

# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

January 05, 2018

Jennifer Galles  
Talon/LPE  
1811 E Mulberry  
Ft Collins, CO 80524  
RE: Razor 25 CTB

Enclosed are the results of analyses for samples received by Summit Scientific on 12/28/17 15:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Paul Shrewsbury  
President



Talon/LPE  
1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

**Reported:**  
01/05/18 09:30

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS1@0'	1712296-01	Soil	12/28/17 10:55	12/28/17 15:30
SS2@0'	1712296-02	Soil	12/28/17 11:00	12/28/17 15:30
SS3@0'	1712296-03	Soil	12/28/17 11:05	12/28/17 15:30
SS4@0'	1712296-04	Soil	12/28/17 11:10	12/28/17 15:30
SS5@0'	1712296-05	Soil	12/28/17 11:15	12/28/17 15:30
SS6@0'	1712296-06	Soil	12/28/17 11:20	12/28/17 15:30

Summit Scientific

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Talon/LPE  
1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

Reported:  
01/05/18 09:30

# Summit Scientific

1712296

741 Corporate Circle Suite 1 ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-374-5933 Fax

Client: Talon/LPE - bill to Whiting  
Address: 1811 East Mulberry  
City/State/Zip: Fort Collins, CO 80524  
Phone: 970-818-5330 Fax:  
Sampler Name: Jason Leverton

Project Manager: Jennifer Galles  
E-Mail: jgalles@talonlpe.com  
Project Name: Razor 25 CTB  
Project Number: 701530.122.01

Page 1 of 1

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix				Analyze For:										Special Instructions			
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	BTEX	GRO/DRO	pH	SAR	EC									
SS1@0'	12/28/2017	10:55	1		x			x					x	x	x	x	x								
SS2@-0'	12/28/2017	11:00	1		x			x					x	x	x	x	x								
SS3@0'	12/28/2017	11:05	1		x			x					x	x	x	x	x								
SS4@0'	12/28/2017	11:10	1		x			x					x	x	x	x	x								
SS5@0'	12/28/2017	11:15	1		x			x					x	x	x	x	x								
SS6@0'	12/28/2017	11:20	1		x			x					x	x	x	x	x								
Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check)										QA 16											
Relinquished by:	Date/Time:	Received by:	Date/Time:	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"/>																					
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:	Sample Integrity: Temperature Upon Receipt: 2.1 Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																					

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Talon/LPE  
1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

Reported:  
01/05/18 09:30

#### Sample Receipt Checklist

S2 Work Order: 1712296

Client: Talon

Client Project ID: Razor 25 CTB

Shipped Via: P.V.

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: \_\_\_\_\_

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

Cooler ID					
Temp (°C)	<u>2.1</u>				

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

Muri P.  
Custodian Printed Name

12-28-17  
Signature or Initials of Custodian

17:45  
Date/Time



Talon/LPE  
1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

**Reported:**  
01/05/18 09:30

**SS1@0'**  
**1712296-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/28/17 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>91</b>	50	mg/kg	1	1712318	12/29/17	12/30/17	8015M	

Date Sampled: **12/28/17 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		71.4 %	30-150		"	"	"	"	

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

Date Sampled: **12/28/17 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1712330	12/29/17	12/29/17	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/28/17 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		115 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.9 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.7 %	21-167		"	"	"	"	

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

Date Sampled: **12/28/17 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>1180</b>	11.5	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
<b>Magnesium</b>	<b>170</b>	5.74	"	"	"	"	"	"	

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Ft Collins CO, 80524

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Project Manager: Jennifer Galles

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01/05/18 09:30

**SS1@0'**  
**1712296-01 (Soil)**

**Summit Scientific**

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

<b>Sodium</b>	<b>65.9</b>	5.74 mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)
<b>Sodium Adsorption Ratio</b>	<b>0.475</b>	units	"	1801027	01/04/18	01/04/18	"

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

Date Sampled: **12/28/17 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>% Solids</b>	<b>87.1</b>		%	1	1801016	01/03/18	01/03/18	% calculation	
<b>pH</b>	<b>7.75</b>	0.100	pH Units	"	1712320	12/29/17	12/29/17	EPA 9045	

**Specific Conductance by EPA120.1**

Date Sampled: **12/28/17 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>1.01</b>	0.0100	mmhos/cm	1	1712326	12/29/17	12/29/17	EPA 120.1	

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1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

**Reported:**  
01/05/18 09:30

**SS2@0'**  
**1712296-02 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/28/17 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>310</b>	50	mg/kg	1	1712318	12/29/17	12/30/17	8015M	

Date Sampled: **12/28/17 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		83.5 %	30-150		"	"	"	"	

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

Date Sampled: **12/28/17 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1712330	12/29/17	12/29/17	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>2.2</b>	0.50	"	"	"	"	"	"	

Date Sampled: **12/28/17 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		109 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.6 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	21-167		"	"	"	"	

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

Date Sampled: **12/28/17 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>1380</b>	11.6	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
<b>Magnesium</b>	<b>198</b>	5.82	"	"	"	"	"	"	

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01/05/18 09:30

**SS2@0'**  
**1712296-02 (Soil)**

**Summit Scientific**

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

<b>Sodium</b>	<b>42.8</b>	5.82 mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)
<b>Sodium Adsorption Ratio</b>	<b>0.285</b>	units	"	1801027	01/04/18	01/04/18	"

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

Date Sampled: **12/28/17 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>% Solids</b>	<b>85.9</b>		%	1	1801016	01/03/18	01/03/18	% calculation	
<b>pH</b>	<b>7.75</b>	0.100	pH Units	"	1712320	12/29/17	12/29/17	EPA 9045	

**Specific Conductance by EPA120.1**

Date Sampled: **12/28/17 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>0.968</b>	0.0100	mmhos/cm	1	1712326	12/29/17	12/29/17	EPA 120.1	

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1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

**Reported:**  
01/05/18 09:30

**SS3@0'**  
**1712296-03 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/28/17 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>150</b>	50	mg/kg	1	1712318	12/29/17	12/30/17	8015M	

Date Sampled: **12/28/17 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		142 %	30-150		"	"	"	"	

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

Date Sampled: **12/28/17 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1712330	12/29/17	12/29/17	EPA 8260B	
<b>Toluene</b>	<b>0.0081</b>	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.0075</b>	0.0050	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>0.028</b>	0.0050	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>3.5</b>	0.50	"	"	"	"	"	"	

Date Sampled: **12/28/17 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		116 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.9 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.5 %	21-167		"	"	"	"	

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

Date Sampled: **12/28/17 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>1760</b>	11.3	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
<b>Magnesium</b>	<b>208</b>	5.67	"	"	"	"	"	"	

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1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
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01/05/18 09:30

**SS3@0'**  
**1712296-03 (Soil)**

**Summit Scientific**

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

<b>Sodium</b>	<b>80.9</b>	5.67 mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)
<b>Sodium Adsorption Ratio</b>	<b>0.486</b>	units	"	1801027	01/04/18	01/04/18	"

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

Date Sampled: **12/28/17 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>7.91</b>	0.100	pH Units	1	1712320	12/29/17	12/29/17	EPA 9045	
<b>% Solids</b>	<b>88.2</b>		%	"	1801016	01/03/18	01/03/18	% calculation	

**Specific Conductance by EPA120.1**

Date Sampled: **12/28/17 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>0.897</b>	0.0100	mmhos/cm	1	1712326	12/29/17	12/29/17	EPA 120.1	

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1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

**Reported:**  
01/05/18 09:30

**SS4@0'**  
**1712296-04 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/28/17 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1712318	12/29/17	12/30/17	8015M	

Date Sampled: **12/28/17 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		112 %	30-150		"	"	"	"	

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

Date Sampled: **12/28/17 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1712330	12/29/17	12/30/17	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/28/17 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		118 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.9 %	21-167		"	"	"	"	

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

Date Sampled: **12/28/17 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>697</b>	11.9	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
<b>Magnesium</b>	<b>148</b>	5.95	"	"	"	"	"	"	

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01/05/18 09:30

**SS4@0'**  
**1712296-04 (Soil)**

**Summit Scientific**

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

<b>Sodium</b>	<b>62.8</b>	5.95 mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)
<b>Sodium Adsorption Ratio</b>	<b>0.564</b>	units	"	1801027	01/04/18	01/04/18	"

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

Date Sampled: **12/28/17 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>7.94</b>	0.100	pH Units	1	1712320	12/29/17	12/29/17	EPA 9045	
<b>% Solids</b>	<b>84.1</b>		%	"	1801016	01/03/18	01/03/18	% calculation	

**Specific Conductance by EPA120.1**

Date Sampled: **12/28/17 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>0.574</b>	0.0100	mmhos/cm	1	1712326	12/29/17	12/29/17	EPA 120.1	

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**Reported:**  
01/05/18 09:30

**SS5@0'**  
**1712296-05 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/28/17 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1712318	12/29/17	12/30/17	8015M	

Date Sampled: **12/28/17 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		83.5 %	30-150		"	"	"	"	

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

Date Sampled: **12/28/17 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1712330	12/29/17	12/30/17	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/28/17 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.4 %	21-167		"	"	"	"	

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

Date Sampled: **12/28/17 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>1620</b>	11.3	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
<b>Magnesium</b>	<b>185</b>	5.66	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE  
1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

**Reported:**  
01/05/18 09:30

**SS5@0'**  
**1712296-05 (Soil)**

**Summit Scientific**

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

<b>Sodium</b>	<b>109</b>	5.66 mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)
<b>Sodium Adsorption Ratio</b>	<b>0.684</b>	units	"	1801027	01/04/18	01/04/18	"

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

Date Sampled: **12/28/17 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>% Solids</b>	<b>88.4</b>		%	1	1801016	01/03/18	01/03/18	% calculation	
<b>pH</b>	<b>7.98</b>	0.100	pH Units	"	1712320	12/29/17	12/29/17	EPA 9045	

**Specific Conductance by EPA120.1**

Date Sampled: **12/28/17 11:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Specific Conductance (EC)</b>	<b>0.858</b>	0.0100	mmhos/cm	1	1712326	12/29/17	12/29/17	EPA 120.1	

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Talon/LPE  
1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

**Reported:**  
01/05/18 09:30

**SS6@0'**  
**1712296-06 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **12/28/17 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>C10-C28 (DRO)</b>	<b>140</b>	50	mg/kg	1	1712318	12/29/17	12/30/17	8015M	

Date Sampled: **12/28/17 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		102 %	30-150		"	"	"	"	

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

Date Sampled: **12/28/17 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1712330	12/29/17	12/30/17	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **12/28/17 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		111 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		96.5 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %	21-167		"	"	"	"	

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

Date Sampled: **12/28/17 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Calcium</b>	<b>1710</b>	11.1	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
<b>Magnesium</b>	<b>166</b>	5.57	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE  
1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

**Reported:**  
01/05/18 09:30

**SS6@0'**  
**1712296-06 (Soil)**

**Summit Scientific**

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

Sodium	247	5.57 mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	1.53	units	"	1801027	01/04/18	01/04/18	"

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

Date Sampled: **12/28/17 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.86	0.100	pH Units	1	1712320	12/29/17	12/29/17	EPA 9045	
% Solids	89.7		%	"	1801016	01/03/18	01/03/18	% calculation	

**Specific Conductance by EPA120.1**

Date Sampled: **12/28/17 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.65	0.0100	mmhos/cm	1	1712326	12/29/17	12/29/17	EPA 120.1	

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Talon/LPE  
1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

**Reported:**  
01/05/18 09:30

**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 1712318 - EPA 3550A**

**Blank (1712318-BLK1)**

Prepared & Analyzed: 12/29/17

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 12.3 " 12.5 98.8 30-150

**LCS (1712318-BS1)**

Prepared & Analyzed: 12/29/17

C10-C28 (DRO) 587 50 mg/kg 499 118 73-134

Surrogate: o-Terphenyl 16.4 " 12.5 131 30-150

**Matrix Spike (1712318-MS1)**

Source: 1712290-01

Prepared & Analyzed: 12/29/17

C10-C28 (DRO) 592 50 mg/kg 499 8.84 117 50-148

Surrogate: o-Terphenyl 18.2 " 12.5 146 30-150

**Matrix Spike Dup (1712318-MSD1)**

Source: 1712290-01

Prepared: 12/29/17 Analyzed: 12/30/17

C10-C28 (DRO) 553 50 mg/kg 499 8.84 109 50-148 6.94 20

Surrogate: o-Terphenyl 14.0 " 12.5 112 30-150

Summit Scientific

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Talon/LPE  
1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

Reported:  
01/05/18 09:30

**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 1712330 - EPA 5030 Soil MS**

**Blank (1712330-BLK1)**

Prepared & Analyzed: 12/29/17

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	0.0424		"	0.0400		106	23-173			
Surrogate: Toluene-d8	0.0386		"	0.0400		96.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.2	21-167			

**LCS (1712330-BS1)**

Prepared & Analyzed: 12/29/17

Benzene	0.101	0.0020	mg/kg	0.100		101	58-130			
Toluene	0.109	0.0050	"	0.100		109	61-134			
Ethylbenzene	0.105	0.0050	"	0.0992		106	74-139			
m,p-Xylene	0.196	0.010	"	0.200		98.3	73-137			
o-Xylene	0.103	0.0050	"	0.0980		106	73-141			
Xylenes (total)	0.300	0.0050	"				30-150			
Gasoline Range Hydrocarbons	ND	0.50	"				30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0421		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0402		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.8	21-167			

**Matrix Spike (1712330-MS1)**

Source: 1712296-01

Prepared & Analyzed: 12/29/17

Benzene	0.101	0.0020	mg/kg	0.100	ND	101	30-131			
Toluene	0.109	0.0050	"	0.100	ND	109	30-134			
Ethylbenzene	0.106	0.0050	"	0.0992	ND	106	22-153			
m,p-Xylene	0.198	0.010	"	0.200	ND	99.4	10-159			
o-Xylene	0.105	0.0050	"	0.0980	ND	108	31-151			
Xylenes (total)	0.304	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	5.45	0.50	"		ND		30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0462		"	0.0400		116	23-173			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	21-167			

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Talon/LPE  
1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

**Reported:**  
01/05/18 09:30

**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 1712330 - EPA 5030 Soil MS**

Matrix Spike Dup (1712330-MSD1)		Source: 1712296-01			Prepared & Analyzed: 12/29/17					
Benzene	0.103	0.0020	mg/kg	0.100	ND	103	30-131	1.44	34	
Toluene	0.108	0.0050	"	0.100	ND	108	30-134	1.14	30	
Ethylbenzene	0.106	0.0050	"	0.0992	ND	107	22-153	0.877	24	
m,p-Xylene	0.203	0.010	"	0.200	ND	102	10-159	2.45	68	
o-Xylene	0.105	0.0050	"	0.0980	ND	107	31-151	0.513	38	
Xylenes (total)	0.308	0.0050	"		ND		30-150	1.43	20	
Gasoline Range Hydrocarbons	5.33	0.50	"		ND		30-150	2.25	20	
Surrogate: 1,2-Dichloroethane-d4	0.0440		"	0.0400		110	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0412		"	0.0400		103	21-167			

Summit Scientific

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Talon/LPE  
1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

**Reported:**  
01/05/18 09:30

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

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

**Batch 1801010 - General Preparation**

**Blank (1801010-BLK1)**

Prepared & Analyzed: 01/02/18

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

**LCS (1801010-BS1)**

Prepared & Analyzed: 01/02/18

Calcium	852	10.0	mg/kg wet	1000	85.2	82.9-118
Magnesium	824	5.00	"	1000	82.4	77.1-123
Sodium	834	5.00	"	1000	83.4	71-129

**Duplicate (1801010-DUP1)**

Source: 1712296-01

Prepared & Analyzed: 01/02/18

Calcium	1030	11.5	mg/kg dry	1180	13.1	200
Magnesium	151	5.74	"	170	11.9	200
Sodium	71.5	5.74	"	65.9	8.16	200

**Matrix Spike (1801010-MS1)**

Source: 1712296-01

Prepared & Analyzed: 01/02/18

Calcium	2090	11.5	mg/kg dry	1150	1180	79.6	75-125
Magnesium	1100	5.74	"	1150	170	80.6	75-125
Sodium	994	5.74	"	1150	65.9	80.9	75-125

**Matrix Spike Dup (1801010-MSD1)**

Source: 1712296-01

Prepared & Analyzed: 01/02/18

Calcium	2100	11.5	mg/kg dry	1150	1180	80.0	75-125	0.215	25
Magnesium	1070	5.74	"	1150	170	78.6	75-125	2.20	25
Sodium	958	5.74	"	1150	65.9	77.7	75-125	3.75	25

Summit Scientific

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Talon/LPE  
1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

**Reported:**  
01/05/18 09:30

**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 1712320 - General Preparation**

**LCS (1712320-BS1)**

Prepared: 12/27/17 Analyzed: 12/29/17

pH	9.29	0.100	pH Units	9.16	101	95-105
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**Duplicate (1712320-DUP1)**

**Source: 1712279-01**

Prepared: 12/27/17 Analyzed: 12/29/17

pH	11.4	0.100	pH Units	11.4	0.263	20
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**Batch 1801016 - General Preparation**

**Duplicate (1801016-DUP1)**

**Source: 1712296-01**

Prepared & Analyzed: 01/03/18

% Solids	87.0		%	87.1	0.115	20
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Summit Scientific

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Talon/LPE  
1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

**Reported:**  
01/05/18 09:30

**Specific Conductance by EPA120.1 - Quality Control**  
**Summit Scientific**

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

**Batch 1712326 - General Preparation**

**Blank (1712326-BLK1)**

Prepared & Analyzed: 12/29/17

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (1712326-BS1)**

Prepared & Analyzed: 12/29/17

Specific Conductance (EC) 0.748 0.0100 mmhos/cm 0.750 99.7 90-110

**Duplicate (1712326-DUP1)**

**Source: 1712296-01**

Prepared & Analyzed: 12/29/17

Specific Conductance (EC) 1.01 0.0100 mmhos/cm 1.01 0.644 20

Summit Scientific

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Talon/LPE  
1811 E Mulberry  
Ft Collins CO, 80524

Project: Razor 25 CTB  
Project Number: 701530.122.01  
Project Manager: Jennifer Galles

**Reported:**  
01/05/18 09:30

### 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