

# Summit Scientific

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December 11, 2015

Chris Roy  
LT Environmental, Inc.  
4600 West 60th Avenue  
Arvada, CO 80003  
RE: Caster 3-36-11-9-59

Enclosed are the results of analyses for samples received by Summit Scientific on 12/10/15 16:00. 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  
President





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

Project: Caster 3-36-11-9-59

Project Number: 042915003  
Project Manager: Chris Roy

Reported:  
12/11/15 05:56

SS01@8"  
1512086-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 12/10/15 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1512099	12/10/15	12/10/15	8015M	

Date Sampled: 12/10/15 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		110 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 12/10/15 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1512100	12/10/15	12/10/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 12/10/15 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Summit Scientific

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Project: Caster 3-36-11-9-59

Project Number: 042915003  
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**Reported:**  
12/11/15 05:56

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

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

**Batch 1512099 - EPA 3550A**

**Blank (1512099-BLK1)**

Prepared & Analyzed: 12/10/15

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 12.3 " 12.5 98.5 30-150

**LCS (1512099-BS1)**

Prepared & Analyzed: 12/10/15

C10-C28 (DRO) 491 50 mg/kg 499 98.5 73-134

Surrogate: o-Terphenyl 11.7 " 12.5 94.0 30-150

**Matrix Spike (1512099-MS1)**

Source: 1512083-01

Prepared & Analyzed: 12/10/15

C10-C28 (DRO) 1940 50 mg/kg 485 3040 NR 50-148 QM-4X

Surrogate: o-Terphenyl 12.4 " 12.2 102 30-150

**Matrix Spike Dup (1512099-MSD1)**

Source: 1512083-01

Prepared & Analyzed: 12/10/15

C10-C28 (DRO) 2960 50 mg/kg 484 3040 NR 50-148 41.8 13 QM-4X

Surrogate: o-Terphenyl 13.4 " 12.1 110 30-150

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12/11/15 05:56

**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 1512100 - EPA 5030 Soil MS**

**Blank (1512100-BLK1)**

Prepared & Analyzed: 12/10/15

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0381		"	0.0400		95.3	23-173			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0404		"	0.0400		101	21-167			

**LCS (1512100-BS1)**

Prepared & Analyzed: 12/10/15

Benzene	0.0762	0.0020	mg/kg	0.100		76.2	58-130			
Toluene	0.0805	0.0050	"	0.100		80.5	61-134			
Ethylbenzene	0.0972	0.0050	"	0.0992		98.0	74-139			
m,p-Xylene	0.188	0.010	"	0.200		94.4	73-137			
o-Xylene	0.0908	0.0050	"	0.0984		92.3	73-141			
Xylenes (total)	0.279	0.0050	"				30-150			
Gasoline Range Hydrocarbons	2.22	0.50	"				30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0387		"	0.0400		96.8	23-173			
Surrogate: Toluene-d8	0.0385		"	0.0400		96.3	20-170			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.7	21-167			

**Matrix Spike (1512100-MS1)**

Source: 1512053-01

Prepared & Analyzed: 12/10/15

Benzene	0.0708	0.0020	mg/kg	0.0931	ND	76.1	30-131			
Toluene	0.0764	0.0050	"	0.0931	ND	82.0	30-134			
Ethylbenzene	0.0907	0.0050	"	0.0924	ND	98.2	22-153			
m,p-Xylene	0.173	0.010	"	0.186	ND	92.9	10-159			
o-Xylene	0.0846	0.0050	"	0.0916	ND	92.3	31-151			
Xylenes (total)	0.257	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	2.04	0.50	"		ND		30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0370		"	0.0372		99.4	23-173			
Surrogate: Toluene-d8	0.0358		"	0.0372		96.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0358		"	0.0372		96.2	21-167			

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**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 1512100 - EPA 5030 Soil MS**

Matrix Spike Dup (1512100-MSD1)		Source: 1512053-01			Prepared & Analyzed: 12/10/15					
Benzene	0.0722	0.0020	mg/kg	0.0940	ND	76.8	30-131	1.92	34	
Toluene	0.0772	0.0050	"	0.0940	ND	82.1	30-134	1.05	30	
Ethylbenzene	0.0921	0.0050	"	0.0932	ND	98.8	22-153	1.52	24	
m,p-Xylene	0.175	0.010	"	0.188	ND	93.5	10-159	1.60	68	
o-Xylene	0.0845	0.0050	"	0.0925	ND	91.3	31-151	0.127	38	
Xylenes (total)	0.260	0.0050	"		ND		30-150	1.03	20	
Gasoline Range Hydrocarbons	2.04	0.50	"		ND		30-150	0.0803	20	
Surrogate: 1,2-Dichloroethane-d4	0.0375		"	0.0376		99.7	23-173			
Surrogate: Toluene-d8	0.0363		"	0.0376		96.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0370		"	0.0376		98.6	21-167			

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### Notes and Definitions

QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.

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

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