

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 13, 2018

Jeremy Pike

LT Environmental, Inc.

4600 West 60th Avenue

Arvada, CO 80003

RE: Critter Creek 9-15H

Enclosed are the results of analyses for samples received by Summit Scientific on 11/12/18 16:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Paul Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury For Ben Shrewsbury

Laboratory Manager



LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO, 80003

Project: Critter Creek 9-15H

Project Number: 027318130
Project Manager: Jeremy Pike

Reported:
11/13/18 06:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS02	1811119-01	Soil	11/12/18 11:30	11/12/18 16:25
SS03	1811119-02	Soil	11/12/18 12:00	11/12/18 16:25

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Page 1 of 1

Sampler Name: Drew Bullinger

Project Number: 627312130

www.s2scientific.com

Sample Receipt Checklist

S2 Work Order 1811119

Client: LT ENV.

Client Project ID: CRITTER CREEK

Shipped Via: H.D. P.U./FedEx/UPS/USPS/Other _____ Airbill #: _____

Matrix (check all that apply): _____ Air ☒ Soil/Solid _____ Water _____ Other: _____
(Describe)

Temp (°C)	<u>.2</u>
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Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ?				
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	✓			
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
If custody seals are present, are they intact ⁽¹⁾ ?			✓	
Are samples with holding times due within 48 hours sample due within 48 hours present?	✗			
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	✓			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?			✓	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect			✓	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			✓	
Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

Muri
Custodian Printed Name or Initials

11-12-18
Signature of Custodian

16:30
Date/Time



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SS02
181119-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/12/18 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1811164	11/12/18	11/13/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **11/12/18 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		99.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/12/18 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	250	50	mg/kg	1	1811163	11/12/18	11/13/18	EPA 8015M	D-09

Date Sampled: **11/12/18 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		96.0 %	30-150		"	"	"	"	

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SS03
181119-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/12/18 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1811164	11/12/18	11/12/18	EPA 8260B	
Toluene	0.012	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.51	0.0050	"	"	"	"	"	"	
Xylenes (total)	18	1.0	"	100	"	"	"	"	
Gasoline Range Hydrocarbons	1100	50	"	"	"	"	"	"	

Date Sampled: **11/12/18 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		94.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		150 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/12/18 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	3500	50	mg/kg	1	1811163	11/12/18	11/13/18	EPA 8015M	

Date Sampled: **11/12/18 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		134 %	30-150		"	"	"	"	

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Volatile Organic Compounds by EPA Method 8260B - Quality Control

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Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 1811164 - EPA 5030 Soil MS

Blank (1811164-BLK1)

Prepared: 11/12/18 Analyzed: 11/13/18

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0404		"	0.0396	102	23-173				
Surrogate: Toluene-d8	0.0400		"	0.0400	100	20-170				
Surrogate: 4-Bromofluorobenzene	0.0387		"	0.0400	96.8	21-167				

LCS (1811164-BS1)

Prepared: 11/12/18 Analyzed: 11/13/18

Benzene	0.0753	0.0020	mg/kg	0.100	75.3	70-130				
Toluene	0.0892	0.0050	"	0.100	89.2	70-130				
Ethylbenzene	0.104	0.0050	"	0.100	104	70-130				
m,p-Xylene	0.201	0.010	"	0.200	100	70-130				
o-Xylene	0.0981	0.0050	"	0.100	98.1	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0420		"	0.0396	106	23-173				
Surrogate: Toluene-d8	0.0394		"	0.0400	98.5	20-170				
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400	97.4	21-167				

Matrix Spike (1811164-MS1)

Source: 181119-01

Prepared: 11/12/18 Analyzed: 11/13/18

Benzene	0.0756	0.0020	mg/kg	0.100	ND	75.6	70-130			
Toluene	0.0889	0.0050	"	0.100	ND	88.9	70-130			
Ethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130			
m,p-Xylene	0.209	0.010	"	0.200	ND	105	70-130			
o-Xylene	0.0979	0.0050	"	0.100	ND	97.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0401		"	0.0396	101	23-173				
Surrogate: Toluene-d8	0.0385		"	0.0400	96.3	20-170				
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400	95.4	21-167				

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Volatile Organic Compounds by EPA Method 8260B - Quality Control
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Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 1811164 - EPA 5030 Soil MS

Matrix Spike Dup (1811164-MSD1)		Source: 1811119-01			Prepared: 11/12/18 Analyzed: 11/13/18					
Benzene	0.0760	0.0020	mg/kg	0.100	ND	76.0	70-130	0.593	30	
Toluene	0.0899	0.0050	"	0.100	ND	89.9	70-130	1.21	30	
Ethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130	0.308	30	
m,p-Xylene	0.209	0.010	"	0.200	ND	104	70-130	0.0144	30	
o-Xylene	0.0993	0.0050	"	0.100	ND	99.3	70-130	1.43	30	
Surrogate: 1,2-Dichloroethane-d4	0.0404		"	0.0396		102	23-173			
Surrogate: Toluene-d8	0.0387		"	0.0400		96.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0364		"	0.0400		91.0	21-167			

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Extractable Petroleum Hydrocarbons by 8015 - Quality Control
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Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 1811163 - EPA 3550A

Blank (1811163-BLK1)

Prepared: 11/12/18 Analyzed: 11/13/18

C10-C28 (DRO) ND 50 mg/kg

LCS (1811163-BS1)

Prepared: 11/12/18 Analyzed: 11/13/18

C10-C28 (DRO) 459 50 mg/kg 500 91.7 70-130

Matrix Spike (1811163-MS1)

Source: 1811119-01

Prepared: 11/12/18 Analyzed: 11/13/18

C10-C28 (DRO) 665 50 mg/kg 500 254 82.2 70-130

Matrix Spike Dup (1811163-MSD1)

Source: 1811119-01

Prepared: 11/12/18 Analyzed: 11/13/18

C10-C28 (DRO) 683 50 mg/kg 500 254 85.8 70-130 2.67 20

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Notes and Definitions

D-09 Results in the diesel organics range are primarily due to overlap from a heavy oil range product.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference