

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 22, 2019

Jeremy Pike

LT Environmental, Inc.

4600 West 60th Avenue

Arvada, CO 80003

RE: Vic 1

Work Order # 1907141

Enclosed are the results of analyses for samples received by Summit Scientific on 07/12/19 09:30. 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', written in a cursive style.

Paul Shrewsbury For Ben Shrewsbury

Laboratory Manager



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

Project: Vic 1

Project Number: 027318139  
Project Manager: Jeremy Pike

**Reported:**  
07/22/19 07:23

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@6'	1907141-01	Soil	07/11/19 13:45	07/12/19 09:30
SS02@5'	1907141-02	Soil	07/11/19 13:50	07/12/19 09:30

Summit Scientific

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# Summit Scientific

S<sub>2</sub>

1907141

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: jpik@ltenv.com

City/State/Zip: Arvada, Colorado 80003

Phone: 303-433-9788

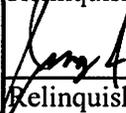
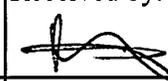
Project Name: Vic 1

Sampler Name:

Project Number: 027318139

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	GBTEX	TPH-DRO	EC	PH	SAR			
1	SSol @ 6'	7/11/19	1345	1			X			X				X	X	X	X			<p><del>Hold SAR</del>            General Results            7-12-19</p>
2	SSol @ 5'	7/11/19	1350	1			X			X				X	X					
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by: 	Date/Time: 7/12/19 0930	Received by: 	Date/Time: 7-12-19 9:30	<b>Turn Around Time (Check)</b> Same Day ___ 72 hours ___ 24 hours ___ Standard X ___ 48 hours ___ <b>Sample Integrity:</b> Temperature Upon Receipt: 4.7 Samples Intact: <u>Yes</u> No
Relinquished by:	Date/Time:	Received by:	Date/Time:	
Relinquished by:	Date/Time:	Received by:	Date/Time:	

1907141

Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: Lt Environmental Client Project ID: Vic 1

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

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

Temp (°C)	4.7
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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"/>	
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 <b>(excluding cooling)</b> <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.

MP  
Custodian Printed Name or Initials

*Muri Premer*  
Signature of Custodian

7/12/19  
Date/Time



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

Project: Vic 1

Project Number: 027318139  
Project Manager: Jeremy Pike

**Reported:**  
07/22/19 07:23

**SS01@6'**  
**1907141-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **07/11/19 13:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Benzene</b>	<b>13</b>	0.20	mg/kg	100	1907187	07/15/19	07/17/19	EPA 8260B	
<b>Toluene</b>	<b>1.0</b>	0.50	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>110</b>	0.50	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>690</b>	10	"	1000	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>14000</b>	50	"	100	"	"	"	"	

Date Sampled: **07/11/19 13:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: 1,2-Dichloroethane-d4</i>		194 %	23-173	"	"	"	"	"	S-02
<i>Surrogate: Toluene-d8</i>		112 %	20-170	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		445 %	21-167	"	"	"	"	"	S-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/11/19 13:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>C10-C28 (DRO)</b>	<b>2300</b>	50	mg/kg	1	1907205	07/16/19	07/17/19	EPA 8015M	

Date Sampled: **07/11/19 13:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<i>Surrogate: o-Terphenyl</i>		88.2 %	30-150	"	"	"	"	"	

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

Date Sampled: **07/11/19 13:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>177</b>	11.8	mg/kg dry	1	1907244	07/17/19	07/17/19	EPA 6020B	
<b>Magnesium</b>	<b>136</b>	5.89	"	"	"	"	"	"	
<b>Sodium</b>	<b>153</b>	5.89	"	"	"	"	"	"	

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Project: Vic 1

Project Number: 027318139  
Project Manager: Jeremy Pike

**Reported:**  
07/22/19 07:23

**SS01@6'**  
**1907141-01 (Soil)**

**Summit Scientific**

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

**Calculated Analysis**

Date Sampled: **07/11/19 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	<b>2.10</b>	0.100	units	1	1907259	07/18/19	07/18/19	Calculation	

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

Date Sampled: **07/11/19 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>84.9</b>		%	1	1907209	07/16/19	07/16/19	Calculation	
pH	<b>8.37</b>		pH Units	"	1907225	07/17/19	07/17/19	EPA 9045D	

**Specific Conductance by EPA Method 120.1**

Date Sampled: **07/11/19 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.266</b>	0.0100	mmhos/cm	1	1907224	07/17/19	07/17/19	EPA 120.1	

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Project: Vic 1

Project Number: 027318139  
Project Manager: Jeremy Pike

**Reported:**  
07/22/19 07:23

**SS02@5'**  
**1907141-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

**R-01**

Date Sampled: **07/11/19 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.020	mg/kg	10	1907187	07/15/19	07/17/19	EPA 8260B	
<b>Toluene</b>	<b>0.24</b>	0.050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.074</b>	0.050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>92</b>	1.0	"	100	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>3800</b>	50	"	"	"	"	"	"	

Date Sampled: **07/11/19 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		113 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		210 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/11/19 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>1700</b>	50	mg/kg	1	1907205	07/16/19	07/17/19	EPA 8015M	

Date Sampled: **07/11/19 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		188 %	30-150		"	"	"	"	S-02

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Project: Vic 1

Project Number: 027318139  
Project Manager: Jeremy Pike

**Reported:**  
07/22/19 07:23

**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 1907187 - EPA 5030 Soil MS**

**Blank (1907187-BLK1)**

Prepared: 07/15/19 Analyzed: 07/17/19

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	0.0392		"	0.0400		98.0	23-173			
Surrogate: Toluene-d8	0.0427		"	0.0400		107	20-170			
Surrogate: 4-Bromofluorobenzene	0.0410		"	0.0400		103	21-167			

**LCS (1907187-BS1)**

Prepared: 07/15/19 Analyzed: 07/17/19

Benzene	0.0757	0.0020	mg/kg	0.100		75.7	70-130			
Toluene	0.0848	0.0050	"	0.100		84.8	70-130			
Ethylbenzene	0.0800	0.0050	"	0.100		80.0	70-130			
m,p-Xylene	0.168	0.010	"	0.200		83.8	70-130			
o-Xylene	0.0738	0.0050	"	0.100		73.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0362		"	0.0400		90.6	23-173			
Surrogate: Toluene-d8	0.0464		"	0.0400		116	20-170			
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400		100	21-167			

**Matrix Spike (1907187-MS1)**

Source: 1907140-01

Prepared: 07/15/19 Analyzed: 07/17/19

Benzene	0.0755	0.0020	mg/kg	0.100	ND	75.5	70-130			
Toluene	0.0812	0.0050	"	0.100	ND	81.2	70-130			
Ethylbenzene	0.0788	0.0050	"	0.100	ND	78.8	70-130			
m,p-Xylene	0.141	0.010	"	0.200	ND	70.7	70-130			
o-Xylene	0.0747	0.0050	"	0.100	ND	74.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0371		"	0.0400		92.8	23-173			
Surrogate: Toluene-d8	0.0455		"	0.0400		114	20-170			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.6	21-167			

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Project: Vic 1

Project Number: 027318139  
Project Manager: Jeremy Pike

**Reported:**  
07/22/19 07:23

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

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

**Batch 1907187 - EPA 5030 Soil MS**

**Matrix Spike Dup (1907187-MSD1)**

Source: 1907140-01

Prepared: 07/15/19 Analyzed: 07/17/19

Benzene	0.0704	0.0020	mg/kg	0.100	ND	70.4	70-130	7.04	30	
Toluene	0.0866	0.0050	"	0.100	ND	86.6	70-130	6.47	30	
Ethylbenzene	0.0722	0.0050	"	0.100	ND	72.2	70-130	8.70	30	
m,p-Xylene	0.147	0.010	"	0.200	ND	73.4	70-130	3.69	30	
o-Xylene	0.0761	0.0050	"	0.100	ND	76.1	70-130	1.87	30	
Surrogate: 1,2-Dichloroethane-d4	0.0361		"	0.0400		90.2	23-173			
Surrogate: Toluene-d8	0.0460		"	0.0400		115	20-170			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		96.1	21-167			

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Project: Vic 1

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 Project Manager: Jeremy Pike

**Reported:**  
 07/22/19 07:23

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 1907205 - EPA 3550A**

**Blank (1907205-BLK1)**

Prepared & Analyzed: 07/16/19

C10-C28 (DRO) ND 50 mg/kg

**LCS (1907205-BS1)**

Prepared & Analyzed: 07/16/19

C10-C28 (DRO) 503 50 mg/kg 500 101 70-130

**Matrix Spike (1907205-MS1)**

Source: 1907130-18

Prepared & Analyzed: 07/16/19

C10-C28 (DRO) 519 50 mg/kg 500 ND 104 70-130

**Matrix Spike Dup (1907205-MSD1)**

Source: 1907130-18

Prepared & Analyzed: 07/16/19

C10-C28 (DRO) 503 50 mg/kg 500 ND 101 70-130 3.14 20

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Arvada CO, 80003

Project: Vic 1

Project Number: 027318139  
Project Manager: Jeremy Pike

**Reported:**  
07/22/19 07:23

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

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

**Batch 1907244 - General Preparation**

**Blank (1907244-BLK1)**

Prepared & Analyzed: 07/17/19

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

**LCS (1907244-BS1)**

Prepared & Analyzed: 07/17/19

Calcium	550	10.0	mg/kg wet	500	110	70-130			
Magnesium	550	5.00	"	500	110	70-130			
Sodium	538	5.00	"	500	108	70-130			

**Duplicate (1907244-DUP1)**

Source: 1907141-01

Prepared & Analyzed: 07/17/19

Calcium	162	11.8	mg/kg dry	177			8.65	20
Magnesium	126	5.89	"	136			7.85	20
Sodium	130	5.89	"	153			16.8	20

**Matrix Spike (1907244-MS1)**

Source: 1907141-01

Prepared & Analyzed: 07/17/19

Calcium	687	11.8	mg/kg dry	589	177	86.5	70-130	
Magnesium	710	5.89	"	589	136	97.3	70-130	
Sodium	720	5.89	"	589	153	96.1	70-130	

**Matrix Spike Dup (1907244-MSD1)**

Source: 1907141-01

Prepared & Analyzed: 07/17/19

Calcium	723	11.8	mg/kg dry	589	177	92.6	70-130	5.08	25
Magnesium	740	5.89	"	589	136	102	70-130	4.18	25
Sodium	755	5.89	"	589	153	102	70-130	4.77	25

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

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

**Batch 1907209 - General Preparation**

<b>Duplicate (1907209-DUP1)</b>		<b>Source: 1907141-01</b>			<b>Prepared &amp; Analyzed: 07/16/19</b>						
% Solids	84.5		%		84.9				0.388	20	

**Batch 1907225 - General Preparation**

<b>LCS (1907225-BS1)</b>		<b>Prepared &amp; Analyzed: 07/17/19</b>									
pH	9.42		pH Units	9.23		102	95-105				
<b>Duplicate (1907225-DUP1)</b>		<b>Source: 1907141-01</b>			<b>Prepared &amp; Analyzed: 07/17/19</b>						
pH	8.34		pH Units	8.37					0.359	20	

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Project: Vic 1

Project Number: 027318139  
 Project Manager: Jeremy Pike

**Reported:**  
 07/22/19 07:23

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

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

**Batch 1907224 - General Preparation**

**Blank (1907224-BLK1)**

Prepared & Analyzed: 07/17/19

Specific Conductance (EC)      ND      0.0100    mmhos/cm

**LCS (1907224-BS1)**

Prepared & Analyzed: 07/17/19

Specific Conductance (EC)      0.744      0.0100    mmhos/cm      0.750      99.1      90-110

**Duplicate (1907224-DUP1)**

**Source: 1907141-01**

Prepared & Analyzed: 07/17/19

Specific Conductance (EC)      0.266      0.0100    mmhos/cm      0.266      0.150      20

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Project: Vic 1

Project Number: 027318139  
Project Manager: Jeremy Pike

**Reported:**  
07/22/19 07:23

### Notes and Definitions

- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- R-01 The Reporting Limit for this analyte has been raised to account for matrix interference.
- 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