846-03A	21080846-04A
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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

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

Sample Receipt Checklist

Client Name: **ENTRADA**

Date/Time Received: **10-Aug-21 09:00**

Work Order: **21080846**

Received by: **DS**

Checklist completed by **Diane Shaw**

11-Aug-21

Reviewed by: **Chad Whelton**

11-Aug-21

eSignature

Date

eSignature

Date

Matrices: **Soil**

Carrier name: **FedEx**

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

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

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

Chain of custody present? Yes ☒ No ☐

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

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

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

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

Sample(s) received on ice? Yes ☒ No ☐

Temperature(s)/Thermometer(s): **3.4/3.4 c** **IR1**

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: **8/11/2021 7:54:05 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: