

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: Garden Creek 16-23H

Enclosed are the results of analyses for samples received by Summit Scientific on 11/09/18 17:05. 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: Garden Creek 16-23H

Project Number: [none]
Project Manager: Jeremy Pike

Reported:
11/13/18 14:11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS03	1811116-01	Soil	11/09/18 12:26	11/09/18 17:05

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Scientific

S₂

1811116

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: LT Environmental Project Manager: Jeremy Pike
 Address: 4600 W 60th Ave E-Mail: J.Pike @ Ltenv.com
 City/State/Zip: Arvada CO 80003
 Phone: 303-433-9722 Project Name: Garden Creek 16-23H
 Sampler Name: Drew Bullinger Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	G BTEX	TPH-DRO					
1	SSO 3	4/9/18	12:26	3			X			X				X	X				
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Relinquished by: <u>Drew Bullinger</u>	Date/Time: <u>4/9/18 17:05</u>	Received by: <u>[Signature]</u>	Date/Time: <u>4/9/18 17:05</u>	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/> 24 hours <input type="checkbox"/> Standard <input type="checkbox"/> 48 hours <input checked="" type="checkbox"/> Sample Integrity: Temperature Upon Receipt: <u>6.8</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	Notes: <u>on ice</u>
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

Sample Receipt Checklist

S2 Work Order 1811116

Client: LTE Client Project ID: Garden Creek 16-231t

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>6.8</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.	✓			on ice
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?	✓			48hr
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.

AT
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

11-9-18 07:05
Date/Time



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

Project: Garden Creek 16-23H

Project Number: [none]
Project Manager: Jeremy Pike

Reported:
11/13/18 14:11

SS03
181116-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/09/18 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1811149	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: **11/09/18 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		83.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		93.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.1 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/09/18 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	430	50	mg/kg	1	1811147	11/12/18	11/13/18	EPA 8015M	

Date Sampled: **11/09/18 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		105 %	30-150		"	"	"	"	

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Project: Garden Creek 16-23H

Project Number: [none]
Project Manager: Jeremy Pike

Reported:
11/13/18 14:11

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1811149 - EPA 5030 Soil MS

Blank (1811149-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	0.0332		"	0.0396		83.9	23-173			
Surrogate: Toluene-d8	0.0393		"	0.0400		98.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400		99.1	21-167			

LCS (1811149-BS1)

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

Benzene	0.102	0.0020	mg/kg	0.100		102	70-130			
Toluene	0.105	0.0050	"	0.100		105	70-130			
Ethylbenzene	0.105	0.0050	"	0.100		105	70-130			
m,p-Xylene	0.211	0.010	"	0.200		106	70-130			
o-Xylene	0.104	0.0050	"	0.100		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0336		"	0.0396		84.8	23-173			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.0	21-167			

Matrix Spike (1811149-MS1)

Source: 181114-01

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

Benzene	0.0914	0.0020	mg/kg	0.100	ND	91.4	70-130			
Toluene	0.0887	0.0050	"	0.100	ND	88.7	70-130			
Ethylbenzene	0.0859	0.0050	"	0.100	ND	85.9	70-130			
m,p-Xylene	0.169	0.010	"	0.200	ND	84.4	70-130			
o-Xylene	0.0866	0.0050	"	0.100	ND	86.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0333		"	0.0396		84.0	23-173			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.4	21-167			

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Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1811149 - EPA 5030 Soil MS

Matrix Spike Dup (1811149-MSD1)	Source: 181114-01			Prepared: 11/12/18 Analyzed: 11/13/18						
Benzene	0.100	0.0020	mg/kg	0.100	ND	100	70-130	9.26	30	
Toluene	0.0970	0.0050	"	0.100	ND	97.0	70-130	8.89	30	
Ethylbenzene	0.0920	0.0050	"	0.100	ND	92.0	70-130	6.85	30	
m,p-Xylene	0.181	0.010	"	0.200	ND	90.5	70-130	6.98	30	
o-Xylene	0.0924	0.0050	"	0.100	ND	92.4	70-130	6.40	30	
Surrogate: 1,2-Dichloroethane-d4	0.0332		"	0.0396		83.8	23-173			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.4	21-167			

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Project Number: [none]
Project Manager: Jeremy Pike

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Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1811147 - EPA 3550A

Blank (1811147-BLK1)

Prepared & Analyzed: 11/12/18

C10-C28 (DRO) ND 50 mg/kg

LCS (1811147-BS1)

Prepared & Analyzed: 11/12/18

C10-C28 (DRO) 435 50 mg/kg 500 87.0 70-130

Matrix Spike (1811147-MS1)

Source: 181114-01

Prepared & Analyzed: 11/12/18

C10-C28 (DRO) 563 50 mg/kg 500 209 70.7 70-130

Matrix Spike Dup (1811147-MSD1)

Source: 181114-01

Prepared & Analyzed: 11/12/18

C10-C28 (DRO) 540 50 mg/kg 500 209 66.1 70-130 4.19 20 QM-07

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Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- 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