

Summit Scientific

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: AEF 4-62-33 CPF NWNW

Work Order # 1905288

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 cursive and reads "Muri Premer".

Muri Premer For Ben Shrewsbury

Laboratory Manager



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

Project: AEF 4-62-33 CPF NWNW

Project Number: 027318130
Project Manager: Jeremy Pike

Reported:
06/03/19 12:44

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@0"-6"	1905288-01	Soil	05/24/19 12:25	05/24/19 17:15
SS01@18"-24"	1905288-02	Soil	05/24/19 12:25	05/24/19 17:15
SS02@0"-6"	1905288-03	Soil	05/24/19 12:35	05/24/19 17:15
SS02@18"-24"	1905288-04	Soil	05/24/19 12:35	05/24/19 17:15
SS03@0"-6"	1905288-05	Soil	05/24/19 12:45	05/24/19 17:15
SS03@18"-24"	1905288-06	Soil	05/24/19 12:45	05/24/19 17:15

Summit Scientific

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Summit Scientific

S₂

1905288

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: AEF 4-62-33 CPF NWNW

Sampler Name:

Project Number: 027318130

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	GBTEX	TPH-DRO							
1	SS01@0"-6"	5/24/19	1225	1			X			X				X	X						
2	SS01@18"-24"		1225				X			X				X	X						
3	SS02@0"-6"		1235	1			X			X				X	X						
4	SS02@18"-24"		1235				X			X				X	X						
5	SS03@0"-6"		1245				X			X				X	X						
6	SS03@18"-24"		1245	1			X			X				X	X						
7																					
8																					
9																					
10																					

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check) Same Day _____ 72 hours _____ 24 hours _____ Standard <u>X</u> 48 hours _____ Sample Integrity: Temperature Upon Receipt: <u>11.1°</u> Samples Intact: <u>(Yes)</u> No
Relinquished by:	Date/Time:	Received by:	Date/Time:	
Relinquished by:	Date/Time:	Received by:	Date/Time:	

Sample Receipt Checklist

S2 Work Order

1905288

Client:

LTE

Client Project ID:

AEF 4-62-33 CPF NWNW

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)

11.1°

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?			✓	
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.

Custodian Printed Name or Initials

AT

Signature of Custodian

[Signature]

Date/Time

5-24-19, 17:15



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

Project: AEF 4-62-33 CPF NWNW

Project Number: 027318130
Project Manager: Jeremy Pike

Reported:
06/03/19 12:44

SS01@0"-6"
1905288-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/19 12:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	1905353	05/28/19	05/28/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/24/19 12:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		96.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.4 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/19 12:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	1905356	05/28/19	05/29/19	EPA 8015M	

Date Sampled: **05/24/19 12:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl		100 %	30-150		"	"	"	"	

Summit Scientific

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

Project: AEF 4-62-33 CPF NWNW

Project Number: 027318130
Project Manager: Jeremy Pike

Reported:
06/03/19 12:44

SS01@18"-24"
1905288-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/19 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	1905353	05/28/19	05/29/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/24/19 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		99.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.5 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/19 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	1905356	05/28/19	05/29/19	EPA 8015M	

Date Sampled: **05/24/19 12:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		98.8 %	30-150		"	"	"	"	

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LT Environmental, Inc.
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Project: AEF 4-62-33 CPF NWNW

Project Number: 027318130
Project Manager: Jeremy Pike

Reported:
06/03/19 12:44

SS02@0"-6"
1905288-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/19 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	1905353	05/28/19	05/29/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/24/19 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		94.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.7 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/19 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	1905356	05/28/19	05/29/19	EPA 8015M	

Date Sampled: **05/24/19 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		106 %	30-150		"	"	"	"	

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Project: AEF 4-62-33 CPF NWNW

Project Number: 027318130
Project Manager: Jeremy Pike

Reported:
06/03/19 12:44

SS02@18"-24"
1905288-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/19 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	1905353	05/28/19	05/29/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/24/19 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		97.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.0 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/19 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	1905356	05/28/19	05/29/19	EPA 8015M	

Date Sampled: **05/24/19 12:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		107 %	30-150		"	"	"	"	

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Project: AEF 4-62-33 CPF NWNW

Project Number: 027318130
Project Manager: Jeremy Pike

Reported:
06/03/19 12:44

SS03@0''-6''
1905288-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/19 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	1905353	05/28/19	05/29/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/24/19 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		97.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.5 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/19 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	1905356	05/28/19	05/29/19	EPA 8015M	

Date Sampled: **05/24/19 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		93.7 %	30-150		"	"	"	"	

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

Project: AEF 4-62-33 CPF NWNW

Project Number: 027318130
Project Manager: Jeremy Pike

Reported:
06/03/19 12:44

SS03@18"-24"
1905288-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/24/19 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	1905353	05/28/19	05/29/19	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **05/24/19 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		98.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.6 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/24/19 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	1905356	05/28/19	05/29/19	EPA 8015M	

Date Sampled: **05/24/19 12:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		98.7 %	30-150		"	"	"	"	

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

Project: AEF 4-62-33 CPF NWNW

Project Number: 027318130
Project Manager: Jeremy Pike

Reported:
06/03/19 12:44

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1905353 - EPA 5030 Soil MS

Blank (1905353-BLK1)

Prepared & Analyzed: 05/28/19

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	0.0368		"	0.0400		92.0	23-173			
Surrogate: Toluene-d8	0.0395		"	0.0400		98.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		96.0	21-167			

LCS (1905353-BS1)

Prepared & Analyzed: 05/28/19

Benzene	0.0951	0.0020	mg/kg	0.100		95.1	70-130			
Toluene	0.0957	0.0050	"	0.100		95.7	70-130			
Ethylbenzene	0.0818	0.0050	"	0.100		81.8	70-130			
m,p-Xylene	0.168	0.010	"	0.200		83.9	70-130			
o-Xylene	0.0843	0.0050	"	0.100		84.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0358		"	0.0400		89.4	23-173			
Surrogate: Toluene-d8	0.0463		"	0.0400		116	20-170			
Surrogate: 4-Bromofluorobenzene	0.0364		"	0.0400		90.9	21-167			

Matrix Spike (1905353-MS1)

Source: 1905288-01

Prepared & Analyzed: 05/28/19

Benzene	0.108	0.0020	mg/kg	0.100	ND	108	70-130			
Toluene	0.115	0.0050	"	0.100	ND	115	70-130			
Ethylbenzene	0.110	0.0050	"	0.100	ND	110	70-130			
m,p-Xylene	0.221	0.010	"	0.200	ND	111	70-130			
o-Xylene	0.111	0.0050	"	0.100	ND	111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0362		"	0.0400		90.6	23-173			
Surrogate: Toluene-d8	0.0425		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0369		"	0.0400		92.3	21-167			

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Project: AEF 4-62-33 CPF NWNW

Project Number: 027318130
Project Manager: Jeremy Pike

Reported:
06/03/19 12:44

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch 1905353 - EPA 5030 Soil MS

Matrix Spike Dup (1905353-MSD1)		Source: 1905288-01			Prepared & Analyzed: 05/28/19					
Benzene	0.118	0.0020	mg/kg	0.100	ND	118	70-130	8.53	30	
Toluene	0.124	0.0050	"	0.100	ND	124	70-130	6.88	30	
Ethylbenzene	0.122	0.0050	"	0.100	ND	122	70-130	9.81	30	
m,p-Xylene	0.245	0.010	"	0.200	ND	122	70-130	10.1	30	
o-Xylene	0.124	0.0050	"	0.100	ND	124	70-130	11.1	30	
Surrogate: 1,2-Dichloroethane-d4	0.0399		"	0.0400		99.7	23-173			
Surrogate: Toluene-d8	0.0410		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0369		"	0.0400		92.2	21-167			

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Project: AEF 4-62-33 CPF NWNW

Project Number: 027318130
Project Manager: Jeremy Pike

Reported:
06/03/19 12:44

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1905356 - EPA 3550A

Blank (1905356-BLK1)

Prepared: 05/28/19 Analyzed: 05/29/19

C10-C28 (DRO) ND 50 mg/kg

LCS (1905356-BS1)

Prepared: 05/28/19 Analyzed: 05/29/19

C10-C28 (DRO) 554 50 mg/kg 500 111 70-130

Matrix Spike (1905356-MS1)

Source: 1905288-01

Prepared: 05/28/19 Analyzed: 05/29/19

C10-C28 (DRO) 549 50 mg/kg 500 19.5 106 70-130

Matrix Spike Dup (1905356-MSD1)

Source: 1905288-01

Prepared: 05/28/19 Analyzed: 05/29/19

C10-C28 (DRO) 572 50 mg/kg 500 19.5 111 70-130 4.22 20

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4600 West 60th Avenue
Arvada CO, 80003

Project: AEF 4-62-33 CPF NWNW

Project Number: 027318130
Project Manager: Jeremy Pike

Reported:
06/03/19 12:44

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