18-Jun-2020

Chris McKisson
LT Environmental, Inc
820 Megan Ave. Unit B
Rifle, CO 81650

Re: **Emerald "C" 275 Pit** Work Order: **20061205**

Dear Chris,

ALS Environmental received 1 sample on 12-Jun-2020 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 10.

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

ALS Group, USA

Date: 18-Jun-20

Client: LT Environmental, Inc
Project: Emerald "C" 275 Pit
Work Order: **20061205**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
20061205-01	BG-01 @ 4'	Soil		6/11/2020 11:45	6/12/2020 10:00	☐

ALS Group, USA

Date: 18-Jun-20

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

ALS Group, USA

Date: *18-Jun-20*

Client: LT Environmental, Inc
Project: Emerald "C" 275 Pit
Sample ID: BG-01 @ 4'
Collection Date: 6/11/2020 11:45 AM

Work Order: 20061205
Lab ID: 20061205-01
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
METALS ANALYSIS BY ICP			**SW6010D**	Prep: SW3050B 6/17/20 17:07		Analyst: **ABL**
Arsenic	**4.9**		**0.37**	**mg/Kg-dry**	1	6/18/2020 03:31 AM
SOLUBLE CATIONS FOR SAR			**SW6020B**	Prep: USDA Method 20B 6/17/20 15:34		Analyst: **STP**
Calcium	**450**		**5.0**	**mg/L**	10	6/17/2020 08:10 PM
Magnesium	**860**		**2.0**	**mg/L**	10	6/17/2020 08:10 PM
Sodium	**970**		**2.0**	**mg/L**	10	6/17/2020 08:10 PM
SODIUM ADSORPTION RATIO			**USDA H60 MET**	Prep: USDA Method 20B 6/17/20 15:34		Analyst: **STP**
Sodium Adsorption Ratio	**6.2**		**0.010**	**none**	1	6/17/2020
ELECTRICAL CONDUCTIVITY (SAR)			**USDA H60 MET**	Prep: USDA Method 20B 6/17/20 15:34		Analyst: **QTN**
Electrical Conductivity @ Saturation	**13**		**0.10**	**mmhos/cm @2**	20	6/18/2020 01:52 PM
MOISTURE			**SW3550C**			Analyst: **KTP**
Moisture	**9.8**		**0.10**	**% of sample**	1	6/17/2020 12:46 PM
PH			**SW9045D**	Prep: EXTRACT 6/16/20 19:16		Analyst: **QTN**
pH	**7.94**		**0.100**	**s.u.**	1	6/17/2020 12:18 PM
Temperature	**21.0**		**0.100**	**°C**	1	6/17/2020 12:18 PM

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

QC BATCH REPORT

Batch ID: **157623** Instrument ID **ICP2** Method: **SW6010D**

MBLK Sample ID: **MBLK-157623-157623** Units: **mg/Kg** Analysis Date: **6/18/2020 02:30 AM**

Client ID: Run ID: **ICP2_200617A** SeqNo: **6492393** Prep Date: **6/17/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.25								

LCS Sample ID: **LCS-157623-157623** Units: **mg/Kg** Analysis Date: **6/18/2020 02:35 AM**

Client ID: Run ID: **ICP2_200617A** SeqNo: **6492394** Prep Date: **6/17/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	4.66	0.25	5	0	93.2	80-120	0			

MS Sample ID: **20061385-03AMS** Units: **mg/Kg** Analysis Date: **6/18/2020 04:06 AM**

Client ID: Run ID: **ICP2_200617A** SeqNo: **6492414** Prep Date: **6/17/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	7.674	0.39	7.728	0.6144	91.3	75-125	0			

MSD Sample ID: **20061385-03AMSD** Units: **mg/Kg** Analysis Date: **6/18/2020 04:11 AM**

Client ID: Run ID: **ICP2_200617A** SeqNo: **6492415** Prep Date: **6/17/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	7.988	0.40	7.936	0.6144	92.9	75-125	7.674	4.01	20	

The following samples were analyzed in this batch: 20061205-01A

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

Client: LT Environmental, Inc
Work Order: 20061205
Project: Emerald "C" 275 Pit

QC BATCH REPORT

Batch ID: **157622** Instrument ID **ICPMS4** Method: **SW6020B**

DUP Sample ID: **20061198-04ADUP** Units: **mg/L** Analysis Date: **6/18/2020 01:33 PM**
Client ID: Run ID: **ICPMS4_200618A** SeqNo: **6494222** Prep Date: **6/17/2020** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	19.68	5.0	0	0	0	0-0	18.52	6.12		
Magnesium	5.165	2.0	0	0	0	0-0	4.578	12.1		
Sodium	129.4	2.0	0	0	0	0-0	122.3	5.66		

The following samples were analyzed in this batch: 20061205-01A

Batch ID: **157622** Instrument ID **SAR** Method: **USDA H60 Metho**

DUP Sample ID: **20061198-04ADUP** Units: **none** Analysis Date: **6/17/2020**
Client ID: Run ID: **SAR_200617A** SeqNo: **6494315** Prep Date: **6/17/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	6.711	0.010	0	0	0		6.596	1.72	50	

The following samples were analyzed in this batch: 20061205-01A

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

Client: LT Environmental, Inc
Work Order: 20061205
Project: Emerald "C" 275 Pit

QC BATCH REPORT

Batch ID: **157565** Instrument ID **WETCHEM** Method: **SW9045D**

LCS Sample ID: **LCS-157565-157565** Units: **s.u.** Analysis Date: **6/17/2020 12:18 PM**
Client ID: Run ID: **WETCHEM_200617J** SeqNo: **6490205** Prep Date: **6/16/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	4.02	0.10	4	0	100	90-110	0			

DUP Sample ID: **20061199-01A DUP** Units: **s.u.** Analysis Date: **6/17/2020 12:18 PM**
Client ID: Run ID: **WETCHEM_200617J** SeqNo: **6490207** Prep Date: **6/16/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.7	0.10	0	0	0	0-0	6.66	0.599	20	
Temperature	20.9	0.10	0	0	0		20.9	0		

DUP Sample ID: **20061233-01A DUP** Units: **s.u.** Analysis Date: **6/17/2020 12:18 PM**
Client ID: Run ID: **WETCHEM_200617J** SeqNo: **6490219** Prep Date: **6/16/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	9.13	0.10	0	0	0	0-0	9.09	0.439	20	
Temperature	20.8	0.10	0	0	0		20.8	0		

The following samples were analyzed in this batch: 20061205-01A

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

Client: LT Environmental, Inc
Work Order: 20061205
Project: Emerald "C" 275 Pit

QC BATCH REPORT

Batch ID: **R291022** Instrument ID **MOIST** Method: **SW3550C**

MBLK Sample ID: **WBLKS-R291022** Units: **% of sample** Analysis Date: **6/17/2020 12:46 PM**
Client ID: Run ID: **MOIST_200617B** SeqNo: **6493239** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	ND	0.10								

LCS Sample ID: **LCS-R291022** Units: **% of sample** Analysis Date: **6/17/2020 12:46 PM**
Client ID: Run ID: **MOIST_200617B** SeqNo: **6493238** 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: **20061206-01A DUP** Units: **% of sample** Analysis Date: **6/17/2020 12:46 PM**
Client ID: Run ID: **MOIST_200617B** SeqNo: **6493223** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	17.96	0.10	0	0	0	0-0	17.79	0.951	10	

DUP Sample ID: **20061395-05A DUP** Units: **% of sample** Analysis Date: **6/17/2020 12:46 PM**
Client ID: Run ID: **MOIST_200617B** SeqNo: **6493231** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	16.35	0.10	0	0	0	0-0	15.5	5.34	10	

The following samples were analyzed in this batch: 20061205-01A

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

ALS Laboratory Group

CHAIN OF CUSTODY

Failure to complete all section of this form may delay analysis.

COC number (for client tracking): 20061205

Page 1 of 1

CLIENT CONTACT AND REPORTING INFORMATION		INVOICE ADDRESS (if other than reporting address)	
Company Name:	LT Environmental	Company Name:	GeoCav Consulting
Project Manager:	Chris McKisson	Contact Name:	Tom Cavanaugh geocav@comcast.net
Address:	820 Megan Avenue, Unit B	Address:	7370 Braun St. Arvada, CO 80005
Rifle, CO 81650			
Phone:	970-285-9985	PROJECT INFORMATION	
Email:	cmckisson@ltenv.com, dheld@ltenv.com	Project ID:	104220001
Sampler Name (Print):	**Andrew Smith**	Site:	Emerald "C" 275 Pit
SERVICE REQUEST (Express services subject to availability)		PO No:	
☑ Regular (default)	5-day Standard TAT	ALS Quote No:	
☐ Express	(Pls specify date required _____) (express fee will apply)		

ALS ID #	SAMPLE IDENTIFICATION (this description will appear on report)	Depth (ft)	SAMPLING AND CONTAINER INFO Date	Time	Tot Bottle	Matrix	ANALYSIS REQUIRED (suite codes must be listed to attract suite prices) CROSS THE REQUESTED ANALYSIS	TPH- GRO/DRO	BTEX	TABLE 910- PAH's	SAR	EC	TABLE 910- Metals	pH	Major-Cations	Major-anions	TPH	ARSENIC			
	BG-01 @4'	~~4~~ 4'	6/11/2020	1145	1	SOIL					X	X		X				X			
			6/11/2020			SOIL															
			6/11/2020			SOIL															
			6/11/2020			SOIL															
			6/11/2020			SOIL															

CLIENT SIGNATURES		For lab use only			
Client's Signature:		Cooler Security Seal ☐ sealed ☐ broken ☐ not available	Sample Temp ☐ chilled 7.4°C deg °C ☐ ambient SRI	No of Cooler Received carton / cooler box	Received by (lab) Date and Time 6/12/20 10:00
Client's Date and Time of Completion: 6-11-20 / 1600				Courier Name ALS	Committed by Date and Time

Note: (a) **DW** (Drinking water), **SW** (Surface water), **GW** (Ground water), **WW** (Waste water), **S** (Soil), **SL** (Sludge), **SE** (Sediment), **OS** (Other solid material)

ALS Group, USA

Sample Receipt Checklist

Client Name: **LTENV** Date/Time Received: **12-Jun-20 10:00**

Work Order: **20061205** Received by: **MJG**

Checklist completed by Matthew Gaylord (eSignature) 15-Jun-20 (Date) Reviewed by: Chad Whelton (eSignature) 15-Jun-20 (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):	3.4/3.4C	SR1	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	6/15/2020 9:39:50 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: