

Summit Scientific

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 'Paul 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

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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

Page 1 of 1

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

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:						Special Instructions		
				HCl	HNO ₃	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		
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: 12.28.17 15:30	Received by:				Date/Time: 12-28-17 15:30	Turn Around Time (Check)						QA 16			
Relinquished by:				Date/Time:	Received by:				Date/Time:	Same Day	<input type="checkbox"/>	72 Hours	<input type="checkbox"/>	Standard	<input checked="" type="checkbox"/>				
Relinquished by:				Date/Time:	Received in Lab by:				Date/Time:	24 Hours	<input 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. Airbill #: _____
(UPS, FedEx, Hand Delivered, Pick-up, etc.)
Matrix (check all that apply): Air X 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 ⁽¹⁾ ?	X			
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 ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
If custody seals are present, are they intact ⁽¹⁾ ?			X	
Are short holding time analytes or samples with HTs due within 48 hours present?			X	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			X	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?			X	
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.			X	
If dissolved metals are requested, were samples field filtered?			X	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

Muri P.
Custodian Printed Name

JA 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
C10-C28 (DRO)	91	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
Calcium	1180	11.5	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	170	5.74	"	"	"	"	"	"	

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SS1@0'
1712296-01 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	65.9	5.74	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
Sodium Adsorption Ratio	0.475		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
% Solids	87.1		%	1	1801016	01/03/18	01/03/18	% calculation	
pH	7.75	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
Specific Conductance (EC)	1.01	0.0100	mmhos/cm	1	1712326	12/29/17	12/29/17	EPA 120.1	

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Project: Razor 25 CTB
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Reported:
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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
C10-C28 (DRO)	310	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	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2.2	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
Calcium	1380	11.6	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	198	5.82	"	"	"	"	"	"	

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Reported:
01/05/18 09:30

SS2@0'
1712296-02 (Soil)

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	42.8	5.82	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
Sodium Adsorption Ratio	0.285		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
% Solids	85.9		%	1	1801016	01/03/18	01/03/18	% calculation	
pH	7.75	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
Specific Conductance (EC)	0.968	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

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
C10-C28 (DRO)	150	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	
Toluene	0.0081	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0075	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.028	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	3.5	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
Calcium	1760	11.3	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	208	5.67	"	"	"	"	"	"	

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SS3@0'
1712296-03 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	80.9	5.67	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
Sodium Adsorption Ratio	0.486		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
pH	7.91	0.100	pH Units	1	1712320	12/29/17	12/29/17	EPA 9045	
% Solids	88.2		%	"	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
Specific Conductance (EC)	0.897	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

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: <i>o</i> -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
Calcium	697	11.9	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	148	5.95	"	"	"	"	"	"	

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SS4@0'
1712296-04 (Soil)

Summit Scientific

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	62.8	5.95	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
Sodium Adsorption Ratio	0.564		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
pH	7.94	0.100	pH Units	1	1712320	12/29/17	12/29/17	EPA 9045	
% Solids	84.1		%	"	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
Specific Conductance (EC)	0.574	0.0100	mmhos/cm	1	1712326	12/29/17	12/29/17	EPA 120.1	

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SS5@0'
1712296-05 (Soil)

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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: <i>o</i> -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
Calcium	1620	11.3	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	185	5.66	"	"	"	"	"	"	

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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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium	109	5.66	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
Sodium Adsorption Ratio	0.684		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
% Solids	88.4		%	1	1801016	01/03/18	01/03/18	% calculation	
pH	7.98	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
Specific Conductance (EC)	0.858	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
C10-C28 (DRO)	140	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
Calcium	1710	11.1	mg/kg dry	1	1801010	01/02/18	01/02/18	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	166	5.57	"	"	"	"	"	"	

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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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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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	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

Batch 1712318 - EPA 3550A

Blank (1712318-BLK1)				Prepared & Analyzed: 12/29/17							
C10-C28 (DRO)	ND	50	mg/kg								
Surrogate: <i>o</i> -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: <i>o</i> -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: <i>o</i> -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: <i>o</i> -Terphenyl	14.0		"	12.5	112	30-150					

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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		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0424</i>		<i>"</i>	<i>0.0400</i>		<i>106</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0386</i>		<i>"</i>	<i>0.0400</i>		<i>96.4</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.2</i>	<i>21-167</i>			

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			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0421</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0402</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0399</i>		<i>"</i>	<i>0.0400</i>		<i>99.8</i>	<i>21-167</i>			

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			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0462</i>		<i>"</i>	<i>0.0400</i>		<i>116</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0400</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0405</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>21-167</i>			

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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	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

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	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0440</i>		<i>"</i>	<i>0.0400</i>		<i>110</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0398</i>		<i>"</i>	<i>0.0400</i>		<i>99.5</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0412</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>21-167</i>			

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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

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

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	

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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

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

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			
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	

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

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		

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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