

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 03, 2019

Jeremy Pike

LT Environmental, Inc.

4600 West 60th Avenue

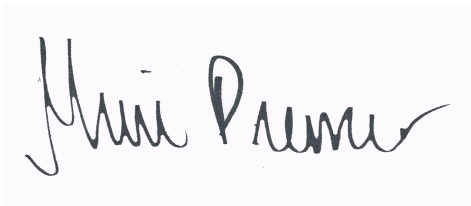
Arvada, CO 80003

RE: Garden Creek 16-2314H

Work Order # 1905290

Enclosed are the results of analyses for samples received by Summit Scientific on 05/24/19 17:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink on a light blue background. The signature is written in a cursive style and reads "Muri Premier".

Muri Premier For Ben Shrewsbury

Laboratory Manager



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

Project: Garden Creek 16-2314H

Project Number: 027318135  
Project Manager: Jeremy Pike

**Reported:**  
06/03/19 12:53

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG01@0"-6"	1905290-01	Soil	05/24/19 10:35	05/24/19 17:15
BG01@18"-24"	1905290-02	Soil	05/24/19 10:40	05/24/19 17:15
BG02@0"-6"	1905290-03	Soil	05/24/19 10:45	05/24/19 17:15
BG02@12"	1905290-04	Soil	05/24/19 10:50	05/24/19 17:15
BG03@0"-6"	1905290-05	Soil	05/24/19 10:55	05/24/19 17:15
BG03@18"-24"	1905290-06	Soil	05/24/19 11:00	05/24/19 17:15

Summit Scientific

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# Summit Scientific

S<sub>2</sub>

1905290

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310 ♦ 303-374-5933 (f)

Page 1 of 1

Client: LT Environmental, Inc.

Project Manager: Jeremy Pike

Address: 4600 West 60th Avenue

E-Mail: jpike@ltenv.com

City/State/Zip: Arvada, Colorado 80003

Phone: 303-433-9788

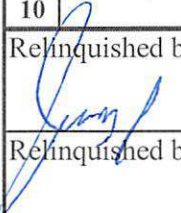
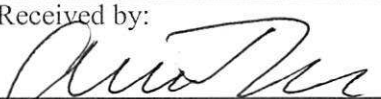
Project Name: Garden Creek 16-2314H

Sampler Name: JEREMY PIKE / BEN BAUGH

Project Number: 027318135

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions	
					HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	EC	pH	SAR							
1	BG01@0"-6"	5/24/17	1035	1			x			x				x		x						
2	BG01@18"-24"		1040	1			x			x				x		x						
3	BG02@0"-6"		1045	1			x			x				x		x						
4	BG02@18"-24" 12"		1050	1			x			x				x		x						
5	BG03@0"-6"		1055	1			x			x				x		x						
6	BG03@18"-24"		1100	1			x			x				x		x						
7																						
8																						
9																						
10																						

Relinquished by: 	Date/Time: 5/24/17 17:15	Received by: 	Date/Time: 5-24-17 17:15	<b>Turn Around Time</b> (Check) Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/> 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/> <b>Sample Integrity:</b> Temperature Upon Receipt: 11.1° Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	<b>HOLD pH analysis</b>
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

# Sample Receipt Checklist

S2 Work Order 1905280

Client: LTE Client Project ID: Garden Creek 16-2314 H

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

Matrix (check all that apply):    Air X Soil/Solid    Water    Other: \_\_\_\_\_  
(Describe)

Temp (°C)	<u>11.1°</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 <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

<sup>(1)</sup> 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

5-24-19 7:15  
Date/Time



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

Project: Garden Creek 16-2314H

Project Number: 027318135  
Project Manager: Jeremy Pike

**Reported:**  
06/03/19 12:53

**BG01@0"-6"**  
**1905290-01 (Soil)**

**Summit Scientific**

**Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis**

Date Sampled: **05/24/19 10:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	<b>4990</b>	10.8	mg/kg dry	1	1905414	05/30/19	05/31/19	EPA 6020B	
Magnesium	<b>317</b>	5.39	"	"	"	"	"	"	
Sodium	<b>318</b>	5.39	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/24/19 10:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	<b>1.18</b>	0.100	units	1	1906004	06/03/19	06/03/19	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/19 10:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	<b>92.8</b>		%	1	1905372	05/29/19	05/29/19	Calculation	

**Specific Conductance by EPA Method 120.1**

Date Sampled: **05/24/19 10:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	<b>1.03</b>	0.0100	mmhos/cm	1	1905373	05/29/19	05/29/19	EPA 120.1	

Summit Scientific

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Arvada CO, 80003

Project: Garden Creek 16-2314H

Project Number: 027318135  
Project Manager: Jeremy Pike

**Reported:**  
06/03/19 12:53

**BG01@18''-24''**  
**1905290-02 (Soil)**

**Summit Scientific**

**Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis**

Date Sampled: **05/24/19 10:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	<b>867</b>	10.3	mg/kg dry	1	1905414	05/30/19	05/31/19	EPA 6020B	
Magnesium	<b>88.7</b>	5.15	"	"	"	"	"	"	
Sodium	<b>131</b>	5.15	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/24/19 10:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	<b>1.13</b>	0.100	units	1	1906004	06/03/19	06/03/19	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/19 10:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	<b>97.1</b>		%	1	1905372	05/29/19	05/29/19	Calculation	

**Specific Conductance by EPA Method 120.1**

Date Sampled: **05/24/19 10:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	<b>0.395</b>	0.0100	mmhos/cm	1	1905373	05/29/19	05/29/19	EPA 120.1	

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Arvada CO, 80003

Project: Garden Creek 16-2314H

Project Number: 027318135  
Project Manager: Jeremy Pike

**Reported:**  
06/03/19 12:53

**BG02@0''-6''**  
**1905290-03 (Soil)**

**Summit Scientific**

**Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis**

Date Sampled: **05/24/19 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	<b>7430</b>	11.1	mg/kg dry	1	1905414	05/30/19	05/31/19	EPA 6020B	
Magnesium	<b>469</b>	5.54	"	"	"	"	"	"	
Sodium	<b>149</b>	5.54	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/24/19 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	<b>0.453</b>	0.100	units	1	1906004	06/03/19	06/03/19	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/19 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	<b>90.3</b>		%	1	1905372	05/29/19	05/29/19	Calculation	

**Specific Conductance by EPA Method 120.1**

Date Sampled: **05/24/19 10:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	<b>0.719</b>	0.0100	mmhos/cm	1	1905373	05/29/19	05/29/19	EPA 120.1	

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Arvada CO, 80003

Project: Garden Creek 16-2314H

Project Number: 027318135  
Project Manager: Jeremy Pike

**Reported:**  
06/03/19 12:53

**BG02@12"**  
**1905290-04 (Soil)**

**Summit Scientific**

**Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis**

Date Sampled: **05/24/19 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	9220	11.1	mg/kg dry	1	1905414	05/30/19	05/31/19	EPA 6020B	
Magnesium	584	5.54	"	"	"	"	"	"	
Sodium	115	5.54	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/24/19 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.314	0.100	units	1	1906004	06/03/19	06/03/19	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/19 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	90.2		%	1	1905372	05/29/19	05/29/19	Calculation	

**Specific Conductance by EPA Method 120.1**

Date Sampled: **05/24/19 10:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	0.638	0.0100	mmhos/cm	1	1905373	05/29/19	05/29/19	EPA 120.1	

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

Project: Garden Creek 16-2314H

Project Number: 027318135  
Project Manager: Jeremy Pike

**Reported:**  
06/03/19 12:53

**BG03@0''-6''**  
**1905290-05 (Soil)**

**Summit Scientific**

**Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis**

Date Sampled: **05/24/19 10:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>7880</b>	11.0	mg/kg dry	1	1905414	05/30/19	05/31/19	EPA 6020B	
<b>Magnesium</b>	<b>380</b>	5.50	"	"	"	"	"	"	
<b>Sodium</b>	<b>49.1</b>	5.50	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/24/19 10:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Sodium Adsorption Ratio</b>	<b>0.147</b>	0.100	units	1	1906004	06/03/19	06/03/19	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/19 10:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>% Solids</b>	<b>91.0</b>		%	1	1905372	05/29/19	05/29/19	Calculation	

**Specific Conductance by EPA Method 120.1**

Date Sampled: **05/24/19 10:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Specific Conductance (EC)</b>	<b>0.508</b>	0.0100	mmhos/cm	1	1905373	05/29/19	05/29/19	EPA 120.1	

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Arvada CO, 80003

Project: Garden Creek 16-2314H

Project Number: 027318135  
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**Reported:**  
06/03/19 12:53

**BG03@18''-24''**  
**1905290-06 (Soil)**

**Summit Scientific**

**Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis**

Date Sampled: **05/24/19 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	12200	11.3	mg/kg dry	1	1905414	05/30/19	05/31/19	EPA 6020B	
Magnesium	616	5.67	"	"	"	"	"	"	
Sodium	72.1	5.67	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **05/24/19 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.173	0.100	units	1	1906004	06/03/19	06/03/19	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **05/24/19 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	88.2		%	1	1905372	05/29/19	05/29/19	Calculation	

**Specific Conductance by EPA Method 120.1**

Date Sampled: **05/24/19 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	0.542	0.0100	mmhos/cm	1	1905373	05/29/19	05/29/19	EPA 120.1	

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Project: Garden Creek 16-2314H

Project Number: 027318135  
Project Manager: Jeremy Pike

**Reported:**  
06/03/19 12:53

## Soluble Nutrients by EPA 6020/USDA60 6(2, 3A) - Dry Weight Basis - Quality Control

### Summit Scientific

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

#### Batch 1905414 - General Preparation

##### Blank (1905414-BLK1)

Prepared & Analyzed: 05/30/19

Calcium	ND	10.0	mg/kg wet
Magnesium	ND	5.00	"
Sodium	ND	5.00	"

##### LCS (1905414-BS1)

Prepared & Analyzed: 05/30/19

Calcium	515	10.0	mg/kg wet	500	103	70-130
Magnesium	563	5.00	"	500	113	70-130
Sodium	516	5.00	"	500	103	70-130

##### Duplicate (1905414-DUP1)

Source: 1905287-01

Prepared & Analyzed: 05/30/19

Calcium	3710	11.0	mg/kg dry	3660	1.55	20
Magnesium	264	5.51	"	265	0.491	20
Sodium	361	5.51	"	360	0.452	20

##### Matrix Spike (1905414-MS1)

Source: 1905287-01

Prepared & Analyzed: 05/30/19

Calcium	4160	11.0	mg/kg dry	551	3660	91.1	70-130
Magnesium	843	5.51	"	551	265	105	70-130
Sodium	888	5.51	"	551	360	95.9	70-130

##### Matrix Spike Dup (1905414-MSD1)

Source: 1905287-01

Prepared: 05/30/19 Analyzed: 05/31/19

Calcium	4190	11.0	mg/kg dry	551	3660	96.2	70-130	0.663	25
Magnesium	751	5.51	"	551	265	88.2	70-130	11.6	25
Sodium	819	5.51	"	551	360	83.4	70-130	8.02	25

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Project Number: 027318135

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**Reported:**  
06/03/19 12:53

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**  
**Summit Scientific**

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

**Batch 1905372 - General Preparation**

Duplicate (1905372-DUP1)		Source: 1905188-01			Prepared & Analyzed: 05/29/19						
% Solids	66.5		%		66.4			0.147		20	

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06/03/19 12:53

**Specific Conductance by EPA Method 120.1 - Quality Control**  
**Summit Scientific**

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

**Batch 1905373 - General Preparation**

**Blank (1905373-BLK1)**

Prepared & Analyzed: 05/29/19

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (1905373-BS1)**

Prepared & Analyzed: 05/29/19

Specific Conductance (EC) 0.734 0.0100 mmhos/cm 0.750 97.8 90-110

**Duplicate (1905373-DUP1)**

**Source: 1905287-01**

Prepared & Analyzed: 05/29/19

Specific Conductance (EC) 2.51 0.0100 mmhos/cm 2.51 0.359 20

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Project Number: 027318135  
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**Reported:**  
06/03/19 12:53

### Notes and Definitions

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