

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 24, 2019

Chris Roy

LT Environmental, Inc.

4600 West 60th Avenue

Arvada, CO 80003

RE: North Platte K21-35-2MRLNC

Enclosed are the results of analyses for samples received by Summit Scientific on 09/17/19 17:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Paul Shrewsbury For Ben Shrewsbury

Laboratory Manager



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

Project: North Platte K21-35-2MRLNC

Project Number: 034519012

Project Manager: Chris Roy

Reported:
09/24/19 16:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Bradenhead Liquid	1909211-01	Water	09/17/19 13:20	09/17/19 17:15

Summit Scientific

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1909211

Summit Scientific

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

Page 1 of 1

Client: LT Environmental

Project Manager: Chris Roy

Address:

E-Mail: Croy@LTENV.COM

City/State/Zip:

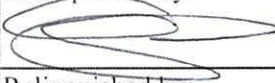

Phone:

Project Name: North Platte K21-35-2MRLNC

Sampler Name: Glenn Thompson

Project Number: 034519012

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	BTEX	Anions	Cations									
1	Bradenhead liquid	9-17-19	1320	0			X		X					X	X	X								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time	(Check)	Notes: Anions - Cl, Carbonate, bicarbonate Sulfate Cations - Na, K Ca, Mg
	9-17-19 17:15		9-17-19 17:15	Same Day	72 hours	
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours	Standard	
Relinquished by:	Date/Time:	Received by:	Date/Time:	48 hours		
				Sample Integrity:		
				Temperature Upon Receipt:		4.8
				Samples Intact:		Yes No

Sample Receipt Checklist

S2 Work Order 1909211

Client: LT Environmental Client Project ID: North Platte - K21-35-

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: 2MRLNC

☒ ☐ ☐ ☐ ☐

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

Temp (°C)	4.8
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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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	On Ice
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	anions
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HNO3
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Additional Comments (if any): 				
⁽¹⁾ 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

9/17/19
Date/Time



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**Bradenhead Liquid
1909211-01 (Water)**

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/17/19 13:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	41	1.0		ug/l	1	1909239	09/18/19	09/19/19	EPA 8260B	
Toluene	65	1.0		"	"	"	"	"	"	
Ethylbenzene	17	1.0		"	"	"	"	"	"	
Xylenes (total)	98	2.0		"	"	"	"	"	"	

Date Sampled: **09/17/19 13:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		104 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.9 %		21-167		"	"	"	"	

Total Metals by EPA Method 200.8

Date Sampled: **09/17/19 13:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	153	0.0500		mg/L	1	1909241	09/18/19	09/18/19	EPA 200.8	
Magnesium	ND	0.0500		"	"	"	"	"	"	
Potassium	5000	0.0500		"	"	"	"	"	"	
Sodium	1100	0.0500		"	"	"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **09/17/19 13:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Sulfate	429	30.0		mg/L	100	1909236	09/18/19	09/18/19	EPA 300.0	
Chloride	530	6.00		"	"	"	"	"	"	

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Project: North Platte K21-35-2MRLNC

Project Number: 034519012

Project Manager: Chris Roy

Reported:
09/24/19 16:03

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 1909239 - EPA 5030 Water MS

Blank (1909239-BLK1)

Prepared & Analyzed: 09/18/19

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	15.9		"	13.3		119	23-173			
Surrogate: Toluene-d8	13.3		"	13.3		99.9	20-170			
Surrogate: 4-Bromofluorobenzene	11.8		"	13.3		88.1	21-167			

LCS (1909239-BS1)

Prepared & Analyzed: 09/18/19

Benzene	25.2	1.0	ug/l	33.3		75.5	51-132			
Toluene	24.8	1.0	"	33.3		74.3	51-138			
Ethylbenzene	26.8	1.0	"	33.3		80.3	58-146			
m,p-Xylene	50.3	2.0	"	66.7		75.5	57-144			
o-Xylene	24.7	1.0	"	33.3		74.0	53-146			
Surrogate: 1,2-Dichloroethane-d4	15.7		"	13.3		118	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		99.3	20-170			
Surrogate: 4-Bromofluorobenzene	12.5		"	13.3		93.8	21-167			

Matrix Spike (1909239-MS1)

Source: 1909192-01

Prepared & Analyzed: 09/18/19

Benzene	25.4	1.0	ug/l	33.3	ND	76.1	34-141			
Toluene	24.6	1.0	"	33.3	ND	73.7	27-151			
Ethylbenzene	26.6	1.0	"	33.3	ND	79.7	29-160			
m,p-Xylene	49.7	2.0	"	66.7	ND	74.5	20-166			
o-Xylene	24.4	1.0	"	33.3	ND	73.3	33-159			
Surrogate: 1,2-Dichloroethane-d4	15.5		"	13.3		116	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		96.4	20-170			
Surrogate: 4-Bromofluorobenzene	12.2		"	13.3		91.2	21-167			

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Project Number: 034519012

Project Manager: Chris Roy

Reported:

09/24/19 16:03

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 1909239 - EPA 5030 Water MS

Matrix Spike Dup (1909239-MSD1)	Source: 1909192-01			Prepared & Analyzed: 09/18/19						
Benzene	24.8	1.0	ug/l	33.3	ND	74.5	34-141	2.11	30	
Toluene	24.8	1.0	"	33.3	ND	74.4	27-151	1.01	30	
Ethylbenzene	26.1	1.0	"	33.3	ND	78.4	29-160	1.67	30	
m,p-Xylene	50.4	2.0	"	66.7	ND	75.6	20-166	1.42	30	
o-Xylene	24.7	1.0	"	33.3	ND	74.1	33-159	1.02	30	
Surrogate: 1,2-Dichloroethane-d4	16.5		"	13.3		124	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		96.0	20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		96.9	21-167			

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Total Metals by EPA Method 200.8 - Quality Control

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

Batch 1909241 - EPA 200.8

Blank (1909241-BLK1)

Prepared & Analyzed: 09/18/19

Calcium	ND	0.0500	mg/L
Magnesium	ND	0.0500	"
Potassium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (1909241-BS1)

Prepared & Analyzed: 09/18/19

Calcium	4.36	0.0500	mg/L	5.00	87.2	85-115
Magnesium	4.40	0.0500	"	5.00	88.0	85-115
Potassium	4.36	0.0500	"	5.00	87.2	85-115
Sodium	4.40	0.0500	"	5.00	88.1	85-115

Duplicate (1909241-DUP1)

Source: 1909208-01

Prepared & Analyzed: 09/18/19

Calcium	81.5	0.0500	mg/L	83.2	2.01	20
Magnesium	0.0122	0.0500	"	0.0127		20
Potassium	4400	0.0500	"	4310	2.02	20
Sodium	1600	0.0500	"	1650	2.88	20

Matrix Spike (1909241-MS1)

Source: 1909208-01

Prepared & Analyzed: 09/18/19

Calcium	89.0	0.0500	mg/L	5.00	83.2	116	70-130	QM-02
Magnesium	3.89	0.0500	"	5.00	0.0127	77.5	70-130	
Potassium	4540	0.0500	"	5.00	4310	NR	70-130	
Sodium	1650	0.0500	"	5.00	1650	86.5	70-130	

Matrix Spike Dup (1909241-MSD1)

Source: 1909208-01

Prepared & Analyzed: 09/18/19

Calcium	87.6	0.0500	mg/L	5.00	83.2	89.8	70-130	1.49	25	QM-02
Magnesium	3.87	0.0500	"	5.00	0.0127	77.2	70-130	0.354	25	
Potassium	4510	0.0500	"	5.00	4310	NR	70-130	0.530	25	
Sodium	1650	0.0500	"	5.00	1650	75.7	70-130	0.0328	25	

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Anions by EPA Method 300.0 - Quality Control

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

Batch 1909236 - General Preparation

Blank (1909236-BLK1)

Prepared & Analyzed: 09/18/19

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (1909236-BS1)

Prepared & Analyzed: 09/18/19

Sulfate	14.9	0.300	mg/L	15.0	99.3	90-110
Chloride	3.26	0.0600	"	3.00	109	90-110

Duplicate (1909236-DUP1)

Source: 1909177-01

Prepared & Analyzed: 09/18/19

Sulfate	368	30.0	mg/L	361	1.84	20
Chloride	18.6	6.00	"	21.4	14.0	20

Matrix Spike (1909236-MS1)

Source: 1909177-01

Prepared & Analyzed: 09/18/19

Chloride	338	6.00	mg/L	300	21.4	105	80-120
Sulfate	1700	30.0	"	1500	361	89.2	80-120

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Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
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