

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 06, 2016

Colby Sterling
Talon/LPE
1811 E Mulberry
Ft Collins, CO 80524
RE: Razor 30K

Enclosed are the results of analyses for samples received by Summit Scientific on 10/05/16 17:30. 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 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-1@6"	1610046-01	Soil	10/05/16 14:00	10/05/16 17:30
SW-N@4'	1610046-02	Soil	10/05/16 14:04	10/05/16 17:30
SW-E@4'	1610046-03	Soil	10/05/16 14:08	10/05/16 17:30
SW-S@4'	1610046-04	Soil	10/05/16 14:14	10/05/16 17:30
SW-W@4'	1610046-05	Soil	10/05/16 14:12	10/05/16 17:30
UL-1	1610046-06	Soil	10/05/16 13:42	10/05/16 17:30
P-1@1'	1610046-07	Soil	10/05/16 13:53	10/05/16 17:30
P-2@1'	1610046-08	Soil	10/05/16 13:54	10/05/16 17:30
P-3@1'	1610046-09	Soil	10/05/16 13:56	10/05/16 17:30
P-4@1'	1610046-10	Soil	10/05/16 13:58	10/05/16 17:30
P-5@1'	1610046-11	Soil	10/05/16 13:59	10/05/16 17:30
P-6@1'	1610046-12	Soil	10/05/16 14:16	10/05/16 17:30

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K

Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

Summit Scientific 1610046.1

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

Page 1 of 2

Client: Talon/LPE - Bill Whiting Petroleum

Address: 1811 East Mulberry

City/State/Zip: Fort Collins, CO 80525

Phone: 970-818-5330 Fax:

Sampler Name: Colby Sterling / Jason Leverton

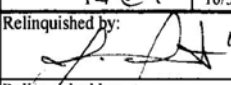
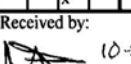
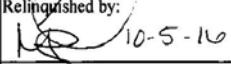
Project Manager: Colby Sterling

E-Mail: csterling@talonlpe.com

Project Name: Razor 30K

Project Number: 701530.027.02

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)	GRO/DRO	BTEX	EC	SAR	pH							
BH-1 @ 6"	10/5/2016	1400	1		x			x				x	x	x	x	x							
SW-N @ 4"	10/5/2016	1404	1		x			x				x	x	x	x	x							
SW-E @ 4"	10/5/2016	1408	1		x			x				x	x	x	x	x							
SW-S @ 4"	10/5/2016	1414	1		x			x				x	x	x	x	x							
SW-W @ 4"	10/5/2016	1412	1		x			x				x	x	x	x	x							
UL-1	10/5/2016	1342	1		x			x				x	x	x	x	x							
P-1 @ 1'	10/5/2016	1353	1		x			x				x	x	x	x	x							
P-2 @ 1'	10/5/2016	1354	1		x			x				x	x	x	x	x							
P-3 @ 1'	10/5/2016	1356	1		x			x				x	x	x	x	x							
P-4 @ 1'	10/5/2016	1358	1		x			x				x	x	x	x	x							

Relinquished by: 	Date/Time: 10-5-16 16:45	Received by: 	Date/Time: 10-5-16 16:45	Turn Around Time (Check)	Notes:
				Same Day <input checked="" type="checkbox"/>	72 Hours <input type="checkbox"/>
				24 Hours <input type="checkbox"/>	Standard <input type="checkbox"/>
				48 Hours <input type="checkbox"/>	
Relinquished by: 	Date/Time: 10-5-16 17:50	Received by:	Date/Time:	Sample Integrity:	
				Temperature Upon Receipt: 23.0	
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:	Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

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1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K

Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

Summit Scientific 1610046.2

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

Page 2 of 2

Client: Talon/LPE - Bill Whiting Petroleum

Address: 1811 East Mulberry

City/State/Zip: Fort Collins, CO 80525

Phone: 970-818-5330 Fax:

Sampler Name: Colby Sterling / Jason Leverton

Project Manager: Colby Sterling

E-Mail: csterling@talonlpe.com

Project Name: Razor 30K

Project Number: 701530.027.02

				Preservative						Matrix							Analyze For:								
Sample Description	Date Sampled	Time Sampled	Number of Containers	HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	GRO/DRO	BTEX	EC	SAR	pH						Special Instructions			
P-5 @ 1'	10/5/2016	1359	1		x			x				x	x	x	x	x									
P-6 @ 1'	10/5/2016	1416	1		x			x				x	x	x	x	x									
Relinquished by: 	10-5-16 16:45	Date/Time:	Received by: 	Date/Time: 10-5-16 16:45						Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> Standard <input type="checkbox"/> 48 Hours <input type="checkbox"/>								Notes:							
Relinquished by: 	10-5-16 17:50	Date/Time:	Received by:	Date/Time:						Sample Integrity: Temperature Upon Receipt: 23.0 Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>															
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:																						

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1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

Sample Receipt Checklist

S2 Work Order: 1610046

Client: Talon Client Project ID: Razor 30K

Shipped Via: A.D. onice Airbill #: _____
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

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

Cooler ID					
Temp (°C)	<u>23.0</u>				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C ⁽¹⁾ ?			X	
NOTE: If samples are delivered the same day of sampling, this requirement is waived 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⁾ ?			X	
Record the pH in Comments.				
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.

Muriel P.
Custodian Printed Name

MS 10-5-16
Signature or Initials of Custodian

17:50
Date/Time



Talon/LPE
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Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
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Reported:
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BH-1@6"
1610046-01 (Soil)

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Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/05/16 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610059	10/05/16	10/05/16	8015M	

Date Sampled: **10/05/16 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.5 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/05/16 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.069	0.0020	mg/kg	1	1610058	10/05/16	10/05/16	EPA 8260B	
Toluene	0.053	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0096	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.035	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	3.1	0.50	"	"	"	"	"	"	

Date Sampled: **10/05/16 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

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

Date Sampled: **10/05/16 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	980	13.9	mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	319	6.94	"	"	"	"	"	"	

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Project: Razor 30K
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Reported:
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BH-1@6"
1610046-01 (Soil)

Summit Scientific

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

Sodium	4230	6.94 mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	30.0	units	"	1610056	10/05/16	10/06/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/05/16 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	10.2	0.0100	mmhos/cm	1	1610061	10/05/16	10/05/16	SM 2510B	
% Solids	72.0		%	"	1610062	10/05/16	10/06/16	% calculation	
pH	8.35	0.100	pH Units	"	1610060	10/05/16	10/05/16	EPA 9045	

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Project: Razor 30K
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SW-N@4'
1610046-02 (Soil)

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Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/05/16 14:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610059	10/05/16	10/05/16	8015M	

Date Sampled: **10/05/16 14:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.2 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/05/16 14:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.031	0.0020	mg/kg	1	1610058	10/05/16	10/05/16	EPA 8260B	
Toluene	0.022	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.0066	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.66	0.50	"	"	"	"	"	"	

Date Sampled: **10/05/16 14:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.1 %	21-167		"	"	"	"	

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

Date Sampled: **10/05/16 14:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	483	13.6	mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	210	6.78	"	"	"	"	"	"	

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SW-N@4'
1610046-02 (Soil)

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

Sodium	5310	6.78 mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	50.8	units	"	1610056	10/05/16	10/06/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/05/16 14:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.52	0.100	pH Units	1	1610060	10/05/16	10/05/16	EPA 9045	
% Solids	73.7		%	"	1610062	10/05/16	10/06/16	% calculation	
Specific Conductance (EC)	18.9	0.0100	mmhos/cm	"	1610061	10/05/16	10/05/16	SM 2510B	

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Reported:
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SW-E@4'
1610046-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/05/16 14:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610059	10/05/16	10/05/16	8015M	

Date Sampled: **10/05/16 14:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		95.3 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/05/16 14:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610058	10/05/16	10/05/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/05/16 14:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.5 %	21-167		"	"	"	"	

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

Date Sampled: **10/05/16 14:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	375	11.1	mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	928	5.54	"	"	"	"	"	"	

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Project: Razor 30K
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SW-E@4'
1610046-03 (Soil)

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

Sodium	1750	5.54 mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	11.0	units	"	1610056	10/05/16	10/06/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/05/16 14:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.95	0.100	pH Units	1	1610060	10/05/16	10/05/16	EPA 9045	
% Solids	90.2		%	"	1610062	10/05/16	10/06/16	% calculation	
Specific Conductance (EC)	4.26	0.0100	mmhos/cm	"	1610061	10/05/16	10/05/16	SM 2510B	

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Project: Razor 30K
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Project Manager: Colby Sterling

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SW-S@4'
1610046-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/05/16 14:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610059	10/05/16	10/05/16	8015M	

Date Sampled: **10/05/16 14:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		98.4 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/05/16 14:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.057	0.0020	mg/kg	1	1610058	10/05/16	10/05/16	EPA 8260B	
Toluene	0.081	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.023	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.095	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	4.3	0.50	"	"	"	"	"	"	

Date Sampled: **10/05/16 14:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

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

Date Sampled: **10/05/16 14:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	991	12.8	mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	661	6.42	"	"	"	"	"	"	

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Ft Collins CO, 80524

Project: Razor 30K
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Project Manager: Colby Sterling

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SW-S@4'
1610046-04 (Soil)

Summit Scientific

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

Sodium	4040	6.42 mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	24.4	units	"	1610056	10/05/16	10/06/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/05/16 14:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	12.5	0.0100	mmhos/cm	1	1610061	10/05/16	10/05/16	SM 2510B	
pH	8.66	0.100	pH Units	"	1610060	10/05/16	10/05/16	EPA 9045	
% Solids	77.9		%	"	1610062	10/05/16	10/06/16	% calculation	

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1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

SW-W@4'
1610046-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/05/16 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	450	50	mg/kg	1	1610059	10/05/16	10/05/16	8015M	

Date Sampled: **10/05/16 14:12**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/05/16 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.018	0.0020	mg/kg	1	1610058	10/05/16	10/05/16	EPA 8260B	
Toluene	0.14	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.11	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.48	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	29	0.50	"	"	"	"	"	"	

Date Sampled: **10/05/16 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		103 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.2 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %	21-167		"	"	"	"	

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

Date Sampled: **10/05/16 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1040	11.7	mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	1200	5.83	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

SW-W@4'
1610046-05 (Soil)

Summit Scientific

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

Sodium	2410	5.83 mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	12.1	units	"	1610056	10/05/16	10/06/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/05/16 14:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	6.73	0.0100	mmhos/cm	1	1610061	10/05/16	10/05/16	SM 2510B	
% Solids	85.8		%	"	1610062	10/05/16	10/06/16	% calculation	
pH	8.64	0.100	pH Units	"	1610060	10/05/16	10/05/16	EPA 9045	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

UL-1
1610046-06 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/05/16 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	84	50	mg/kg	1	1610059	10/05/16	10/05/16	8015M	

Date Sampled: **10/05/16 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		97.2 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/05/16 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610058	10/05/16	10/05/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/05/16 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		99.9 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.2 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.8 %	21-167		"	"	"	"	

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

Date Sampled: **10/05/16 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	566	10.8	mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	448	5.40	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

UL-1
1610046-06 (Soil)

Summit Scientific

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

Sodium	118	5.40 mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	0.900	units	"	1610056	10/05/16	10/06/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/05/16 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.37	0.100	pH Units	1	1610060	10/05/16	10/05/16	EPA 9045	
Specific Conductance (EC)	0.682	0.0100	mmhos/cm	"	1610061	10/05/16	10/05/16	SM 2510B	
% Solids	92.6		%	"	1610062	10/05/16	10/06/16	% calculation	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

P-1@1'
1610046-07 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/05/16 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610059	10/05/16	10/05/16	8015M	

Date Sampled: **10/05/16 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.9 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/05/16 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610058	10/05/16	10/05/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/05/16 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

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

Date Sampled: **10/05/16 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	442	13.1	mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	287	6.53	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

P-1@1'
1610046-07 (Soil)

Summit Scientific

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

Sodium	281	6.53 mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	2.56	units	"	1610056	10/05/16	10/06/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/05/16 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.646	0.0100	mmhos/cm	1	1610061	10/05/16	10/05/16	SM 2510B	
% Solids	76.6		%	"	1610062	10/05/16	10/06/16	% calculation	
pH	8.98	0.100	pH Units	"	1610060	10/05/16	10/05/16	EPA 9045	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

P-2@1'
1610046-08 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/05/16 13:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610059	10/05/16	10/05/16	8015M	

Date Sampled: **10/05/16 13:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		99.4 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/05/16 13:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610058	10/05/16	10/05/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/05/16 13:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

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

Date Sampled: **10/05/16 13:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1990	12.4	mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	654	6.19	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

P-2@1'
1610046-08 (Soil)

Summit Scientific

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

Sodium	564	6.19 mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	2.80	units	"	1610056	10/05/16	10/06/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/05/16 13:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.54	0.100	pH Units	1	1610060	10/05/16	10/05/16	EPA 9045	
Specific Conductance (EC)	1.36	0.0100	mmhos/cm	"	1610061	10/05/16	10/05/16	SM 2510B	
% Solids	80.8		%	"	1610062	10/05/16	10/06/16	% calculation	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

P-3@1'
1610046-09 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/05/16 13:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610059	10/05/16	10/05/16	8015M	

Date Sampled: **10/05/16 13:56**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/05/16 13:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.048	0.0020	mg/kg	1	1610058	10/05/16	10/05/16	EPA 8260B	
Toluene	0.026	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/05/16 13:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

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

Date Sampled: **10/05/16 13:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1720	12.7	mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	744	6.34	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

P-3@1'
1610046-09 (Soil)

Summit Scientific

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

Sodium	1090	6.34 mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	5.53	units	"	1610056	10/05/16	10/06/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/05/16 13:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.72	0.100	pH Units	1	1610060	10/05/16	10/05/16	EPA 9045	
% Solids	78.9		%	"	1610062	10/05/16	10/06/16	% calculation	
Specific Conductance (EC)	6.06	0.0100	mmhos/cm	"	1610061	10/05/16	10/05/16	SM 2510B	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

P-4@1'
1610046-10 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/05/16 13:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610059	10/05/16	10/06/16	8015M	

Date Sampled: **10/05/16 13:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.8 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/05/16 13:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0018	mg/kg	1	1610058	10/05/16	10/05/16	EPA 8260B	
Toluene	ND	0.0045	"	"	"	"	"	"	
Ethylbenzene	ND	0.0045	"	"	"	"	"	"	
Xylenes (total)	ND	0.0045	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.45	"	"	"	"	"	"	

Date Sampled: **10/05/16 13:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

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

Date Sampled: **10/05/16 13:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2230	12.1	mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	494	6.05	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

P-4@1'
1610046-10 (Soil)

Summit Scientific

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

Sodium	297	6.05	mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	1.48		units	"	1610056	10/05/16	10/06/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/05/16 13:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.6		%	1	1610062	"	10/06/16	% calculation	
Specific Conductance (EC)	0.384	0.0100	mmhos/cm	"	1610061	10/05/16	10/05/16	SM 2510B	
pH	8.82	0.100	pH Units	"	1610060	10/05/16	10/05/16	EPA 9045	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

P-5@1'
1610046-11 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/05/16 13:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	72	50	mg/kg	1	1610059	10/05/16	10/06/16	8015M	

Date Sampled: **10/05/16 13:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		103 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/05/16 13:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.040	0.0020	mg/kg	1	1610058	10/05/16	10/05/16	EPA 8260B	
Toluene	0.019	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.79	0.50	"	"	"	"	"	"	

Date Sampled: **10/05/16 13:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		102 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.3 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %	21-167		"	"	"	"	

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

Date Sampled: **10/05/16 13:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	428	13.2	mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	517	6.61	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

P-5@1'
1610046-11 (Soil)

Summit Scientific

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

Sodium	1240	6.61 mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	9.54	units	"	1610056	10/05/16	10/06/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/05/16 13:59**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.93	0.100	pH Units	1	1610060	10/05/16	10/05/16	EPA 9045	
% Solids	75.7		%	"	1610062	10/05/16	10/06/16	% calculation	
Specific Conductance (EC)	5.18	0.0100	mmhos/cm	"	1610061	10/05/16	10/05/16	SM 2510B	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

P-6@1'
1610046-12 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/05/16 14:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610059	10/05/16	10/06/16	8015M	

Date Sampled: **10/05/16 14:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		94.9 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/05/16 14:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610058	10/05/16	10/05/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/05/16 14:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.6 %	21-167		"	"	"	"	

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

Date Sampled: **10/05/16 14:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	844	12.9	mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	444	6.44	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

P-6@1'
1610046-12 (Soil)

Summit Scientific

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

Sodium	3080	6.44 mg/kg dry	1	1610044	10/05/16	10/05/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	21.4	units	"	1610056	10/05/16	10/06/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/05/16 14:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.50	0.100	pH Units	1	1610060	10/05/16	10/05/16	EPA 9045	
Specific Conductance (EC)	7.82	0.0100	mmhos/cm	"	1610061	10/05/16	10/05/16	SM 2510B	
% Solids	77.6		%	"	1610062	10/05/16	10/06/16	% calculation	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

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 1610059 - EPA 3550A

Blank (1610059-BLK1)

Prepared: 10/05/16 Analyzed: 10/06/16

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 12.1 " 12.5 96.9 30-150

LCS (1610059-BS1)

Prepared: 10/05/16 Analyzed: 10/06/16

C10-C28 (DRO) 449 50 mg/kg 499 89.9 73-134

Surrogate: o-Terphenyl 12.3 " 12.5 98.7 30-150

Matrix Spike (1610059-MS1)

Source: 1610045-04

Prepared: 10/05/16 Analyzed: 10/06/16

C10-C28 (DRO) 440 50 mg/kg 460 6.35 94.2 50-148

Surrogate: o-Terphenyl 12.0 " 11.5 104 30-150

Matrix Spike Dup (1610059-MSD1)

Source: 1610045-04

Prepared: 10/05/16 Analyzed: 10/06/16

C10-C28 (DRO) 404 50 mg/kg 460 6.35 86.3 50-148 8.60 20

Surrogate: o-Terphenyl 11.1 " 11.5 95.9 30-150

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

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 1610058 - EPA 5030 Soil MS

Blank (1610058-BLK1)

Prepared: 10/05/16 Analyzed: 10/06/16

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	0.0403		"	0.0400		101	23-173			
Surrogate: Toluene-d8	0.0393		"	0.0400		98.3	20-170			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.8	21-167			

LCS (1610058-BS1)

Prepared: 10/05/16 Analyzed: 10/06/16

Benzene	0.0721	0.0020	mg/kg	0.100		72.1	58-130			
Toluene	0.0815	0.0050	"	0.100		81.5	61-134			
Ethylbenzene	0.103	0.0050	"	0.0992		104	74-139			
m,p-Xylene	0.215	0.010	"	0.200		108	73-137			
o-Xylene	0.106	0.0050	"	0.0980		108	73-141			
Xylenes (total)	0.321	0.0050	"				30-150			
Gasoline Range Hydrocarbons	2.02	0.50	"				30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0394		"	0.0400		98.5	23-173			
Surrogate: Toluene-d8	0.0384		"	0.0400		96.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.2	21-167			

Matrix Spike (1610058-MS1)

Source: 1610045-04

Prepared: 10/05/16 Analyzed: 10/06/16

Benzene	0.0724	0.0020	mg/kg	0.0977	ND	74.1	30-131			
Toluene	0.0809	0.0050	"	0.0977	ND	82.8	30-134			
Ethylbenzene	0.100	0.0050	"	0.0969	ND	103	22-153			
m,p-Xylene	0.211	0.010	"	0.195	ND	108	10-159			
o-Xylene	0.103	0.0050	"	0.0957	ND	108	31-151			
Xylenes (total)	0.314	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	2.01	0.50	"		ND		30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0425		"	0.0391		109	23-173			
Surrogate: Toluene-d8	0.0371		"	0.0391		94.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0391		98.5	21-167			

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

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 1610058 - EPA 5030 Soil MS

Matrix Spike Dup (1610058-MSD1)		Source: 1610045-04			Prepared: 10/05/16		Analyzed: 10/06/16			
Benzene	0.0686	0.0020	mg/kg	0.0933	ND	73.6	30-131	5.35	34	
Toluene	0.0781	0.0050	"	0.0933	ND	83.7	30-134	3.54	30	
Ethylbenzene	0.0977	0.0050	"	0.0925	ND	106	22-153	2.35	24	
m,p-Xylene	0.208	0.010	"	0.186	ND	112	10-159	1.61	68	
o-Xylene	0.103	0.0050	"	0.0914	ND	112	31-151	0.546	38	
Xylenes (total)	0.310	0.0050	"		ND		30-150	1.26	20	
Gasoline Range Hydrocarbons	1.96	0.50	"		ND		30-150	2.36	20	
Surrogate: 1,2-Dichloroethane-d4	0.0399		"	0.0373		107	23-173			
Surrogate: Toluene-d8	0.0362		"	0.0373		97.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0374		"	0.0373		100	21-167			

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

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

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

Batch 1610044 - General Preparation

Blank (1610044-BLK1)

Prepared & Analyzed: 10/05/16

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

LCS (1610044-BS1)

Prepared & Analyzed: 10/05/16

Calcium	428	10.0	mg/kg wet	500	85.6	82.9-118
Magnesium	460	5.00	"	500	92.0	77.1-123
Sodium	471	5.00	"	500	94.2	71-129

Duplicate (1610044-DUP1)

Source: 1610043-01

Prepared & Analyzed: 10/05/16

Calcium	3140	13.4	mg/kg dry	3880	21.1	200
Magnesium	371	6.70	"	417	11.7	200
Sodium	981	6.70	"	1060	7.47	200

Matrix Spike (1610044-MS1)

Source: 1610043-01

Prepared & Analyzed: 10/05/16

Calcium	4550	13.4	mg/kg dry	670	3880	100	75-125
Magnesium	960	6.70	"	670	417	81.0	75-125
Sodium	1580	6.70	"	670	1060	78.7	75-125

Matrix Spike Dup (1610044-MSD1)

Source: 1610043-01

Prepared & Analyzed: 10/05/16

Calcium	4630	13.4	mg/kg dry	670	3880	112	75-125	1.67	25
Magnesium	933	6.70	"	670	417	77.0	75-125	2.80	25
Sodium	1560	6.70	"	670	1060	75.7	75-125	1.27	25

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 1610060 - General Preparation

LCS (1610060-BS1)

Prepared & Analyzed: 10/05/16

pH	6.07	0.100	pH Units	6.00	101	95-105
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Duplicate (1610060-DUP1)

Source: 1610046-02

Prepared & Analyzed: 10/05/16

pH	8.51	0.100	pH Units	8.52	0.117	20
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Batch 1610061 - General Preparation

Blank (1610061-BLK1)

Prepared & Analyzed: 10/05/16

Specific Conductance (EC)	ND	0.0100	mmhos/cm
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LCS (1610061-BS1)

Prepared & Analyzed: 10/05/16

Specific Conductance (EC)	0.100	0.00200	mmhos/cm	0.100	100	90-110
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Duplicate (1610061-DUP1)

Source: 1610046-02

Prepared & Analyzed: 10/05/16

Specific Conductance (EC)	18.9	0.0100	mmhos/cm	18.9	0.344	20
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Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/06/16 06:36

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

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 10, 2016

Colby Sterling
Talon/LPE
1811 E Mulberry
Ft Collins, CO 80524
RE: Razor 30K

Enclosed are the results of analyses for samples received by Summit Scientific on 10/07/16 17:50. 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 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/10/16 17:04

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
UL2	1610063-01	Soil	10/07/16 11:35	10/07/16 17:50
UL3	1610063-02	Soil	10/07/16 11:40	10/07/16 17:50
UL4	1610063-03	Soil	10/07/16 11:45	10/07/16 17:50

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K

Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/10/16 17:04

Summit Scientific 1610063

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

Page 1 of 1

Client: Talon/LPE - Bill Whiting Petroleum

Address: 1811 East Mulberry

City/State/Zip: Fort Collins, CO 80524

Phone: 970-818-5330 Fax:

Sampler Name: Jason Leverton / Jennifer Galles

Project Manager: | Colby Sterling

E-Mail: csterling@talonlpe.com

Project Name: Razor 30K

Project Number:	701530.027.02
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[illegible]

www.s2scientific.com

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/10/16 17:04

Sample Receipt Checklist

S2 Work Order: 1610063

Client: Talon

Client Project ID: Razor 30K

Shipped Via: H.D. on ice
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: _____

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

Cooler ID					
Temp (°C)	<u>21.7</u>				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.				
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?			<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 ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<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) ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , ect				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			<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):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

Muri P.
Custodian Printed Name

RA 10-7-16
Signature or Initials of Custodian

17:50
Date/Time



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/10/16 17:04

UL2
1610063-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/07/16 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610081	10/07/16	10/07/16	8015M	

Date Sampled: **10/07/16 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.5 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/07/16 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610082	"	10/07/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/07/16 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		93.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.4 %	21-167		"	"	"	"	

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

Date Sampled: **10/07/16 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	845	11.1	mg/kg dry	1	1610086	10/07/16	10/10/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	240	5.57	"	"	"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/10/16 17:04

UL2
1610063-01 (Soil)

Summit Scientific

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

Sodium	63.6	5.57 mg/kg dry	1	1610086	10/07/16	10/10/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	1.50	units	"	1610100	10/10/16	10/10/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/07/16 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.7		%	1	1610089	10/10/16	10/10/16	% calculation	
pH	8.36	0.100	pH Units	"	1610087	10/10/16	10/10/16	EPA 9045	
Specific Conductance (EC)	0.575	0.0100	mmhos/cm	"	1610088	10/10/16	10/10/16	SM 2510B	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/10/16 17:04

UL3
1610063-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/07/16 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610081	10/07/16	10/07/16	8015M	

Date Sampled: **10/07/16 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.6 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/07/16 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610082	"	10/07/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/07/16 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.2 %	21-167		"	"	"	"	

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

Date Sampled: **10/07/16 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1060	10.6	mg/kg dry	1	1610086	10/07/16	10/10/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	166	5.31	"	"	"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/10/16 17:04

UL3
1610063-02 (Soil)

Summit Scientific

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

Sodium	1160	5.31	mg/kg dry	1	1610086	10/07/16	10/10/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	8.75		units	"	1610100	10/10/16	10/10/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/07/16 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.99	0.0100	mmhos/cm	1	1610088	10/10/16	10/10/16	SM 2510B	
% Solids	94.2		%	"	1610089	10/10/16	10/10/16	% calculation	
pH	8.88	0.100	pH Units	"	1610087	10/10/16	10/10/16	EPA 9045	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/10/16 17:04

UL4
1610063-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/07/16 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610081	10/07/16	10/07/16	8015M	

Date Sampled: **10/07/16 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		94.5 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/07/16 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610082	"	10/07/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/07/16 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.6 %	21-167		"	"	"	"	

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

Date Sampled: **10/07/16 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	596	11.1	mg/kg dry	1	1610086	10/07/16	10/10/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	149	5.57	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/10/16 17:04

UL4
1610063-03 (Soil)

Summit Scientific

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

Sodium	1390	5.57 mg/kg dry	1	1610086	10/07/16	10/10/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	0.500	units	"	1610100	10/10/16	10/10/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/07/16 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.61	0.100	pH Units	1	1610087	10/10/16	10/10/16	EPA 9045	
Specific Conductance (EC)	2.58	0.0100	mmhos/cm	"	1610088	10/10/16	10/10/16	SM 2510B	
% Solids	89.8		%	"	1610089	10/10/16	10/10/16	% calculation	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/10/16 17:04

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 1610081 - EPA 3550A

Blank (1610081-BLK1)

Prepared & Analyzed: 10/07/16

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 11.8 " 12.5 94.4 30-150

LCS (1610081-BS1)

Prepared & Analyzed: 10/07/16

C10-C28 (DRO) 482 50 mg/kg 499 96.6 73-134

Surrogate: o-Terphenyl 14.9 " 12.5 119 30-150

Matrix Spike (1610081-MS1)

Source: 1610061-01

Prepared & Analyzed: 10/07/16

C10-C28 (DRO) 656 50 mg/kg 499 132 50-148 QM-07

Surrogate: o-Terphenyl 13.3 " 12.5 107 30-150

Matrix Spike Dup (1610081-MSD1)

Source: 1610061-01

Prepared & Analyzed: 10/07/16

C10-C28 (DRO) 768 50 mg/kg 499 154 50-148 15.7 20 QM-07

Surrogate: o-Terphenyl 15.6 " 12.5 124 30-150

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/10/16 17:04

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 1610082 - EPA 5030 Soil MS

Blank (1610082-BLK1)

Prepared & Analyzed: 10/07/16

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	0.0419		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0385		"	0.0400		96.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	21-167			

LCS (1610082-BS1)

Prepared & Analyzed: 10/07/16

Benzene	0.115	0.0020	mg/kg	0.100		115	58-130			
Toluene	0.122	0.0050	"	0.100		122	61-134			
Ethylbenzene	0.133	0.0050	"	0.0992		134	74-139			
m,p-Xylene	0.241	0.010	"	0.200		121	73-137			
o-Xylene	0.123	0.0050	"	0.0980		126	73-141			
Xylenes (total)	0.364	0.0050	"				30-150			
Gasoline Range Hydrocarbons	2.76	0.50	"				30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0423		"	0.0400		106	23-173			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0406		"	0.0400		101	21-167			

Matrix Spike (1610082-MS1)

Source: 1610061-01

Prepared & Analyzed: 10/07/16

Benzene	0.116	0.0020	mg/kg	0.100	ND	116	30-131			
Toluene	0.120	0.0050	"	0.100	ND	120	30-134			
Ethylbenzene	0.133	0.0050	"	0.0992	ND	134	22-153			
m,p-Xylene	0.241	0.010	"	0.200	ND	121	10-159			
o-Xylene	0.124	0.0050	"	0.0980	ND	126	31-151			
Xylenes (total)	0.364	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	2.82	0.50	"		ND		30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0426		"	0.0400		106	23-173			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400		99.0	21-167			

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/10/16 17:04

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 1610082 - EPA 5030 Soil MS

Matrix Spike Dup (1610082-MSD1)		Source: 1610061-01			Prepared & Analyzed: 10/07/16					
Benzene	0.117	0.0020	mg/kg	0.100	ND	117	30-131	1.21	34	
Toluene	0.123	0.0050	"	0.100	ND	123	30-134	2.99	30	
Ethylbenzene	0.137	0.0050	"	0.0992	ND	138	22-153	3.00	24	
m,p-Xylene	0.248	0.010	"	0.200	ND	124	10-159	3.10	68	
o-Xylene	0.129	0.0050	"	0.0980	ND	131	31-151	4.14	38	
Xylenes (total)	0.377	0.0050	"		ND		30-150	3.45	20	
Gasoline Range Hydrocarbons	2.80	0.50	"		ND		30-150	0.853	20	
Surrogate: 1,2-Dichloroethane-d4	0.0445		"	0.0400		111	23-173			
Surrogate: Toluene-d8	0.0393		"	0.0400		98.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0413		"	0.0400		103	21-167			

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/10/16 17:04

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

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

Batch 1610086 - General Preparation

Blank (1610086-BLK1)

Prepared: 10/07/16 Analyzed: 10/10/16

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

LCS (1610086-BS1)

Prepared: 10/07/16 Analyzed: 10/10/16

Calcium	566	10.0	mg/kg wet	500	113	82.9-118
Magnesium	513	5.00	"	500	103	77.1-123
Sodium	504	5.00	"	500	101	71-129

Duplicate (1610086-DUP1)

Source: 1609188-01

Prepared: 10/07/16 Analyzed: 10/10/16

Calcium	569	10.4	mg/kg dry	742	26.4	200
Magnesium	89.6	5.19	"	130	36.7	200
Sodium	934	5.19	"	893	4.56	200

Matrix Spike (1610086-MS1)

Source: 1609188-01

Prepared: 10/07/16 Analyzed: 10/10/16

Calcium	1260	10.4	mg/kg dry	519	742	98.8	75-125
Magnesium	645	5.19	"	519	130	99.2	75-125
Sodium	1410	5.19	"	519	893	99.6	75-125

Matrix Spike Dup (1610086-MSD1)

Source: 1609188-01

Prepared: 10/07/16 Analyzed: 10/10/16

Calcium	1240	10.4	mg/kg dry	519	742	95.8	75-125	1.26	25
Magnesium	623	5.19	"	519	130	94.9	75-125	3.47	25
Sodium	1360	5.19	"	519	893	90.9	75-125	3.28	25

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/10/16 17:04

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 1610087 - General Preparation

LCS (1610087-BS1)

Prepared & Analyzed: 10/10/16

pH	8.04	0.100	pH Units	8.00	100	95-105
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Duplicate (1610087-DUP1)

Source: 1610063-01

Prepared & Analyzed: 10/10/16

pH	8.32	0.100	pH Units	8.36	0.480	20
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Batch 1610088 - General Preparation

Blank (1610088-BLK1)

Prepared & Analyzed: 10/10/16

Specific Conductance (EC)	ND	0.0100	mmhos/cm
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LCS (1610088-BS1)

Prepared & Analyzed: 10/10/16

Specific Conductance (EC)	0.508	0.0100	mmhos/cm	0.500	102	90-110
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Duplicate (1610088-DUP1)

Source: 1610063-01

Prepared & Analyzed: 10/10/16

Specific Conductance (EC)	0.595	0.0100	mmhos/cm	0.575	3.42	20
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Batch 1610089 - General Preparation

Duplicate (1610089-DUP1)

Source: 1610066-01

Prepared & Analyzed: 10/10/16

% Solids	88.4		%	88.4	0.00	20
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Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/10/16 17:04

Notes and Definitions

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.

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

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 12, 2016

Colby Sterling
Talon/LPE
1811 E Mulberry
Ft Collins, CO 80524
RE: Razor 30K

Enclosed are the results of analyses for samples received by Summit Scientific on 10/11/16 18:00. 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



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
UL-5	1610083-01	Soil	10/11/16 10:35	10/11/16 18:00
UL-6	1610083-02	Soil	10/11/16 10:37	10/11/16 18:00
UL-7	1610083-03	Soil	10/11/16 10:39	10/11/16 18:00
UL-8	1610083-04	Soil	10/11/16 10:41	10/11/16 18:00
UL-9	1610083-05	Soil	10/11/16 10:43	10/11/16 18:00
UL-10	1610083-06	Soil	10/11/16 10:43	10/11/16 18:00

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K

Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

Summit Scientific 1610083

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

Page 1 of 1

Client:	Talon/LPE - Bill Whiting Petroleum
Address:	1811 East Mulberry
City/State/Zip:	Fort Collins, CO 80525
Phone:	970-818-5330
Fax:	
Sampler Name:	Jennifer Galles / Jason Leverton

Project Manager:	Colby Sterling
E-Mail:	csterling@talonipe.com
Project Name:	Razor 30K
Project Number:	701530.027.02

				Preservative		Matrix		Analyze For:										
Sample Description	Date Sampled	Time Sampled	Number of Containers	HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	GRO/DRO	BTEX	EC	SAR	pH		Special Instructions
UL-5	10/11/2016	1035	1		x			x				x	x	x	x	x		
UL-6	10/11/2016	1037	1		x			x				x	x	x	x	x		
UL-7	10/11/2016	1039	1		x			x				x	x	x	x	x		
UL-8	10/11/2016	1041	1		x			x				x	x	x	x	x		
UL-9	10/11/2016	1043	1		x			x				x	x	x	x	x		
UL-10	10/11/2016	1045	1		x			x				x	x	x	x	x		
Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check)								Notes:						
<i>Spencer Galloway</i>	10/11/16 1600	<i>AS</i>	10-11-16 16:00	Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/>														
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 Hours <input checked="" type="checkbox"/> Standard <input type="checkbox"/>														
<i>AS</i>	10-11-16 18:00	<i>AS</i>	10-11-16 18:00	48 Hours <input type="checkbox"/>														
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:	Sample Integrity:														
				Temperature Upon Receipt: <i>22.3</i>														
				Intact: Yes <input type="checkbox"/> No <input type="checkbox"/>														

www.s2scientific.com

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

Sample Receipt Checklist

S2 Work Order: 1616083

Client: Talon Client Project ID: Razor 30K

Shipped Via: P.U. Airbill #: _____
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

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

Cooler ID					
Temp (°C)	<u>22.3</u>				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.				
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?			<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 ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<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) ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , ect				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			<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):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

Muri P.
Custodian Printed Name

MS 10-11-16
Signature or Initials of Custodian

18:08
Date/Time



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

UL-5
1610083-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/11/16 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610113	10/11/16	10/11/16	8015M	

Date Sampled: **10/11/16 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		96.9 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/11/16 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610112	10/11/16	10/11/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/11/16 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

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

Date Sampled: **10/11/16 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	771	10.8	mg/kg dry	1	1610109	10/11/16	10/12/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	273	5.38	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

UL-5
1610083-01 (Soil)

Summit Scientific

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

Sodium	969	5.38 mg/kg dry	1	1610109	10/11/16	10/12/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	7.64	units	"	1610115	10/12/16	10/12/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/11/16 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.12	0.0100	mmhos/cm	1	1610123	10/12/16	10/12/16	SM 2510B	
% Solids	92.9		%	"	1610124	10/12/16	10/12/16	% calculation	
pH	9.22	0.100	pH Units	"	1610122	10/12/16	10/12/16	EPA 9045	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

UL-6
1610083-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/11/16 10:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610113	10/11/16	10/12/16	8015M	

Date Sampled: **10/11/16 10:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		96.3 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/11/16 10:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610112	10/11/16	10/11/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/11/16 10:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

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

Date Sampled: **10/11/16 10:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	423	10.5	mg/kg dry	1	1610109	10/11/16	10/12/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	195	5.27	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

UL-6
1610083-02 (Soil)

Summit Scientific

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

Sodium	162	5.27 mg/kg dry	1	1610109	10/11/16	10/12/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	1.63	units	"	1610115	10/12/16	10/12/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/11/16 10:37**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.8		%	1	1610124	10/12/16	10/12/16	% calculation	
pH	8.47	0.100	pH Units	"	1610122	10/12/16	10/12/16	EPA 9045	
Specific Conductance (EC)	0.708	0.0100	mmhos/cm	"	1610123	10/12/16	10/12/16	SM 2510B	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

UL-7
1610083-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/11/16 10:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610113	10/11/16	10/12/16	8015M	

Date Sampled: **10/11/16 10:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.0 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/11/16 10:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610112	10/11/16	10/11/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/11/16 10:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	21-167		"	"	"	"	

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

Date Sampled: **10/11/16 10:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	350	10.6	mg/kg dry	1	1610109	10/11/16	10/12/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	219	5.31	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

UL-7
1610083-03 (Soil)

Summit Scientific

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

Sodium	1340	5.31 mg/kg dry	1	1610109	10/11/16	10/12/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	13.8	units	"	1610115	10/12/16	10/12/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/11/16 10:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.09	0.100	pH Units	1	1610122	10/12/16	10/12/16	EPA 9045	
Specific Conductance (EC)	3.87	0.0100	mmhos/cm	"	1610123	10/12/16	10/12/16	SM 2510B	
% Solids	94.1		%	"	1610124	10/12/16	10/12/16	% calculation	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

UL-8
1610083-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/11/16 10:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610113	10/11/16	10/12/16	8015M	

Date Sampled: **10/11/16 10:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.4 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/11/16 10:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610112	10/11/16	10/11/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/11/16 10:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

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

Date Sampled: **10/11/16 10:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	441	10.6	mg/kg dry	1	1610109	10/11/16	10/12/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	220	5.30	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

UL-8
1610083-04 (Soil)

Summit Scientific

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

Sodium	32.5	5.30	mg/kg dry	1	1610109	10/11/16	10/12/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	0.316		units	"	1610115	10/12/16	10/12/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/11/16 10:41**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.351	0.0100	mmhos/cm	1	1610123	10/12/16	10/12/16	SM 2510B	
% Solids	94.3		%	"	1610124	10/12/16	10/12/16	% calculation	
pH	8.78	0.100	pH Units	"	1610122	10/12/16	10/12/16	EPA 9045	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

UL-9
1610083-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/11/16 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610113	10/11/16	10/12/16	8015M	

Date Sampled: **10/11/16 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.3 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/11/16 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610112	10/11/16	10/12/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/11/16 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

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

Date Sampled: **10/11/16 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	281	10.5	mg/kg dry	1	1610109	10/11/16	10/12/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	130	5.27	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

UL-9
1610083-05 (Soil)

Summit Scientific

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

Sodium	15.8	5.27 mg/kg dry	1	1610109	10/11/16	10/12/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	0.196	units	"	1610115	10/12/16	10/12/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/11/16 10:43**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	0.322	0.0100	mmhos/cm	1	1610123	10/12/16	10/12/16	SM 2510B	
% Solids	94.9		%	"	1610124	10/12/16	10/12/16	% calculation	
pH	8.74	0.100	pH Units	"	1610122	10/12/16	10/12/16	EPA 9045	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

UL-10
1610083-06 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/11/16 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610113	10/11/16	10/12/16	8015M	

Date Sampled: **10/11/16 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.6 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/11/16 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610112	10/11/16	10/12/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/11/16 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

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

Date Sampled: **10/11/16 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	524	10.7	mg/kg dry	1	1610109	10/11/16	10/12/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	319	5.35	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

UL-10
1610083-06 (Soil)

Summit Scientific

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

Sodium	76.2	5.35	mg/kg dry	1	1610109	10/11/16	10/12/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	0.648		units	"	1610115	10/12/16	10/12/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/11/16 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.5		%	1	1610124	10/12/16	10/12/16	% calculation	
Specific Conductance (EC)	0.353	0.0100	mmhos/cm	"	1610123	10/12/16	10/12/16	SM 2510B	
pH	8.96	0.100	pH Units	"	1610122	10/12/16	10/12/16	EPA 9045	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

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 1610113 - EPA 3550A

Blank (1610113-BLK1)

Prepared & Analyzed: 10/11/16

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 12.2 " 12.5 97.7 30-150

LCS (1610113-BS1)

Prepared & Analyzed: 10/11/16

C10-C28 (DRO) 457 50 mg/kg 499 91.6 73-134

Surrogate: o-Terphenyl 12.4 " 12.5 99.0 30-150

Matrix Spike (1610113-MS1)

Source: 1610086-01

Prepared & Analyzed: 10/11/16

C10-C28 (DRO) 445 50 mg/kg 499 6.27 87.9 50-148

Surrogate: o-Terphenyl 12.5 " 12.5 99.6 30-150

Matrix Spike Dup (1610113-MSD1)

Source: 1610086-01

Prepared & Analyzed: 10/11/16

C10-C28 (DRO) 426 50 mg/kg 499 6.27 84.1 50-148 4.29 20

Surrogate: o-Terphenyl 12.1 " 12.5 96.7 30-150

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

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 1610112 - EPA 5030 Soil MS

Blank (1610112-BLK1)

Prepared & Analyzed: 10/11/16

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	0.0398		"	0.0400		99.4	23-173			
Surrogate: Toluene-d8	0.0395		"	0.0400		98.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0416		"	0.0400		104	21-167			

LCS (1610112-BS1)

Prepared & Analyzed: 10/11/16

Benzene	0.0829	0.0020	mg/kg	0.100		82.9	58-130			
Toluene	0.0879	0.0050	"	0.100		87.9	61-134			
Ethylbenzene	0.0758	0.0050	"	0.0992		76.4	74-139			
m,p-Xylene	0.167	0.010	"	0.200		83.6	73-137			
o-Xylene	0.101	0.0050	"	0.0980		104	73-141			
Xylenes (total)	0.208	0.0050	"				30-150			
Gasoline Range Hydrocarbons	1.44	0.50	"				30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0361		"	0.0400		90.3	23-173			
Surrogate: Toluene-d8	0.0481		"	0.0400		120	20-170			
Surrogate: 4-Bromofluorobenzene	0.0418		"	0.0400		104	21-167			

Matrix Spike (1610112-MS1)

Source: 1610086-01

Prepared & Analyzed: 10/11/16

Benzene	0.0975	0.0020	mg/kg	0.100	ND	97.5	30-131			
Toluene	0.103	0.0050	"	0.100	ND	103	30-134			
Ethylbenzene	0.0964	0.0050	"	0.0992	ND	97.2	22-153			
m,p-Xylene	0.174	0.010	"	0.200	ND	87.2	10-159			
o-Xylene	0.0904	0.0050	"	0.0980	ND	92.2	31-151			
Xylenes (total)	0.264	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	1.96	0.50	"		ND		30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0396		"	0.0400		99.1	23-173			
Surrogate: Toluene-d8	0.0452		"	0.0400		113	20-170			
Surrogate: 4-Bromofluorobenzene	0.0409		"	0.0400		102	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

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 1610112 - EPA 5030 Soil MS

Matrix Spike Dup (1610112-MSD1)		Source: 1610086-01			Prepared & Analyzed: 10/11/16					
Benzene	0.108	0.0020	mg/kg	0.100	ND	108	30-131	10.2	34	
Toluene	0.116	0.0050	"	0.100	ND	116	30-134	11.6	30	
Ethylbenzene	0.119	0.0050	"	0.0992	ND	120	22-153	21.3	24	
m,p-Xylene	0.217	0.010	"	0.200	ND	109	10-159	22.1	68	
o-Xylene	0.114	0.0050	"	0.0980	ND	117	31-151	23.5	38	
Xylenes (total)	0.362	0.0050	"		ND		30-150	31.1	20	
Gasoline Range Hydrocarbons	2.42	0.50	"		ND		30-150	20.9	20	
Surrogate: 1,2-Dichloroethane-d4	0.0422		"	0.0400		106	23-173			
Surrogate: Toluene-d8	0.0422		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0418		"	0.0400		105	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

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

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

Batch 1610109 - General Preparation

Blank (1610109-BLK1)

Prepared & Analyzed: 10/11/16

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

LCS (1610109-BS1)

Prepared & Analyzed: 10/11/16

Calcium	455	10.0	mg/kg wet	500	91.0	82.9-118
Magnesium	491	5.00	"	500	98.2	77.1-123
Sodium	519	5.00	"	500	104	71-129

Duplicate (1610109-DUP1)

Source: 1610086-02

Prepared & Analyzed: 10/11/16

Calcium	191	11.0	mg/kg dry	191	0.0160	200
Magnesium	206	5.49	"	208	0.630	200
Sodium	67.4	5.49	"	54.5	21.2	200

Matrix Spike (1610109-MS1)

Source: 1610086-02

Prepared & Analyzed: 10/11/16

Calcium	657	11.0	mg/kg dry	549	191	85.0	75-125
Magnesium	722	5.49	"	549	208	93.7	75-125
Sodium	565	5.49	"	549	54.5	93.1	75-125

Matrix Spike Dup (1610109-MSD1)

Source: 1610086-02

Prepared & Analyzed: 10/11/16

Calcium	613	11.0	mg/kg dry	549	191	76.9	75-125	6.99	25
Magnesium	749	5.49	"	549	208	98.6	75-125	3.72	25
Sodium	598	5.49	"	549	54.5	99.1	75-125	5.66	25

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 1610122 - General Preparation

LCS (1610122-BS1)

Prepared & Analyzed: 10/12/16

pH	8.03	0.100	pH Units	8.00	100	95-105
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Duplicate (1610122-DUP1)

Source: 1610008-01

Prepared & Analyzed: 10/12/16

pH	8.21	0.100	pH Units	8.22	0.122	20
----	------	-------	----------	------	-------	----

Batch 1610123 - General Preparation

Blank (1610123-BLK1)

Prepared & Analyzed: 10/12/16

Specific Conductance (EC)	ND	0.0100	mmhos/cm
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LCS (1610123-BS1)

Prepared & Analyzed: 10/12/16

Specific Conductance (EC)	0.516	0.0100	mmhos/cm	0.500	103	90-110
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Duplicate (1610123-DUP1)

Source: 1610008-01

Prepared & Analyzed: 10/12/16

Specific Conductance (EC)	61.2	0.0100	mmhos/cm	64.2	4.86	20
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Batch 1610124 - General Preparation

Duplicate (1610124-DUP1)

Source: 1610008-01

Prepared & Analyzed: 10/12/16

% Solids	91.8		%	90.3	1.65	20
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Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K

Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/12/16 16:26

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

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 18, 2016

Colby Sterling
Talon/LPE
1811 E Mulberry
Ft Collins, CO 80524
RE: Razor 30K

Enclosed are the results of analyses for samples received by Summit Scientific on 10/12/16 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



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-1@8"	1610099-01	Soil	10/12/16 12:00	10/12/16 16:00
Pothole A@2'	1610099-02	Soil	10/12/16 12:25	10/12/16 16:00
Pothole A@3'	1610099-03	Soil	10/12/16 12:20	10/12/16 16:00
Pothole A@4'	1610099-04	Soil	10/12/16 12:15	10/12/16 16:00
Pothole B@1'	1610099-05	Soil	10/12/16 12:38	10/12/16 16:00
Pothole B@2'	1610099-06	Soil	10/12/16 12:35	10/12/16 16:00
Pothole B@3'	1610099-07	Soil	10/12/16 12:32	10/12/16 16:00
Pothole B@4'	1610099-08	Soil	10/12/16 12:30	10/12/16 16:00
Pothole C@1'	1610099-09	Soil	10/12/16 12:52	10/12/16 16:00
Pothole C@2'	1610099-10	Soil	10/12/16 12:48	10/12/16 16:00
Pothole C@3'	1610099-11	Soil	10/12/16 12:45	10/12/16 16:00
Pothole C@4'	1610099-12	Soil	10/12/16 12:42	10/12/16 16:00
Pothole D@2'	1610099-13	Soil	10/12/16 13:06	10/12/16 16:00
Pothole D@3'	1610099-14	Soil	10/12/16 13:04	10/12/16 16:00
Pothole D@4'	1610099-15	Soil	10/12/16 13:02	10/12/16 16:00
Pothole D@5'	1610099-16	Soil	10/12/16 13:00	10/12/16 16:00
Pothole E@1'	1610099-17	Soil	10/12/16 13:18	10/12/16 16:00
Pothole E@2'	1610099-18	Soil	10/12/16 13:16	10/12/16 16:00
Pothole E@3'	1610099-19	Soil	10/12/16 13:14	10/12/16 16:00
Pothole E@4'	1610099-20	Soil	10/12/16 13:12	10/12/16 16:00
Pothole E@5'	1610099-21	Soil	10/12/16 13:10	10/12/16 16:00
Pothole F@2'	1610099-22	Soil	10/12/16 13:36	10/12/16 16:00
Pothole F@3'	1610099-23	Soil	10/12/16 13:34	10/12/16 16:00
Pothole F@4'	1610099-24	Soil	10/12/16 13:32	10/12/16 16:00
Pothole F@5'	1610099-25	Soil	10/12/16 13:30	10/12/16 16:00

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Summit Scientific





1610099.1

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Page 1 of 3

Client: Talon/LPE - Bill Whiting Petroleum
Address: 1811 East Mulberry
City/State/Zip: Fort Collins, CO 80525
Phone: 970-818-5330 Fax:
Sampler Name: Jennifer Galles / Colby Sterling

Project Manager: Colby Sterling
E-Mail: csterling@talonlpe.com
Project Name: Razor 30K
Project Number: 701530.027.02

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative			Matrix			Analyze For:							Special Instructions	
				HCl	HNO ₃	None	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	GRO/DRO	BTEX	EC	SAR	pH			
BH-1 @ 8'	10/12/2016	1200	1		x		x				x	x	x	x	x		24 hr TAT for EC, SAR, & pH analysis Standard TAT for GRO/DRO & BTEX	
Pothole A @ 2'	10/12/2016	1225	1		x		x				x	x	x	x	x			
Pothole A @ 3'	10/12/2016	1220	1		x		x				x	x	x	x	x			
Pothole A @ 4'	10/12/2016	1215	1		x		x				x	x	x	x	x			
Pothole B @ 1'	10/12/2016	1238	1		x		x				x	x	x	x	x			
Pothole B @ 2'	10/12/2016	1235	1		x		x				x	x	x	x	x			
Pothole B @ 3'	10/12/2016	1232	1		x		x				x	x	x	x	x			
Pothole B @ 4'	10/12/2016	1230	1		x		x				x	x	x	x	x			
Pothole C @ 1'	10/12/2016	1252	1		x		x				x	x	x	x	x			
Pothole C @ 2'	10/12/2016	1248	1		x		x				x	x	x	x	x			
Relinquished by:  10-12-16 10:00				Date/Time: 10-12-16 10:00				Received by:  10-12-16 10:00				Date/Time: 10-12-16 10:00				Turn Around Time (Check)		Notes:
Relinquished by:  10-12-16 17:30				Date/Time: 10-12-16 17:30				Received by:  10-12-16 17:30				Date/Time: 10-12-16 17:30				Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/>		
Relinquished by:				Date/Time:				Received in Lab by:				Date/Time:				24 Hours <input checked="" type="checkbox"/> Standard <input type="checkbox"/>		
Relinquished by:				Date/Time:				Received in Lab by:				Date/Time:				Sample Integrity:		
																Temperature Upon Receipt:		
																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 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29





Summit Scientific 1610099.2

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Page 2 of 3

Client: Talon/LPE - Bill Whiting Petroleum
Address: 1811 East Mulberry
City/State/Zip: Fort Collins, CO 80525
Phone: 970-818-5330 Fax:
Sampler Name: Jennifer Galles / Colby Sterling

Project Manager: Colby Sterling
E-Mail: csterling@talonlpe.com
Project Name: Razor 30K
Project Number: 701530.027.02

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)	GRO/DRO	BTEX	EC	SAR	pH	
Pothole C @ 3'	10/12/2016	1245	1		X							X	X	X	X	X	24 hr. TAT for EC, SAR, & pH analysis... Standard TAT for GRO/DRO & BTEX
Pothole C @ 4'	10/12/2016	1242	1		X							X	X	X	X	X	
Pothole D @ 2'	10/12/2016	1306	1		X							X	X	X	X	X	
Pothole D @ 3'	10/12/2016	1304	1		X							X	X	X	X	X	
Pothole D @ 4'	10/12/2016	1302	1		X							X	X	X	X	X	
Pothole D @ 5'	10/12/2016	1300	1		X							X	X	X	X	X	
Pothole E @ 1'	10/12/2016	1318	1		X							X	X	X	X	X	
Pothole E @ 2'	10/12/2016	1316	1		X							X	X	X	X	X	
Pothole E @ 3'	10/12/2016	1314	1		X							X	X	X	X	X	
Pothole E @ 4'	10/12/2016	1312	1		X							X	X	X	X	X	
Relinquished by:  10-12-16 16:00				Received by:  10-12-16 16:00				Turn Around Time (Check)				Notes:					
								Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/>									
								24 Hours <input checked="" type="checkbox"/>									
								48 Hours <input type="checkbox"/>									
Relinquished by:  10-12-16 17:30				Received by:  10/12/16 1730				Sample Integrity:									
								Temperature Upon Receipt:									
								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 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Summit Scientific

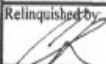
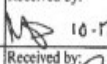
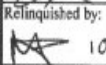

1610099.3

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Page 3 of 3

Client: Talon/LPE - Bill Whiting Petroleum
Address: 1811 East Mulberry
City/State/Zip: Fort Collins, CO 80525
Phone: 970-818-5330 Fax:
Sampler Name: Jennifer Gales / Colby Sterling

Project Manager: Colby Sterling
E-Mail: csterling@talonlpe.com
Project Name: Razor 30K
Project Number: 701530.027.02

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)	GRO/DRO	BTEX	EC	SAR	pH				
Pothole E @ 5'	10/12/2016	1310	1		x			x				x	x	x	x	x		24hr TAT for EC, SAR, & pH analysis... Standard TAT for GRO/DRO & BTEX		
Pothole F @ 2'	10/12/2016	1336	1		x			x				x	x	x	x	x				
Pothole F @ 3'	10/12/2016	1334	1		x			x				x	x	x	x	x				
Pothole F @ 4'	10/12/2016	1332	1		x			x				x	x	x	x	x				
Pothole F @ 5'	10/12/2016	1330	1		x			x				x	x	x	x	x				
Relinquished by:  Date/Time: 10-12-16 16:00				Received by:  Date/Time: 10-12-16 16:00				Turn Around Time (Check)				Notes:								
Relinquished by:  Date/Time: 10-12-16 17:30				Received by:  Date/Time: 10/12/16 1730				Same Day <input type="checkbox"/> 24 Hours <input checked="" type="checkbox"/> 48 Hours <input type="checkbox"/> 72 Hours <input type="checkbox"/> Standard <input type="checkbox"/>												
Relinquished by:				Received in Lab by:				Sample Integrity: Temperature Upon Receipt: Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>												

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Sample Receipt Checklist

S2 Work Order: 1610099

Client: Talon Client Project ID: Razor 30K

Shipped Via: P.O. 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>16.3</u>				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C ⁽¹⁾ ?			<u>X</u>	
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.				
Were all samples received intact ⁽¹⁾ ?	<u>X</u>			
Was adequate sample volume provided ⁽¹⁾ ?	<u>X</u>			
If custody seals are present, are they intact ⁽¹⁾ ?			<u>X</u>	
Are short holding time analytes or samples with HTs due within 48 hours present?	<u>X</u>			
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<u>X</u>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<u>X</u>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<u>X</u>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<u>X</u>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			<u>X</u>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?			<u>f</u>	
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⁾ ?			<u>X</u>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			<u>X</u>	
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

TA 10-12-16
Signature or Initials of Custodian

17:30
Date/Time



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

BH-1@8"
1610099-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 10/12/16 12:00									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610141	10/13/16	10/14/16	8015M	

Date Sampled: 10/12/16 12:00									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		92.5 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 10/12/16 12:00									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 10/12/16 12:00									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	21-167		"	"	"	"	

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

Date Sampled: 10/12/16 12:00									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2940	12.6	mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	295	6.29	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

BH-1@8"
1610099-01 (Soil)

Summit Scientific

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

Sodium	1060	6.29 mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	4.99	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 12:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	0.686	0.0100	mmhos/cm	1	1610143	10/13/16	10/13/16	SM 2510B	
% Solids	79.5		%	"	1610136	10/13/16	10/13/16	% calculation	
pH	9.03	0.100	pH Units	"	1610142	10/13/16	10/13/16	EPA 9045	

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1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole A@2'
1610099-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610141	10/13/16	10/14/16	8015M	

Date Sampled: **10/12/16 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	3290	13.6	mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	447	6.79	"	"	"	"	"	"	

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1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole A@2'
1610099-02 (Soil)

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

Sodium	1370	6.79 mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	5.94	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 12:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	73.6		%	1	1610136	10/13/16	10/13/16	% calculation	
pH	8.16	0.100	pH Units	"	1610142	10/13/16	10/13/16	EPA 9045	
Specific Conductance (EC)	1.96	0.0100	mmhos/cm	"	1610143	10/13/16	10/13/16	SM 2510B	

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Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole A@3'
1610099-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610141	10/13/16	10/14/16	8015M	

Date Sampled: **10/12/16 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.2 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		118 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2300	14.0	mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	434	6.98	"	"	"	"	"	"	

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1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole A@3'
1610099-03 (Soil)

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

Sodium	1240	6.98 mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	6.22	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.91	0.100	pH Units	1	1610142	10/13/16	10/13/16	EPA 9045	
% Solids	71.6		%	"	1610136	10/13/16	10/13/16	% calculation	
Specific Conductance (EC)	0.824	0.0100	mmhos/cm	"	1610143	10/13/16	10/13/16	SM 2510B	

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1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole A@4'
1610099-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610141	10/13/16	10/14/16	8015M	

Date Sampled: **10/12/16 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.4 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		116 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1670	13.6	mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	420	6.78	"	"	"	"	"	"	

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Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole A@4'
1610099-04 (Soil)

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

Sodium	1320	6.78 mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	7.48	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	73.8		%	1	1610136	10/13/16	10/13/16	% calculation	
Specific Conductance (EC)	0.744	0.0100	mmhos/cm	"	1610143	10/13/16	10/13/16	SM 2510B	
pH	9.04	0.100	pH Units	"	1610142	10/13/16	10/13/16	EPA 9045	

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1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole B@1'
1610099-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610141	10/13/16	10/14/16	8015M	

Date Sampled: **10/12/16 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		92.2 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		116 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		117 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1850	13.5	mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	467	6.74	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole B@1'
1610099-05 (Soil)

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

Sodium	1440	6.74 mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	7.75	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.97	0.100	pH Units	1	1610142	10/13/16	10/13/16	EPA 9045	
Specific Conductance (EC)	0.740	0.0100	mmhos/cm	"	1610143	10/13/16	10/13/16	SM 2510B	
% Solids	74.2		%	"	1610136	10/13/16	10/13/16	% calculation	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole B@2'
1610099-06 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/13/16	8015M	

Date Sampled: **10/12/16 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		90.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		121 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		117 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2750	13.6	mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	499	6.79	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole B@2'
1610099-06 (Soil)

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

Sodium	1280	6.79 mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	5.90	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.70	0.100	pH Units	1	1610142	10/13/16	10/13/16	EPA 9045	
% Solids	73.6		%	"	1610136	10/13/16	10/13/16	% calculation	
Specific Conductance (EC)	0.964	0.0100	mmhos/cm	"	1610143	10/13/16	10/13/16	SM 2510B	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole B@3'
1610099-07 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/13/16	8015M	

Date Sampled: **10/12/16 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		90.0 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		115 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2250	13.6	mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	490	6.81	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole B@3'
1610099-07 (Soil)

Summit Scientific

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

Sodium	1270	6.81 mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	6.32	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.80	0.100	pH Units	1	1610142	10/13/16	10/13/16	EPA 9045	
% Solids	73.4		%	"	1610136	10/13/16	10/13/16	% calculation	
Specific Conductance (EC)	0.844	0.0100	mmhos/cm	"	1610143	10/13/16	10/13/16	SM 2510B	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole B@4'
1610099-08 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/13/16	8015M	

Date Sampled: **10/12/16 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		89.4 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		117 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2350	14.1	mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	486	7.05	"	"	"	"	"	"	

Summit Scientific

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Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole B@4'
1610099-08 (Soil)

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

Sodium	1240	7.05 mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	6.08	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	70.9		%	1	1610136	10/13/16	10/13/16	% calculation	
pH	8.70	0.100	pH Units	"	1610142	10/13/16	10/13/16	EPA 9045	
Specific Conductance (EC)	0.871	0.0100	mmhos/cm	"	1610143	10/13/16	10/13/16	SM 2510B	

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Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole C@1'
1610099-09 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/13/16	8015M	

Date Sampled: **10/12/16 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		90.0 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		118 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1690	13.6	mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	387	6.81	"	"	"	"	"	"	

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Project: Razor 30K
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Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole C@1'
1610099-09 (Soil)

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

Sodium	1220	6.81 mg/kg dry	1	1610134	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	6.96	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 12:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	73.4		%	1	1610136	10/13/16	10/13/16	% calculation	
pH	8.33	0.100	pH Units	"	1610142	10/13/16	10/13/16	EPA 9045	
Specific Conductance (EC)	1.34	0.0100	mmhos/cm	"	1610143	10/13/16	10/13/16	SM 2510B	

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Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole C@2'
1610099-10 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 12:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/13/16	8015M	

Date Sampled: **10/12/16 12:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		90.6 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 12:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 12:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		113 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 12:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1280	13.5	mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	339	6.77	"	"	"	"	"	"	

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Project: Razor 30K
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Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole C@2'
1610099-10 (Soil)

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

Sodium	2090	6.77 mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	13.4	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 12:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.01	0.0100	mmhos/cm	1	1610143	10/13/16	10/13/16	SM 2510B	
pH	8.08	0.100	pH Units	"	1610142	10/13/16	10/13/16	EPA 9045	
% Solids	73.9		%	"	1610136	10/13/16	10/13/16	% calculation	

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Project: Razor 30K
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Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole C@3'
1610099-11 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/13/16	8015M	

Date Sampled: **10/12/16 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.8 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		116 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1180	13.6	mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	344	6.79	"	"	"	"	"	"	

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Project: Razor 30K
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Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole C@3'
1610099-11 (Soil)

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

Sodium	1190	6.79 mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	7.84	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 12:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	0.778	0.0100	mmhos/cm	1	1610143	10/13/16	10/13/16	SM 2510B	
% Solids	73.6		%	"	1610136	10/13/16	10/13/16	% calculation	
pH	8.78	0.100	pH Units	"	1610142	10/13/16	10/13/16	EPA 9045	

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Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole C@4'
1610099-12 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 12:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/13/16	8015M	

Date Sampled: **10/12/16 12:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.2 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 12:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 12:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		118 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 12:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1200	13.7	mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	239	6.83	"	"	"	"	"	"	

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Reported:
10/18/16 12:29

Pothole C@4'
1610099-12 (Soil)

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

Sodium	1190	6.83 mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	8.21	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 12:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	73.2		%	1	1610136	10/13/16	10/13/16	% calculation	
pH	8.70	0.100	pH Units	"	1610142	10/13/16	10/13/16	EPA 9045	
Specific Conductance (EC)	0.794	0.0100	mmhos/cm	"	1610143	10/13/16	10/13/16	SM 2510B	

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Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole D@2'
1610099-13 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/13/16	8015M	

Date Sampled: **10/12/16 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.8 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		115 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1270	13.4	mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	279	6.70	"	"	"	"	"	"	

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Ft Collins CO, 80524

Project: Razor 30K
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Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole D@2'
1610099-13 (Soil)

Summit Scientific

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

Sodium	1150	6.70 mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	7.61	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 13:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.680	0.0100	mmhos/cm	1	1610143	10/13/16	10/13/16	SM 2510B	
pH	8.86	0.100	pH Units	"	1610142	10/13/16	10/13/16	EPA 9045	
% Solids	74.6		%	"	1610136	10/13/16	10/13/16	% calculation	

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Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole D@3'
1610099-14 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/14/16	8015M	

Date Sampled: **10/12/16 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		92.3 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1520	13.3	mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	336	6.65	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole D@3'
1610099-14 (Soil)

Summit Scientific

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

Sodium	2160	6.65 mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	13.1	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.26	0.0100	mmhos/cm	1	1610143	10/13/16	10/13/16	SM 2510B	
% Solids	75.2		%	"	1610136	10/13/16	10/13/16	% calculation	
pH	7.83	0.100	pH Units	"	1610142	10/13/16	10/13/16	EPA 9045	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole D@4'
1610099-15 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/14/16	8015M	

Date Sampled: **10/12/16 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.4 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		117 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1180	13.4	mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	256	6.68	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole D@4'
1610099-15 (Soil)

Summit Scientific

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

Sodium	1170	6.68 mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	8.05	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 13:02**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	74.9		%	1	1610136	10/13/16	10/13/16	% calculation	
pH	8.82	0.100	pH Units	"	1610142	10/13/16	10/13/16	EPA 9045	
Specific Conductance (EC)	0.704	0.0100	mmhos/cm	"	1610143	10/13/16	10/13/16	SM 2510B	

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1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole D@5'
1610099-16 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/14/16	8015M	

Date Sampled: **10/12/16 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.3 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		117 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		116 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1150	13.6	mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	313	6.79	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole D@5'
1610099-16 (Soil)

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

Sodium	1200	6.79 mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	8.10	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	73.6		%	1	1610136	10/13/16	10/13/16	% calculation	
pH	8.92	0.100	pH Units	"	1610142	10/13/16	10/13/16	EPA 9045	
Specific Conductance (EC)	0.575	0.0100	mmhos/cm	"	1610143	10/13/16	10/13/16	SM 2510B	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole E@1'
1610099-17 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/14/16	8015M	

Date Sampled: **10/12/16 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.0 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610137	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		121 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		117 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1210	12.3	mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	312	6.13	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole E@1'
1610099-17 (Soil)

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

Sodium	1010	6.13 mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	6.70	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.570	0.0100	mmhos/cm	1	1610143	10/13/16	10/13/16	SM 2510B	
pH	8.97	0.100	pH Units	"	1610142	10/13/16	10/13/16	EPA 9045	
% Solids	81.5		%	"	1610136	10/13/16	10/13/16	% calculation	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole E@2'
1610099-18 (Soil)

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Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/14/16	8015M	

Date Sampled: **10/12/16 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.0 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610138	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		124 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1680	12.8	mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	348	6.41	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole E@2'
1610099-18 (Soil)

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

Sodium	1130	6.41	mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	6.55		units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.969	0.0100	mmhos/cm	1	1610143	10/13/16	10/13/16	SM 2510B	
pH	8.64	0.100	pH Units	"	1610142	10/13/16	10/13/16	EPA 9045	
% Solids	78.0		%	"	1610136	10/13/16	10/13/16	% calculation	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole E@3'
1610099-19 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/14/16	8015M	

Date Sampled: **10/12/16 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.5 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610138	10/13/16	10/15/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		124 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1440	13.2	mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	374	6.58	"	"	"	"	"	"	

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1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole E@3'
1610099-19 (Soil)

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

Sodium	1210	6.58 mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	7.35	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	76.0		%	1	1610136	10/13/16	10/13/16	% calculation	
pH	8.79	0.100	pH Units	"	1610142	10/13/16	10/13/16	EPA 9045	
Specific Conductance (EC)	0.801	0.0100	mmhos/cm	"	1610143	10/13/16	10/13/16	SM 2510B	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole E@4'
1610099-20 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/14/16	8015M	

Date Sampled: **10/12/16 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.8 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610138	10/13/16	10/16/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		121 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1250	13.7	mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	363	6.84	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole E@4'
1610099-20 (Soil)

Summit Scientific

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

Sodium	1160	6.84 mg/kg dry	1	1610134	10/13/16	10/14/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	7.43	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 13:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.774	0.0100	mmhos/cm	1	1610143	10/13/16	10/13/16	SM 2510B	
% Solids	73.1		%	"	1610136	10/13/16	10/13/16	% calculation	
pH	8.71	0.100	pH Units	"	1610142	10/13/16	10/13/16	EPA 9045	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole E@5'
1610099-21 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/14/16	8015M	

Date Sampled: **10/12/16 13:10**

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610138	10/13/16	10/16/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		122 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2410	13.6	mg/kg dry	1	1610135	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	608	6.81	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole E@5'
1610099-21 (Soil)

Summit Scientific

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

Sodium	1280	6.81 mg/kg dry	1	1610135	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	6.03	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.632	0.0100	mmhos/cm	1	1610145	10/13/16	10/13/16	SM 2510B	
% Solids	73.4		%	"	1610136	10/13/16	10/13/16	% calculation	
pH	8.83	0.100	pH Units	"	1610144	10/13/16	10/13/16	EPA 9045	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole F@2'
1610099-22 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/14/16	8015M	

Date Sampled: **10/12/16 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		92.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610138	10/13/16	10/16/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		124 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	3350	13.3	mg/kg dry	1	1610135	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	541	6.66	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole F@2'
1610099-22 (Soil)

Summit Scientific

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

Sodium	1380	6.66 mg/kg dry	1	1610135	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	5.83	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	75.1		%	1	1610136	10/13/16	10/13/16	% calculation	
pH	8.84	0.100	pH Units	"	1610144	10/13/16	10/13/16	EPA 9045	
Specific Conductance (EC)	0.602	0.0100	mmhos/cm	"	1610145	10/13/16	10/13/16	SM 2510B	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole F@3'
1610099-23 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/14/16	8015M	

Date Sampled: **10/12/16 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.2 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610138	10/13/16	10/16/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		123 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2480	13.6	mg/kg dry	1	1610135	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	476	6.79	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole F@3'
1610099-23 (Soil)

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

Sodium	1290	6.79 mg/kg dry	1	1610135	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	6.22	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 13:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	73.6		%	1	1610136	10/13/16	10/13/16	% calculation	
pH	8.80	0.100	pH Units	"	1610144	10/13/16	10/13/16	EPA 9045	
Specific Conductance (EC)	0.702	0.0100	mmhos/cm	"	1610145	10/13/16	10/13/16	SM 2510B	

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1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole F@4'
1610099-24 (Soil)

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Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/14/16	8015M	

Date Sampled: **10/12/16 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.0 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610138	10/13/16	10/16/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		125 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	7030	13.5	mg/kg dry	1	1610135	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	709	6.74	"	"	"	"	"	"	

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1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole F@4'
1610099-24 (Soil)

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

Sodium	1380	6.74 mg/kg dry	1	1610135	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	4.20	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	74.2		%	1	1610136	10/13/16	10/13/16	% calculation	
Specific Conductance (EC)	0.736	0.0100	mmhos/cm	"	1610145	10/13/16	10/13/16	SM 2510B	
pH	8.82	0.100	pH Units	"	1610144	10/13/16	10/13/16	EPA 9045	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole F@5'
1610099-25 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/12/16 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610140	10/13/16	10/14/16	8015M	

Date Sampled: **10/12/16 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		93.9 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/12/16 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610138	10/13/16	10/16/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/12/16 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		124 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	21-167		"	"	"	"	

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

Date Sampled: **10/12/16 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2450	13.6	mg/kg dry	1	1610135	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	466	6.82	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Pothole F@5'
1610099-25 (Soil)

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

Sodium	1360	6.82 mg/kg dry	1	1610135	10/13/16	10/13/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	6.60	units	"	1610152	10/14/16	10/14/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/12/16 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	73.3		%	1	1610136	10/13/16	10/13/16	% calculation	
pH	8.75	0.100	pH Units	"	1610144	10/13/16	10/13/16	EPA 9045	
Specific Conductance (EC)	0.698	0.0100	mmhos/cm	"	1610145	10/13/16	10/13/16	SM 2510B	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

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 1610140 - EPA 3550A

Blank (1610140-BLK1)

Prepared & Analyzed: 10/13/16

C10-C28 (DRO)	ND	50	mg/kg							
Surrogate: o-Terphenyl	11.5		"	12.5		91.7	30-150			

LCS (1610140-BS1)

Prepared & Analyzed: 10/13/16

C10-C28 (DRO)	433	50	mg/kg	499		86.7	73-134			
Surrogate: o-Terphenyl	14.8		"	12.5		118	30-150			

Matrix Spike (1610140-MS1)

Source: 1610099-06

Prepared & Analyzed: 10/13/16

C10-C28 (DRO)	404	50	mg/kg	498	14.4	78.3	50-148			
Surrogate: o-Terphenyl	14.1		"	12.5		113	30-150			

Matrix Spike Dup (1610140-MSD1)

Source: 1610099-06

Prepared & Analyzed: 10/13/16

C10-C28 (DRO)	408	50	mg/kg	491	14.4	80.1	50-148	0.860	20	
Surrogate: o-Terphenyl	11.5		"	12.3		93.7	30-150			

Batch 1610141 - EPA 3550A

Blank (1610141-BLK1)

Prepared & Analyzed: 10/13/16

C10-C28 (DRO)	ND	50	mg/kg							
Surrogate: o-Terphenyl	12.2		"	12.5		97.5	30-150			

LCS (1610141-BS1)

Prepared & Analyzed: 10/13/16

C10-C28 (DRO)	449	50	mg/kg	499		89.9	73-134			
Surrogate: o-Terphenyl	12.1		"	12.5		96.6	30-150			

Matrix Spike (1610141-MS1)

Source: 1610098-01

Prepared & Analyzed: 10/13/16

C10-C28 (DRO)	435	50	mg/kg	492	7.43	86.9	50-148			
Surrogate: o-Terphenyl	12.3		"	12.3		99.6	30-150			

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

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 1610141 - EPA 3550A

Matrix Spike Dup (1610141-MSD1)				Source: 1610098-01		Prepared & Analyzed: 10/13/16				
C10-C28 (DRO)	430	50	mg/kg	499	7.43	84.6	50-148	1.30	20	
Surrogate: o-Terphenyl	12.0		"	12.5		96.3	30-150			

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

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 1610137 - EPA 5030 Soil MS

Blank (1610137-BLK1)

Prepared: 10/13/16 Analyzed: 10/15/16

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	0.0438		"	0.0400		110	23-173			
Surrogate: Toluene-d8	0.0422		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0452		"	0.0400		113	21-167			

LCS (1610137-BS1)

Prepared: 10/13/16 Analyzed: 10/15/16

Benzene	0.117	0.0020	mg/kg	0.100		117	58-130			
Toluene	0.0951	0.0050	"	0.100		95.1	61-134			
Ethylbenzene	0.112	0.0050	"	0.0992		112	74-139			
m,p-Xylene	0.196	0.010	"	0.200		98.4	73-137			
o-Xylene	0.102	0.0050	"	0.0980		104	73-141			
Xylenes (total)	0.298	0.0050	"				30-150			
Gasoline Range Hydrocarbons	1.98	0.50	"				30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0444		"	0.0400		111	23-173			
Surrogate: Toluene-d8	0.0435		"	0.0400		109	20-170			
Surrogate: 4-Bromofluorobenzene	0.0418		"	0.0400		104	21-167			

Matrix Spike (1610137-MS1)

Source: 1610099-01

Prepared: 10/13/16 Analyzed: 10/15/16

Benzene	0.101	0.0020	mg/kg	0.100	ND	101	30-131			
Toluene	0.0774	0.0050	"	0.100	ND	77.4	30-134			
Ethylbenzene	0.103	0.0050	"	0.0992	ND	104	22-153			
m,p-Xylene	0.127	0.010	"	0.200	ND	63.5	10-159			
o-Xylene	0.0980	0.0050	"	0.0980	ND	100	31-151			
Xylenes (total)	0.225	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	1.73	0.50	"		ND		30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0452		"	0.0400		113	23-173			
Surrogate: Toluene-d8	0.0440		"	0.0400		110	20-170			
Surrogate: 4-Bromofluorobenzene	0.0420		"	0.0400		105	21-167			

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

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 1610138 - EPA 5030 Soil MS

Blank (1610138-BLK1)

Prepared: 10/13/16 Analyzed: 10/14/16

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	0.0418		"	0.0400	104	23-173				
Surrogate: Toluene-d8	0.0394		"	0.0400	98.6	20-170				
Surrogate: 4-Bromofluorobenzene	0.0416		"	0.0400	104	21-167				

LCS (1610138-BS1)

Prepared: 10/13/16 Analyzed: 10/14/16

Benzene	0.117	0.0020	mg/kg	0.100	117	58-130				
Toluene	0.119	0.0050	"	0.100	119	61-134				
Ethylbenzene	0.133	0.0050	"	0.0992	134	74-139				
m,p-Xylene	0.235	0.010	"	0.200	118	73-137				
o-Xylene	0.124	0.0050	"	0.0980	126	73-141				
Xylenes (total)	0.359	0.0050	"			30-150				
Gasoline Range Hydrocarbons	1.80	0.50	"			30-150				
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0400	104	23-173				
Surrogate: Toluene-d8	0.0395		"	0.0400	98.8	20-170				
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400	99.6	21-167				

Matrix Spike (1610138-MS1)

Source: 1610098-01

Prepared: 10/13/16 Analyzed: 10/14/16

Benzene	0.116	0.0020	mg/kg	0.0990	ND	118	30-131			
Toluene	0.123	0.0050	"	0.0990	ND	124	30-134			
Ethylbenzene	0.133	0.0050	"	0.0982	ND	135	22-153			
m,p-Xylene	0.238	0.010	"	0.198	ND	120	10-159			
o-Xylene	0.125	0.0050	"	0.0970	ND	129	31-151			
Xylenes (total)	0.363	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	2.36	0.50	"		ND		30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0420		"	0.0396	106	23-173				
Surrogate: Toluene-d8	0.0400		"	0.0396	101	20-170				
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0396	101	21-167				

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

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 1610138 - EPA 5030 Soil MS

Matrix Spike Dup (1610138-MSD1)	Source: 1610098-01			Prepared: 10/13/16		Analyzed: 10/14/16				
Benzene	0.111	0.0020	mg/kg	0.0988	ND	112	30-131	4.95	34	
Toluene	0.119	0.0050	"	0.0988	ND	120	30-134	3.39	30	
Ethylbenzene	0.132	0.0050	"	0.0980	ND	135	22-153	0.400	24	
m,p-Xylene	0.240	0.010	"	0.197	ND	121	10-159	0.672	68	
o-Xylene	0.124	0.0050	"	0.0968	ND	128	31-151	0.674	38	
Xylenes (total)	0.364	0.0050	"		ND		30-150	0.210	20	
Gasoline Range Hydrocarbons	2.31	0.50	"		ND		30-150	2.33	20	
Surrogate: 1,2-Dichloroethane-d4	0.0410		"	0.0395		104	23-173			
Surrogate: Toluene-d8	0.0389		"	0.0395		98.5	20-170			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0395		101	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

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

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

Batch 1610134 - General Preparation

Blank (1610134-BLK1)

Prepared & Analyzed: 10/13/16

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

LCS (1610134-BS1)

Prepared & Analyzed: 10/13/16

Calcium	569	10.0	mg/kg wet	500	114	82.9-118
Magnesium	571	5.00	"	500	114	77.1-123
Sodium	596	5.00	"	500	119	71-129

Duplicate (1610134-DUP1)

Source: 1610099-01

Prepared & Analyzed: 10/13/16

Calcium	2150	12.6	mg/kg dry	2940	31.2	200
Magnesium	401	6.29	"	295	30.4	200
Sodium	1140	6.29	"	1060	7.29	200

Matrix Spike (1610134-MS1)

Source: 1610099-01

Prepared & Analyzed: 10/13/16

Calcium	3680	12.6	mg/kg dry	629	2940	117	75-125
Magnesium	963	6.29	"	629	295	106	75-125
Sodium	1770	6.29	"	629	1060	114	75-125

Matrix Spike Dup (1610134-MSD1)

Source: 1610099-01

Prepared & Analyzed: 10/13/16

Calcium	3700	12.6	mg/kg dry	629	2940	121	75-125	0.614	25
Magnesium	1080	6.29	"	629	295	124	75-125	11.3	25
Sodium	1800	6.29	"	629	1060	118	75-125	1.45	25

Batch 1610135 - General Preparation

Blank (1610135-BLK1)

Prepared & Analyzed: 10/13/16

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

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

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

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

Batch 1610135 - General Preparation

LCS (1610135-BS1)

Prepared & Analyzed: 10/13/16

Calcium	573	10.0	mg/kg wet	500	115	82.9-118
Magnesium	608	5.00	"	500	122	77.1-123
Sodium	629	5.00	"	500	126	71-129

Duplicate (1610135-DUP1)

Source: 1610099-21

Prepared & Analyzed: 10/13/16

Calcium	2460	13.6	mg/kg dry	2410	2.20	200
Magnesium	607	6.81	"	608	0.0849	200
Sodium	1290	6.81	"	1280	1.15	200

Matrix Spike (1610135-MS1)

Source: 1610099-21

Prepared & Analyzed: 10/13/16

Calcium	2990	13.6	mg/kg dry	681	2410	84.7	75-125
Magnesium	1390	6.81	"	681	608	114	75-125
Sodium	2110	6.81	"	681	1280	122	75-125

Matrix Spike Dup (1610135-MSD1)

Source: 1610099-21

Prepared & Analyzed: 10/13/16

Calcium	2970	13.6	mg/kg dry	681	2410	82.4	75-125	0.530	25
Magnesium	1310	6.81	"	681	608	103	75-125	5.63	25
Sodium	2070	6.81	"	681	1280	116	75-125	1.73	25

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 1610136 - General Preparation

Duplicate (1610136-DUP1) Source: 1610097-01 Prepared & Analyzed: 10/13/16

% Solids	86.7		%		85.3			1.63	20	
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Batch 1610142 - General Preparation

LCS (1610142-BS1) Prepared & Analyzed: 10/13/16

pH	8.03	0.100	pH Units	8.00	100	95-105				
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Duplicate (1610142-DUP1) Source: 1610099-01 Prepared & Analyzed: 10/13/16

pH	9.03	0.100	pH Units	9.03			0.00	20		
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Batch 1610143 - General Preparation

Blank (1610143-BLK1) Prepared & Analyzed: 10/13/16

Specific Conductance (EC)	ND	0.0100	mmhos/cm							
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LCS (1610143-BS1) Prepared & Analyzed: 10/13/16

Specific Conductance (EC)	0.510	0.0100	mmhos/cm	0.500	102	90-110				
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Duplicate (1610143-DUP1) Source: 1610099-01 Prepared & Analyzed: 10/13/16

Specific Conductance (EC)	0.698	0.0100	mmhos/cm	0.686			1.59	20		
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Batch 1610144 - General Preparation

LCS (1610144-BS1) Prepared & Analyzed: 10/13/16

pH	8.03	0.100	pH Units	8.00	100	95-105				
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Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 1610144 - General Preparation

Duplicate (1610144-DUP1) **Source: 1610099-21** Prepared & Analyzed: 10/13/16

pH	8.76	0.100	pH Units	8.83	0.796	20
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Batch 1610145 - General Preparation

Blank (1610145-BLK1) Prepared & Analyzed: 10/13/16

Specific Conductance (EC)	ND	0.0100	mmhos/cm
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LCS (1610145-BS1) Prepared & Analyzed: 10/13/16

Specific Conductance (EC)	0.510	0.0100	mmhos/cm	0.500	102	90-110
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Duplicate (1610145-DUP1) **Source: 1610099-21** Prepared & Analyzed: 10/13/16

Specific Conductance (EC)	0.694	0.0100	mmhos/cm	0.632	9.43	20
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Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/18/16 12:29

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

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 18, 2016

Colby Sterling
Talon/LPE
1811 E Mulberry
Ft Collins, CO 80524
RE: Razor 30K

Enclosed are the results of analyses for samples received by Summit Scientific on 10/14/16 18:30. 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 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 07:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
UL4@1'	1610107-01	Soil	10/14/16 15:03	10/14/16 18:30
UL5@1'	1610107-02	Soil	10/14/16 15:12	10/14/16 18:30
UL7@1'	1610107-03	Soil	10/14/16 14:47	10/14/16 18:30

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K

Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 07:03

Summit Scientific 16/01/07

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

Page 1 of 1

Client: Talon/LPE - Bill Whiting Petroleum

Address: 1811 East Mulberry

City/State/Zip: Fort Collins, CO 80525

Phone: 970-818-5330 Fax:




Sampler Name: Jennifer Galles / Jason Leverton

Project Manager: Colby Sterling

E-Mail: csterling@talonlpe.com

Project Name: Razor 30K

Project Number: 701530.027.02

				Preservative		Matrix		Analyze For:												
Sample Description	Date Sampled	Time Sampled	Number of Containers	HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	GR0/DRO	BTEX	EC	SAR	pH				Special Instructions
UL-4 @ 1'	10/14/2016	1503	1		x			x				x	x	x	x	x				24hr TAT on EC, SAR, & pH analysis Standard TAT on GR0/DRO & BTEX
UL-5 @ 1'	10/14/2016	1512	1		x			x				x	x	x	x	x				
UL-7 @ 1'	10/14/2016	1447	1		x			x				x	x	x	x	x				
Relinquished by: 			Date/Time: 10-14-16 17:00	Received by: 			Date/Time: 10-14-16 17:00			Turn Around Time (Check)								Notes:		
										Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/> 24 Hours <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 48 Hours <input type="checkbox"/>										
Relinquished by: 			Date/Time: 10-14-16 18:30	Received by:			Date/Time:			Sample Integrity:										
Relinquished by:			Date/Time:	Received in Lab by:			Date/Time:			Temperature Upon Receipt: 19.9										
										Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>										

www.s2scientific.com

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 07:03

Sample Receipt Checklist

S2 Work Order: 1610107

Client: Talon Client Project ID: Razor 30K

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)	19.9				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.				
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?			<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 ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<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) ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , ect				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			<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):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

Muri P.
Custodian Printed Name

MS 10-14-16
Signature or Initials of Custodian

18:30
Date/Time



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 07:03

UL4@1'
1610107-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/14/16 15:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610159	10/14/16	10/15/16	8015M	

Date Sampled: **10/14/16 15:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		90.8 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/14/16 15:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610158	10/14/16	10/14/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/14/16 15:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.2 %	21-167		"	"	"	"	

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

Date Sampled: **10/14/16 15:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1490	13.2	mg/kg dry	1	1610164	10/17/16	10/17/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	315	6.61	"	"	"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 07:03

UL4@1'
1610107-01 (Soil)

Summit Scientific

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

Sodium	1200	6.61 mg/kg dry	1	1610164	10/17/16	10/17/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	7.48	units	"	1610176	10/17/16	10/17/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/14/16 15:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	75.7		%	1	1610173	10/17/16	10/17/16	% calculation	
pH	8.80	0.100	pH Units	"	1610168	10/17/16	10/17/16	EPA 9045	
Specific Conductance (EC)	0.831	0.0100	mmhos/cm	"	1610170	10/17/16	10/17/16	SM 2510B	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 07:03

UL5@1'
1610107-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/14/16 15:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610159	10/14/16	10/15/16	8015M	

Date Sampled: **10/14/16 15:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.2 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/14/16 15:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610158	10/14/16	10/14/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/14/16 15:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		96.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.0 %	21-167		"	"	"	"	

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

Date Sampled: **10/14/16 15:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2100	12.8	mg/kg dry	1	1610164	10/17/16	10/17/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	378	6.39	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 07:03

UL5@1'
1610107-02 (Soil)

Summit Scientific

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

Sodium	1130	6.39 mg/kg dry	1	1610164	10/17/16	10/17/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	5.96	units	"	1610176	10/17/16	10/17/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/14/16 15:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.15	0.0100	mmhos/cm	1	1610170	10/17/16	10/17/16	SM 2510B	
% Solids	78.3		%	"	1610173	10/17/16	10/17/16	% calculation	
pH	8.48	0.100	pH Units	"	1610168	10/17/16	10/17/16	EPA 9045	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 07:03

UL7@1'
1610107-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/14/16 14:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610159	10/14/16	10/15/16	8015M	

Date Sampled: **10/14/16 14:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.5 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/14/16 14:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610158	10/14/16	10/14/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/14/16 14:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		97.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.8 %	21-167		"	"	"	"	

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

Date Sampled: **10/14/16 14:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2890	13.3	mg/kg dry	1	1610164	10/17/16	10/17/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	493	6.64	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 07:03

UL7@1'
1610107-03 (Soil)

Summit Scientific

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

Sodium	1190	6.64 mg/kg dry	1	1610164	10/17/16	10/17/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	5.39	units	"	1610176	10/17/16	10/17/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/14/16 14:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.55	0.100	pH Units	1	1610168	10/17/16	10/17/16	EPA 9045	
Specific Conductance (EC)	0.881	0.0100	mmhos/cm	"	1610170	10/17/16	10/17/16	SM 2510B	
% Solids	75.3		%	"	1610173	10/17/16	10/17/16	% calculation	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 07:03

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 1610159 - EPA 3550A

Blank (1610159-BLK1)

Prepared & Analyzed: 10/14/16

C10-C28 (DRO)	ND	50	mg/kg							
Surrogate: o-Terphenyl	11.5		"	12.5		92.0	30-150			

LCS (1610159-BS1)

Prepared & Analyzed: 10/14/16

C10-C28 (DRO)	426	50	mg/kg	499		85.4	73-134			
Surrogate: o-Terphenyl	11.8		"	12.5		94.3	30-150			

Matrix Spike (1610159-MS1)

Source: 1610105-01

Prepared & Analyzed: 10/14/16

C10-C28 (DRO)	431	50	mg/kg	499	7.40	84.8	50-148			
Surrogate: o-Terphenyl	11.8		"	12.5		94.4	30-150			

Matrix Spike Dup (1610159-MSD1)

Source: 1610105-01

Prepared & Analyzed: 10/14/16

C10-C28 (DRO)	422	50	mg/kg	499	7.40	83.0	50-148	2.10	20	
Surrogate: o-Terphenyl	11.5		"	12.5		92.2	30-150			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 07:03

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 1610158 - EPA 5030 Soil MS

Blank (1610158-BLK1)

Prepared & Analyzed: 10/14/16

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	0.0375		"	0.0400		93.8	23-173			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.7	20-170			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.2	21-167			

LCS (1610158-BS1)

Prepared & Analyzed: 10/14/16

Benzene	0.0673	0.0020	mg/kg	0.100		67.3	58-130			
Toluene	0.0849	0.0050	"	0.100		84.9	61-134			
Ethylbenzene	0.0970	0.0050	"	0.0992		97.8	74-139			
m,p-Xylene	0.207	0.010	"	0.200		104	73-137			
o-Xylene	0.0983	0.0050	"	0.0980		100	73-141			
Xylenes (total)	0.305	0.0050	"				30-150			
Gasoline Range Hydrocarbons	2.01	0.50	"				30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0398		"	0.0400		99.4	23-173			
Surrogate: Toluene-d8	0.0382		"	0.0400		95.6	20-170			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.6	21-167			

Matrix Spike (1610158-MS1)

Source: 1610105-01

Prepared & Analyzed: 10/14/16

Benzene	0.0713	0.0020	mg/kg	0.100	0.00732	64.0	30-131			
Toluene	0.0840	0.0050	"	0.100	0.00309	80.9	30-134			
Ethylbenzene	0.0989	0.0050	"	0.0992	ND	99.7	22-153			
m,p-Xylene	0.216	0.010	"	0.200	0.00495	105	10-159			
o-Xylene	0.102	0.0050	"	0.0980	ND	104	31-151			
Xylenes (total)	0.317	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	1.99	0.50	"		ND		30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0392		"	0.0400		98.0	23-173			
Surrogate: Toluene-d8	0.0382		"	0.0400		95.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.2	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 07:03

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 1610158 - EPA 5030 Soil MS

Matrix Spike Dup (1610158-MSD1)		Source: 1610105-01			Prepared & Analyzed: 10/14/16					
Benzene	0.0748	0.0020	mg/kg	0.100	0.00732	67.5	30-131	4.72	34	
Toluene	0.0866	0.0050	"	0.100	0.00309	83.5	30-134	3.06	30	
Ethylbenzene	0.0971	0.0050	"	0.0992	ND	97.9	22-153	1.78	24	
m,p-Xylene	0.212	0.010	"	0.200	0.00495	104	10-159	1.83	68	
o-Xylene	0.101	0.0050	"	0.0980	ND	103	31-151	1.18	38	
Xylenes (total)	0.312	0.0050	"		ND		30-150	1.62	20	
Gasoline Range Hydrocarbons	2.01	0.50	"		ND		30-150	0.676	20	
Surrogate: 1,2-Dichloroethane-d4	0.0420		"	0.0400		105	23-173			
Surrogate: Toluene-d8	0.0384		"	0.0400		96.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.3	21-167			

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 07:03

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

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

Batch 1610164 - General Preparation

Blank (1610164-BLK1)

Prepared & Analyzed: 10/17/16

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

LCS (1610164-BS1)

Prepared & Analyzed: 10/17/16

Calcium	548	10.0	mg/kg wet	500	110	82.9-118
Magnesium	581	5.00	"	500	116	77.1-123
Sodium	599	5.00	"	500	120	71-129

Duplicate (1610164-DUP1)

Source: 1610107-01

Prepared & Analyzed: 10/17/16

Calcium	1820	13.2	mg/kg dry	1490	20.1	200
Magnesium	340	6.61	"	315	7.60	200
Sodium	1260	6.61	"	1200	4.27	200

Matrix Spike (1610164-MS1)

Source: 1610107-01

Prepared & Analyzed: 10/17/16

Calcium	2160	13.2	mg/kg dry	661	1490	102	75-125
Magnesium	1140	6.61	"	661	315	125	75-125
Sodium	2020	6.61	"	661	1200	124	75-125

Matrix Spike Dup (1610164-MSD1)

Source: 1610107-01

Prepared & Analyzed: 10/17/16

Calcium	2160	13.2	mg/kg dry	661	1490	102	75-125	0.0269	25
Magnesium	1070	6.61	"	661	315	114	75-125	6.46	25
Sodium	2050	6.61	"	661	1200	128	75-125	1.43	25

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 07:03

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 1610168 - General Preparation

LCS (1610168-BS1) Prepared & Analyzed: 10/17/16

pH	8.01	0.100	pH Units	8.00	100	95-105
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Duplicate (1610168-DUP1) Source: 1610107-01 Prepared & Analyzed: 10/17/16

pH	8.85	0.100	pH Units	8.80	0.567	20
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Batch 1610170 - General Preparation

Blank (1610170-BLK2) Prepared & Analyzed: 10/17/16

Specific Conductance (EC)	ND	0.0100	mmhos/cm
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LCS (1610170-BS1) Prepared & Analyzed: 10/17/16

Specific Conductance (EC)	0.504	0.0100	mmhos/cm	0.500	101	90-110
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Duplicate (1610170-DUP1) Source: 1610107-01 Prepared & Analyzed: 10/17/16

Specific Conductance (EC)	0.833	0.0100	mmhos/cm	0.831	0.301	20
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Batch 1610173 - General Preparation

Duplicate (1610173-DUP1) Source: 1610107-01 Prepared & Analyzed: 10/17/16

% Solids	75.7	%	75.7	0.00	20
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Duplicate (1610173-DUP2) Source: 1610107-02 Prepared & Analyzed: 10/17/16

% Solids	75.7	%	78.3	3.38	20
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Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 07:03

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

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 17, 2016

Colby Sterling
Talon/LPE
1811 E Mulberry
Ft Collins, CO 80524
RE: Razor 30K

Enclosed are the results of analyses for samples received by Summit Scientific on 10/14/16 17:00. 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

Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K

Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/17/16 16:15

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Pothole A@4'	1610114-01	Soil	10/14/16 14:40	10/14/16 17:00

1610114

Summit Scientific

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

Page 1 of 1

Client: Talon/LPE - Bill Whiting Petroleum

Address: 1811 East Mulberry

City/State/Zip: Fort Collins, CO 80525

Phone: 970-818-5330 Fax:

Sampler Name: Jennifer Galles / Jason Leverton

Project Manager: Colby Sterling

E-Mail: csterling@talonlpe.com

Project Name: Razor 30K

Project Number: 701530.027.02

[illegible]

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Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/17/16 16:15

Pothole A@4'
1610114-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/14/16 14:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.89	0.100	pH Units	1	1610168	10/17/16	10/17/16	EPA 9045	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/17/16 16:15

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 1610168 - General Preparation

LCS (1610168-BS1)

Prepared & Analyzed: 10/17/16

pH	8.01	0.100	pH Units	8.00	100	95-105
----	------	-------	----------	------	-----	--------

Duplicate (1610168-DUP1)

Source: 1610107-01

Prepared & Analyzed: 10/17/16

pH	8.85	0.100	pH Units	8.80	0.567	20
----	------	-------	----------	------	-------	----

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K

Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/17/16 16:15

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

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 18, 2016

Colby Sterling
Talon/LPE
1811 E Mulberry
Ft Collins, CO 80524
RE: Razor 30K

Enclosed are the results of analyses for samples received by Summit Scientific on 10/17/16 17:05. 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 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 13:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH-2 @4'	1610127-01	Soil	10/17/16 13:45	10/17/16 17:05
SW-1 @2'	1610127-02	Soil	10/17/16 13:50	10/17/16 17:05
SW-2 @2'	1610127-03	Soil	10/17/16 13:55	10/17/16 17:05
SW-3 @2'	1610127-04	Soil	10/17/16 14:55	10/17/16 17:05

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 13:02

Summit Scientific 1610127

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303-277-9310 • 303-374-5933 Fax

Page 1 of 1

Client: Talon/LPE - Bill Whiting
Address: 1811 E Mulberry St
City/State/Zip: Fort Collins, CO 80525
Phone: 970-718-5880 Fax:
Sampler Name: Colby Sterling

Project Manager: Colby Sterling
E-Mail: csterling@talonlpe.com
Project Name: Razor 30K
Project Number: 701530.027.01

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)	GRO/DRO	BTEX	EC	SAR		PH	
BH-2 @ 4'	10-17-16	1345	1			X			X				X	X	X	X	X	Same Day TAT for EC, SAR, & PH analysis. Standard TAT for GRO/DRO & BTEX.
SW-1 @ 2'		1350	1										X	X	X	X		
SW-2 @ 2'		1355	1										X	X	X	X		
SW-3 @ 3'		1400	1										X	X	X	X		
Relinquished by: <u>[Signature]</u> Date/Time: <u>10-17-16 16:15</u>				Received by: <u>[Signature]</u> Date/Time: <u>10-17-16 16:15</u>				Turn Around Time (Check)				Notes:						
Relinquished by: <u>[Signature]</u> Date/Time: <u>10-17-16 17:35</u>				Received by: <u>[Signature]</u> Date/Time: <u>10-17-16 16:15</u>				Same Day <input checked="" type="checkbox"/> 72 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> Standard <input type="checkbox"/> 48 Hours <input type="checkbox"/>										
Relinquished by: <u>[Signature]</u> Date/Time: <u>10-17-16 17:35</u>				Received in Lab by: <u>[Signature]</u> Date/Time: <u>10-17-16 16:15</u>				Sample Integrity: Temperature Upon Receipt: <u>22.0</u> Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>										

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Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

[Signature]



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 13:02

Sample Receipt Checklist

S2 Work Order: 761027

Client: Talon Client Project ID: Razor 30K

Shipped Via: H.D. on ice 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>22.0</u>				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C ⁽¹⁾ ?			X	
NOTE: If samples are delivered the same day of sampling, this requirement is waived 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⁾ ?			X	
Record the pH in Comments.				
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

MP 10-17-16
Signature or Initials of Custodian

16:50
Date/Time



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 13:02

BH-2 @4'
1610127-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/17/16 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610167	10/17/16	10/17/16	8015M	

Date Sampled: **10/17/16 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		94.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/17/16 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610169	10/17/16	10/17/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/17/16 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		125 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		117 %	21-167		"	"	"	"	

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

Date Sampled: **10/17/16 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	581	13.2	mg/kg dry	1	1610178	10/17/16	10/18/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	100	6.62	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 13:02

BH-2 @4'
1610127-01 (Soil)

Summit Scientific

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

Sodium	185	6.62 mg/kg dry	1	1610178	10/17/16	10/18/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	1.86	units	"	1610180	10/18/16	10/18/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/16 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.682	0.0100	mmhos/cm	1	1610177	10/17/16	10/17/16	SM 2510B	
pH	8.88	0.100	pH Units	"	1610168	10/17/16	10/17/16	EPA 9045	
% Solids	75.5		%	"	1610179	10/17/16	10/18/16	% calculation	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 13:02

SW-1 @2'
1610127-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/17/16 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610167	10/17/16	10/17/16	8015M	

Date Sampled: **10/17/16 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		94.3 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/17/16 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610169	10/17/16	10/17/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/17/16 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		122 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		118 %	21-167		"	"	"	"	

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

Date Sampled: **10/17/16 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1850	13.7	mg/kg dry	1	1610178	10/17/16	10/18/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	151	6.86	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
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Project Manager: Colby Sterling

Reported:
10/18/16 13:02

SW-1 @2'
1610127-02 (Soil)

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

Sodium	3020	6.86 mg/kg dry	1	1610178	10/17/16	10/18/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	18.2	units	"	1610180	10/18/16	10/18/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/16 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.15	0.100	pH Units	1	1610168	10/17/16	10/17/16	EPA 9045	
Specific Conductance (EC)	8.40	0.0100	mmhos/cm	"	1610177	10/17/16	10/17/16	SM 2510B	
% Solids	72.9		%	"	1610179	10/17/16	10/18/16	% calculation	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 13:02

SW-2 @2'
1610127-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/17/16 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610167	10/17/16	10/17/16	8015M	

Date Sampled: **10/17/16 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		94.0 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/17/16 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610169	10/17/16	10/17/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/17/16 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		129 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	21-167		"	"	"	"	

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

Date Sampled: **10/17/16 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	3510	13.6	mg/kg dry	1	1610178	10/17/16	10/18/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	263	6.82	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
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Project Manager: Colby Sterling

Reported:
10/18/16 13:02

SW-2 @2'
1610127-03 (Soil)

Summit Scientific

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

Sodium	371	6.82	mg/kg dry	1	1610178	10/17/16	10/18/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	1.63		units	"	1610180	10/18/16	10/18/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/16 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.964	0.0100	mmhos/cm	1	1610177	10/17/16	10/17/16	SM 2510B	
pH	8.56	0.100	pH Units	"	1610168	10/17/16	10/17/16	EPA 9045	
% Solids	73.3		%	"	1610179	10/17/16	10/18/16	% calculation	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 13:02

SW-3 @2'
1610127-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/17/16 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610167	10/17/16	10/17/16	8015M	

Date Sampled: **10/17/16 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		95.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/17/16 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610169	10/17/16	10/18/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/17/16 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		126 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		112 %	21-167		"	"	"	"	

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

Date Sampled: **10/17/16 14:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	6080	12.3	mg/kg dry	1	1610178	10/17/16	10/18/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	380	6.16	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 13:02

SW-3 @2'
1610127-04 (Soil)

Summit Scientific

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

Sodium	391	6.16 mg/kg dry	1	1610178	10/17/16	10/18/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	1.31	units	"	1610180	10/18/16	10/18/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/16 14:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.55	0.100	pH Units	1	1610168	10/17/16	10/17/16	EPA 9045	
% Solids	81.2		%	"	1610179	10/17/16	10/18/16	% calculation	
Specific Conductance (EC)	0.954	0.0100	mmhos/cm	"	1610177	10/17/16	10/17/16	SM 2510B	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 13:02

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 1610167 - EPA 3550A

Blank (1610167-BLK1)

Prepared & Analyzed: 10/17/16

C10-C28 (DRO)	ND	50	mg/kg							
Surrogate: o-Terphenyl	11.1		"	12.5		88.9	30-150			

LCS (1610167-BS1)

Prepared & Analyzed: 10/17/16

C10-C28 (DRO)	401	50	mg/kg	499		80.3	73-134			
Surrogate: o-Terphenyl	14.2		"	12.5		114	30-150			

Matrix Spike (1610167-MS1)

Source: 1610122-02

Prepared: 05/17/16 Analyzed: 10/17/16

C10-C28 (DRO)	399	50	mg/kg	483	10.8	80.3	50-148			
Surrogate: o-Terphenyl	11.9		"	12.1		98.6	30-150			

Matrix Spike Dup (1610167-MSD1)

Source: 1610122-02

Prepared: 05/17/16 Analyzed: 10/17/16

C10-C28 (DRO)	410	50	mg/kg	483	10.8	82.8	50-148	2.90	20	
Surrogate: o-Terphenyl	12.2		"	12.1		101	30-150			

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 13:02

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 1610169 - EPA 5030 Soil MS

Blank (1610169-BLK1)

Prepared: 10/17/16 Analyzed: 10/18/16

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	0.0486		"	0.0400		122	23-173			
Surrogate: Toluene-d8	0.0416		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0420		"	0.0400		105	21-167			

LCS (1610169-BS1)

Prepared: 10/17/16 Analyzed: 10/18/16

Benzene	0.0827	0.0020	mg/kg	0.100		82.7	58-130			
Toluene	0.0845	0.0050	"	0.100		84.5	61-134			
Ethylbenzene	0.106	0.0050	"	0.0992		107	74-139			
m,p-Xylene	0.189	0.010	"	0.200		94.7	73-137			
o-Xylene	0.0978	0.0050	"	0.0980		99.8	73-141			
Xylenes (total)	0.287	0.0050	"				30-150			
Gasoline Range Hydrocarbons	2.73	0.50	"				30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0479		"	0.0400		120	23-173			
Surrogate: Toluene-d8	0.0411		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0416		"	0.0400		104	21-167			

Matrix Spike (1610169-MS1)

Source: 1610122-01

Prepared: 10/17/16 Analyzed: 10/18/16

Benzene	0.0854	0.0020	mg/kg	0.100	ND	85.4	30-131			
Toluene	0.0880	0.0050	"	0.100	ND	88.0	30-134			
Ethylbenzene	0.109	0.0050	"	0.0992	ND	110	22-153			
m,p-Xylene	0.193	0.010	"	0.200	ND	96.6	10-159			
o-Xylene	0.101	0.0050	"	0.0980	ND	103	31-151			
Xylenes (total)	0.294	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	2.81	0.50	"		0.292		30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0494		"	0.0400		123	23-173			
Surrogate: Toluene-d8	0.0410		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0415		"	0.0400		104	21-167			

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 13:02

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 1610169 - EPA 5030 Soil MS

Matrix Spike Dup (1610169-MSD1)		Source: 1610122-01			Prepared: 10/17/16		Analyzed: 10/18/16			
Benzene	0.0861	0.0020	mg/kg	0.0994	ND	86.6	30-131	0.727	34	
Toluene	0.0876	0.0050	"	0.0994	ND	88.1	30-134	0.428	30	
Ethylbenzene	0.109	0.0050	"	0.0986	ND	110	22-153	0.324	24	
m,p-Xylene	0.194	0.010	"	0.198	ND	97.6	10-159	0.455	68	
o-Xylene	0.100	0.0050	"	0.0974	ND	103	31-151	1.10	38	
Xylenes (total)	0.294	0.0050	"		ND		30-150	0.0789	20	
Gasoline Range Hydrocarbons	2.83	0.50	"		0.292		30-150	0.730	20	
Surrogate: 1,2-Dichloroethane-d4	0.0486		"	0.0398		122	23-173			
Surrogate: Toluene-d8	0.0404		"	0.0398		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0398		103	21-167			

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 13:02

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

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

Batch 1610178 - General Preparation

Blank (1610178-BLK1)

Prepared: 10/17/16 Analyzed: 10/18/16

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

LCS (1610178-BS1)

Prepared: 10/17/16 Analyzed: 10/18/16

Calcium	520	10.0	mg/kg wet	500	104	82.9-118
Magnesium	527	5.00	"	500	105	77.1-123
Sodium	550	5.00	"	500	110	71-129

Duplicate (1610178-DUP1)

Source: 1610127-01

Prepared: 10/17/16 Analyzed: 10/18/16

Calcium	499	13.2	mg/kg dry	581	15.0	200
Magnesium	86.1	6.62	"	100	15.4	200
Sodium	185	6.62	"	185	0.159	200

Matrix Spike (1610178-MS1)

Source: 1610127-01

Prepared: 10/17/16 Analyzed: 10/18/16

Calcium	1340	13.2	mg/kg dry	662	581	114	75-125
Magnesium	799	6.62	"	662	100	106	75-125
Sodium	920	6.62	"	662	185	111	75-125

Matrix Spike Dup (1610178-MSD1)

Source: 1610127-01

Prepared: 10/17/16 Analyzed: 10/18/16

Calcium	1290	13.2	mg/kg dry	662	581	107	75-125	3.51	25
Magnesium	921	6.62	"	662	100	124	75-125	14.1	25
Sodium	918	6.62	"	662	185	111	75-125	0.219	25

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 13:02

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 1610168 - General Preparation

LCS (1610168-BS1)

Prepared & Analyzed: 10/17/16

pH	8.01	0.100	pH Units	8.00	100	95-105
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Duplicate (1610168-DUP1)

Source: 1610107-01

Prepared & Analyzed: 10/17/16

pH	8.85	0.100	pH Units	8.80	0.567	20
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Batch 1610177 - General Preparation

Blank (1610177-BLK1)

Prepared & Analyzed: 10/17/16

Specific Conductance (EC)	ND	0.0100	mmhos/cm
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LCS (1610177-BS1)

Prepared & Analyzed: 10/17/16

Specific Conductance (EC)	0.500	0.0100	mmhos/cm	0.500	100	90-110
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Duplicate (1610177-DUP1)

Source: 1610127-01

Prepared & Analyzed: 10/17/16

Specific Conductance (EC)	0.679	0.0100	mmhos/cm	0.682	0.368	20
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Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/18/16 13:02

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

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 20, 2016

Colby Sterling
Talon/LPE
1811 E Mulberry
Ft Collins, CO 80524
RE: Razor 30K

Enclosed are the results of analyses for samples received by Summit Scientific on 10/18/16 18:15. 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
President



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/20/16 16:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW-4@2'	1610139-01	Soil	10/17/16 14:40	10/18/16 18:15
SW-5@2'	1610139-02	Soil	10/17/16 14:45	10/18/16 18:15

Summit Scientific

A handwritten signature in black ink, appearing to be 'MSM'.

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K

Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/20/16 16:02

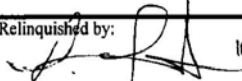

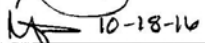
Summit Scientific 1616139

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

Page 1 of 1

Client:	Talon/LPE - Bill Whiting Petroleum	
Address:	1811 East Mulberry	
City/State/Zip:	Fort Collins, CO 80525	
Phone:	970-818-5330	Fax:
Sampler Name:	Jennifer Galles / Jason Levertton	

Project Manager:	Colby Sterling
E-Mail:	csterling@talonlpe.com
Project Name:	Razor 30K
Project Number:	701530.027.02

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)	GRO/DRO	BTEX	EC	SAR	pH	
SW-4 @ 2'	10/18/2016	1440	1		x			x			x	x	x	x	x		24 hr YAT for EC, SAR, & pH analysis Standard for GRO/DRO & BTEX
SW-5 @ 2'	10/18/2016	1445	1		x			x			x	x	x	x	x		
Relinquished by: 	Date/Time: 10/18/16 17:15	Received by: 	Date/Time: 10-18-16 17:15	Turn Around Time (Check)				Notes:									
Relinquished by: 	Date/Time: 10-18-16 18:16	Received by:	Date/Time:	Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/> 24 Hours <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 48 Hours <input type="checkbox"/>				Sample Integrity: Temperature Upon Receipt: 10.3 Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>									
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:														

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/20/16 16:02

Sample Receipt Checklist

S2 Work Order: 610139

Client: Talon

Client Project ID: Razor 30K

Shipped Via: H.D. on ice

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

Airbill #: _____

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

Cooler ID					
Temp (°C)	10.3				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C ⁽¹⁾ ?			X	
NOTE: If samples are delivered the same day of sampling, this requirement is waived 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⁾ ?			X	
Record the pH in Comments.				
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

MS 10-18-16
Signature or Initials of Custodian

18:10
Date/Time



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/20/16 16:02

SW-4@2'
1610139-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/17/16 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610197	10/19/16	10/19/16	8015M	

Date Sampled: **10/17/16 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		92.8 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/17/16 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610196	10/19/16	10/19/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/17/16 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		95.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.6 %	21-167		"	"	"	"	

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

Date Sampled: **10/17/16 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1800	13.6	mg/kg dry	1	1610201	10/19/16	10/19/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	337	6.82	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/20/16 16:02

SW-4@2'
1610139-01 (Soil)

Summit Scientific

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

Sodium	2160	6.82 mg/kg dry	1	1610201	10/19/16	10/19/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	12.5	units	"	1610206	10/19/16	10/19/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/16 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	8.74	0.0100	mmhos/cm	1	1610203	10/19/16	10/19/16	SM 2510B	
pH	7.73	0.100	pH Units	"	1610200	10/19/16	10/19/16	EPA 9045	
% Solids	73.3		%	"	1610202	10/19/16	10/19/16	% calculation	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/20/16 16:02

SW-5@2'
1610139-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/17/16 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610197	10/19/16	10/19/16	8015M	

Date Sampled: **10/17/16 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		92.4 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/17/16 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610196	10/19/16	10/19/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/17/16 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		91.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.5 %	21-167		"	"	"	"	

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

Date Sampled: **10/17/16 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	3260	12.3	mg/kg dry	1	1610201	10/19/16	10/19/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	923	6.17	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/20/16 16:02

SW-5@2'
1610139-02 (Soil)

Summit Scientific

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

Sodium	1730	6.17 mg/kg dry	1	1610201	10/19/16	10/19/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	6.89	units	"	1610206	10/19/16	10/19/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/16 14:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.93	0.100	pH Units	1	1610200	10/19/16	10/19/16	EPA 9045	
Specific Conductance (EC)	6.08	0.0100	mmhos/cm	"	1610203	10/19/16	10/19/16	SM 2510B	
% Solids	81.1		%	"	1610202	10/19/16	10/19/16	% calculation	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/20/16 16:02

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 1610197 - EPA 3550A

Blank (1610197-BLK1)

Prepared & Analyzed: 10/19/16

C10-C28 (DRO)	ND	50	mg/kg							
Surrogate: o-Terphenyl	11.5		"	12.5		91.9	30-150			

LCS (1610197-BS1)

Prepared & Analyzed: 10/19/16

C10-C28 (DRO)	477	50	mg/kg	499		95.6	73-134			
Surrogate: o-Terphenyl	12.2		"	12.5		97.2	30-150			

Matrix Spike (1610197-MS1)

Source: 1610139-01

Prepared & Analyzed: 10/19/16

C10-C28 (DRO)	453	50	mg/kg	494	10.8	89.6	50-148			
Surrogate: o-Terphenyl	12.6		"	12.4		102	30-150			

Matrix Spike Dup (1610197-MSD1)

Source: 1610139-01

Prepared & Analyzed: 10/19/16

C10-C28 (DRO)	418	50	mg/kg	494	10.8	82.4	50-148	8.10	20	
Surrogate: o-Terphenyl	11.9		"	12.4		96.4	30-150			

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/20/16 16:02

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 1610196 - EPA 5030 Soil MS

Blank (1610196-BLK1)

Prepared & Analyzed: 10/19/16

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	0.0375		"	0.0400		93.8	23-173			
Surrogate: Toluene-d8	0.0396		"	0.0400		98.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.4	21-167			

LCS (1610196-BS1)

Prepared & Analyzed: 10/19/16

Benzene	0.109	0.0020	mg/kg	0.100		109	58-130			
Toluene	0.108	0.0050	"	0.100		108	61-134			
Ethylbenzene	0.114	0.0050	"	0.0992		115	74-139			
m,p-Xylene	0.218	0.010	"	0.200		109	73-137			
o-Xylene	0.113	0.0050	"	0.0980		116	73-141			
Xylenes (total)	0.332	0.0050	"				30-150			
Gasoline Range Hydrocarbons	6.24	0.50	"				30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0392		"	0.0400		97.9	23-173			
Surrogate: Toluene-d8	0.0414		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.3	21-167			

Matrix Spike (1610196-MS1)

Source: 1610139-01

Prepared & Analyzed: 10/19/16

Benzene	0.0935	0.0020	mg/kg	0.0984	ND	95.0	30-131			
Toluene	0.0961	0.0050	"	0.0984	ND	97.7	30-134			
Ethylbenzene	0.101	0.0050	"	0.0976	ND	103	22-153			
m,p-Xylene	0.185	0.010	"	0.196	ND	94.2	10-159			
o-Xylene	0.101	0.0050	"	0.0965	ND	105	31-151			
Xylenes (total)	0.286	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	5.66	0.50	"		ND		30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0382		"	0.0394		97.1	23-173			
Surrogate: Toluene-d8	0.0398		"	0.0394		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0357		"	0.0394		90.6	21-167			

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/20/16 16:02

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 1610196 - EPA 5030 Soil MS

Matrix Spike Dup (1610196-MSD1)	Source: 1610139-01			Prepared & Analyzed: 10/19/16						
Benzene	0.0919	0.0020	mg/kg	0.0996	ND	92.3	30-131	1.76	34	
Toluene	0.0930	0.0050	"	0.0996	ND	93.4	30-134	3.30	30	
Ethylbenzene	0.0991	0.0050	"	0.0988	ND	100	22-153	1.78	24	
m,p-Xylene	0.177	0.010	"	0.199	ND	89.2	10-159	4.29	68	
o-Xylene	0.0979	0.0050	"	0.0976	ND	100	31-151	3.40	38	
Xylenes (total)	0.275	0.0050	"		ND		30-150	3.97	20	
Gasoline Range Hydrocarbons	5.05	0.50	"		ND		30-150	11.5	20	
Surrogate: 1,2-Dichloroethane-d4	0.0400		"	0.0398		100	23-173			
Surrogate: Toluene-d8	0.0402		"	0.0398		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0372		"	0.0398		93.5	21-167			

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/20/16 16:02

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

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

Batch 1610201 - General Preparation

Blank (1610201-BLK1)

Prepared & Analyzed: 10/19/16

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

LCS (1610201-BS1)

Prepared & Analyzed: 10/19/16

Calcium	601	10.0	mg/kg wet	82.9-118
Magnesium	582	5.00	"	77.1-123
Sodium	587	5.00	"	71-129

Duplicate (1610201-DUP1)

Source: 1610139-01

Prepared & Analyzed: 10/19/16

Calcium	1690	13.6	mg/kg dry	1800	6.21	200
Magnesium	323	6.82	"	337	3.96	200
Sodium	2280	6.82	"	2160	5.49	200

Matrix Spike (1610201-MS1)

Source: 1610139-01

Prepared & Analyzed: 10/19/16

Calcium	2460	13.6	mg/kg dry	1800	75-125
Magnesium	1130	6.82	"	337	75-125
Sodium	3030	6.82	"	2160	75-125

Matrix Spike Dup (1610201-MSD1)

Source: 1610139-01

Prepared & Analyzed: 10/19/16

Calcium	2720	13.6	mg/kg dry	1800	75-125	9.84	25
Magnesium	1140	6.82	"	337	75-125	1.28	25
Sodium	3020	6.82	"	2160	75-125	0.305	25

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/20/16 16:02

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 1610200 - General Preparation

LCS (1610200-BS1)				Prepared & Analyzed: 10/19/16							
pH	8.01	0.100	pH Units	8.00	100	95-105					
Duplicate (1610200-DUP1)				Source: 1610139-01		Prepared & Analyzed: 10/19/16					
pH	7.77	0.100	pH Units	7.73				0.516	20		

Batch 1610202 - General Preparation

Duplicate (1610202-DUP1)				Source: 1610146-01		Prepared & Analyzed: 10/19/16					
% Solids	85.7		%	85.5				0.234	20		

Batch 1610203 - General Preparation

Blank (1610203-BLK1)				Prepared & Analyzed: 10/19/16							
Specific Conductance (EC)	ND	0.0100	mmhos/cm								
LCS (1610203-BS1)				Prepared & Analyzed: 10/19/16							
Specific Conductance (EC)	0.512	0.0100	mmhos/cm	0.500	102	90-110					
Duplicate (1610203-DUP1)				Source: 1610124-01		Prepared & Analyzed: 10/19/16					
Specific Conductance (EC)	1.58	0.0100	mmhos/cm	1.58				0.538	20		

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/20/16 16:02

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

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 21, 2016

Colby Sterling
Talon/LPE
1811 E Mulberry
Ft Collins, CO 80524
RE: Razor 30K

Enclosed are the results of analyses for samples received by Summit Scientific on 10/19/16 16:55. 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 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW-6 @6'	1610150-01	Soil	10/19/16 12:10	10/19/16 16:55
SW-7 @6'	1610150-02	Soil	10/19/16 12:12	10/19/16 16:55
SW-8 @6'	1610150-03	Soil	10/19/16 12:14	10/19/16 16:55
SW-9 @6'	1610150-04	Soil	10/19/16 12:16	10/19/16 16:55
BH-1 @ 9'	1610150-05	Soil	10/19/16 12:18	10/19/16 16:55

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

Sample Receipt Checklist

S2 Work Order: 1610150

Client: Talon Client Project ID: Razor 30K

Shipped Via: H.D. on ice Airbill #: _____
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

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

Cooler ID					
Temp (°C)	<u>23.6</u>				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C ⁽¹⁾ ?				
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.			✓	
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
If custody seals are present, are they intact ⁽¹⁾ ?			✓	
Are short holding time analytes or samples with HTs 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.				

Nuri P.
Custodian Printed Name

NA 10-19-16
Signature or Initials of Custodian

17:35
Date/Time



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

SW-6 @6'
1610150-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 10/19/16 12:10									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610211	10/20/16	10/20/16	8015M	

Date Sampled: 10/19/16 12:10									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		95.9 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 10/19/16 12:10									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610214	10/20/16	10/20/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 10/19/16 12:10									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

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

Date Sampled: 10/19/16 12:10									
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	5280	11.8	mg/kg dry	1	1610212	10/20/16	10/20/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	961	5.89	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

SW-6 @6'
1610150-01 (Soil)

Summit Scientific

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

Sodium	1230	5.89 mg/kg dry	1	1610212	10/20/16	10/20/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	4.09	units	"	1610226	10/20/16	10/20/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/19/16 12:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	2.83	0.0100	mmhos/cm	1	1610210	10/20/16	10/20/16	SM 2510B	
% Solids	84.9		%	"	1610215	10/20/16	10/20/16	% calculation	
pH	8.45	0.100	pH Units	"	1610209	10/20/16	10/20/16	EPA 9045	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

SW-7 @6'
1610150-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/19/16 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	260	50	mg/kg	1	1610211	10/20/16	10/20/16	8015M	

Date Sampled: **10/19/16 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		99.0 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/19/16 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610214	10/20/16	10/21/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.0077	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	9.2	0.50	"	"	"	"	"	"	

Date Sampled: **10/19/16 12:12**

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>		101 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.7 %	21-167		"	"	"	"	

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

Date Sampled: **10/19/16 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1660	13.1	mg/kg dry	1	1610212	10/20/16	10/20/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	187	6.53	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

SW-7 @6'
1610150-02 (Soil)

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

Sodium	1420	6.53 mg/kg dry	1	1610212	10/20/16	10/20/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	8.81	units	"	1610226	10/20/16	10/20/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/19/16 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.11	0.100	pH Units	1	1610209	10/20/16	10/20/16	EPA 9045	
% Solids	76.6		%	"	1610215	10/20/16	10/20/16	% calculation	
Specific Conductance (EC)	3.88	0.0100	mmhos/cm	"	1610210	10/20/16	10/20/16	SM 2510B	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

SW-8 @6'
1610150-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/19/16 12:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610211	10/20/16	10/20/16	8015M	

Date Sampled: **10/19/16 12:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		96.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/19/16 12:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610214	10/20/16	10/21/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/19/16 12:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

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

Date Sampled: **10/19/16 12:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	4790	12.4	mg/kg dry	1	1610212	10/20/16	10/20/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	771	6.20	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

SW-8 @6'
1610150-03 (Soil)

Summit Scientific

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

Sodium	760	6.20	mg/kg dry	1	1610212	10/20/16	10/20/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	2.69		units	"	1610226	10/20/16	10/20/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/19/16 12:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.90	0.0100	mmhos/cm	1	1610210	10/20/16	10/20/16	SM 2510B	
% Solids	80.7		%	"	1610215	10/20/16	10/20/16	% calculation	
pH	8.44	0.100	pH Units	"	1610209	10/20/16	10/20/16	EPA 9045	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

SW-9 @6'
1610150-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/19/16 12:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610211	10/20/16	10/20/16	8015M	

Date Sampled: **10/19/16 12:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.6 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/19/16 12:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610214	10/20/16	10/21/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/19/16 12:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

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

Date Sampled: **10/19/16 12:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	3350	11.3	mg/kg dry	1	1610212	10/20/16	10/20/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	583	5.66	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

SW-9 @6'
1610150-04 (Soil)

Summit Scientific

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

Sodium	1550	5.66 mg/kg dry	1	1610212	10/20/16	10/20/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	6.50	units	"	1610226	10/20/16	10/20/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/19/16 12:16**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.61	0.100	pH Units	1	1610209	10/20/16	10/20/16	EPA 9045	
% Solids	88.3		%	"	1610215	10/20/16	10/20/16	% calculation	
Specific Conductance (EC)	4.22	0.0100	mmhos/cm	"	1610210	10/20/16	10/20/16	SM 2510B	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

BH-1 @ 9'
1610150-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/19/16 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610211	10/20/16	10/20/16	8015M	

Date Sampled: **10/19/16 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		95.4 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/19/16 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610214	10/20/16	10/21/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/19/16 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

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

Date Sampled: **10/19/16 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	3740	11.8	mg/kg dry	1	1610212	10/20/16	10/20/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	658	5.91	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

BH-1 @ 9'
1610150-05 (Soil)

Summit Scientific

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

Sodium	1240	5.91	mg/kg dry	1	1610212	10/20/16	10/20/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	4.92		units	"	1610226	10/20/16	10/20/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/19/16 12:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.6		%	1	1610215	10/20/16	10/20/16	% calculation	
Specific Conductance (EC)	2.39	0.0100	mmhos/cm	"	1610210	10/20/16	10/20/16	SM 2510B	
pH	8.58	0.100	pH Units	"	1610209	10/20/16	10/20/16	EPA 9045	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

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 1610211 - EPA 3550A

Blank (1610211-BLK1)

Prepared & Analyzed: 10/20/16

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 12.0 " 12.5 95.8 30-150

LCS (1610211-BS1)

Prepared & Analyzed: 10/20/16

C10-C28 (DRO) 453 50 mg/kg 499 90.9 73-134

Surrogate: o-Terphenyl 12.6 " 12.5 101 30-150

Matrix Spike (1610211-MS1)

Source: 1610150-01

Prepared & Analyzed: 10/20/16

C10-C28 (DRO) 504 50 mg/kg 497 46.8 92.0 50-148

Surrogate: o-Terphenyl 12.2 " 12.5 97.7 30-150

Matrix Spike Dup (1610211-MSD1)

Source: 1610150-01

Prepared & Analyzed: 10/20/16

C10-C28 (DRO) 524 50 mg/kg 498 46.8 95.8 50-148 3.89 20

Surrogate: o-Terphenyl 12.2 " 12.5 97.9 30-150

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

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 1610214 - EPA 5030 Soil MS

Blank (1610214-BLK1)

Prepared & Analyzed: 10/20/16

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	0.0438		"	0.0400		109	23-173			
Surrogate: Toluene-d8	0.0388		"	0.0400		97.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0418		"	0.0400		105	21-167			

LCS (1610214-BS1)

Prepared & Analyzed: 10/20/16

Benzene	0.0750	0.0020	mg/kg	0.100		75.0	58-130			
Toluene	0.0802	0.0050	"	0.100		80.2	61-134			
Ethylbenzene	0.0660	0.0050	"	0.0992		66.6	50-139			
m,p-Xylene	0.119	0.010	"	0.200		59.5	50-137			
o-Xylene	0.0619	0.0050	"	0.0980		63.2	50-141			
Xylenes (total)	0.181	0.0050	"				30-150			
Gasoline Range Hydrocarbons	1.23	0.50	"				30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0363		"	0.0400		90.7	23-173			
Surrogate: Toluene-d8	0.0514		"	0.0400		129	20-170			
Surrogate: 4-Bromofluorobenzene	0.0431		"	0.0400		108	21-167			

Matrix Spike (1610214-MS1)

Source: 1610154-01

Prepared & Analyzed: 10/20/16

Benzene	0.0881	0.0020	mg/kg	0.0996	ND	88.5	30-131			
Toluene	0.0915	0.0050	"	0.0996	ND	91.8	30-134			
Ethylbenzene	0.0851	0.0050	"	0.0988	ND	86.1	22-153			
m,p-Xylene	0.152	0.010	"	0.199	ND	76.2	10-159			
o-Xylene	0.0792	0.0050	"	0.0976	ND	81.2	31-151			
Xylenes (total)	0.231	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	1.62	0.50	"		ND		30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0407		"	0.0398		102	23-173			
Surrogate: Toluene-d8	0.0455		"	0.0398		114	20-170			
Surrogate: 4-Bromofluorobenzene	0.0416		"	0.0398		104	21-167			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

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 1610214 - EPA 5030 Soil MS

Matrix Spike Dup (1610214-MSD1)		Source: 1610154-01			Prepared & Analyzed: 10/20/16					
Benzene	0.0996	0.0020	mg/kg	0.0990	ND	101	30-131	12.2	34	
Toluene	0.107	0.0050	"	0.0990	ND	108	30-134	15.8	30	
Ethylbenzene	0.108	0.0050	"	0.0982	ND	110	22-153	24.1	24	QM-07
m,p-Xylene	0.195	0.010	"	0.198	ND	98.6	10-159	24.9	68	
o-Xylene	0.103	0.0050	"	0.0970	ND	106	31-151	25.7	38	
Xylenes (total)	0.297	0.0050	"		ND		30-150	25.2	20	QM-07
Gasoline Range Hydrocarbons	2.16	0.50	"		ND		30-150	28.4	20	QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0405		"	0.0396		102	23-173			
Surrogate: Toluene-d8	0.0422		"	0.0396		107	20-170			
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0396		101	21-167			

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

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

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

Batch 1610212 - General Preparation

Blank (1610212-BLK1)

Prepared & Analyzed: 10/20/16

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

LCS (1610212-BS1)

Prepared & Analyzed: 10/20/16

Calcium	510	10.0	mg/kg wet	500	102	82.9-118
Magnesium	503	5.00	"	500	101	77.1-123
Sodium	496	5.00	"	500	99.2	71-129

Duplicate (1610212-DUP1)

Source: 1610150-01

Prepared & Analyzed: 10/20/16

Calcium	5870	11.8	mg/kg dry	5280	10.7	200
Magnesium	999	5.89	"	961	3.80	200
Sodium	1300	5.89	"	1230	5.60	200

Matrix Spike (1610212-MS1)

Source: 1610150-01

Prepared & Analyzed: 10/20/16

Calcium	5910	11.8	mg/kg dry	589	5280	107	75-125
Magnesium	1540	5.89	"	589	961	98.7	75-125
Sodium	1870	5.89	"	589	1230	108	75-125

Matrix Spike Dup (1610212-MSD1)

Source: 1610150-01

Prepared & Analyzed: 10/20/16

Calcium	5940	11.8	mg/kg dry	589	5280	112	75-125	0.494	25
Magnesium	1540	5.89	"	589	961	99.0	75-125	0.0995	25
Sodium	1880	5.89	"	589	1230	111	75-125	0.842	25

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 1610209 - General Preparation

LCS (1610209-BS1)

Prepared & Analyzed: 10/20/16

pH	8.01	0.100	pH Units	8.00	100	95-105
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Duplicate (1610209-DUP1)

Source: 1610150-01

Prepared & Analyzed: 10/20/16

pH	8.45	0.100	pH Units	8.45	0.00	20
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Batch 1610210 - General Preparation

Blank (1610210-BLK1)

Prepared & Analyzed: 10/20/16

Specific Conductance (EC)	ND	0.0100	mmhos/cm
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LCS (1610210-BS1)

Prepared & Analyzed: 10/20/16

Specific Conductance (EC)	0.511	0.0100	mmhos/cm	0.500	102	90-110
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Duplicate (1610210-DUP1)

Source: 1610150-01

Prepared & Analyzed: 10/20/16

Specific Conductance (EC)	2.84	0.0100	mmhos/cm	2.83	0.494	20
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Batch 1610215 - General Preparation

Duplicate (1610215-DUP1)

Source: 1610150-01

Prepared & Analyzed: 10/20/16

% Solids	84.2		%	84.9	0.828	20
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Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.069.01
Project Manager: Colby Sterling

Reported:
10/21/16 15:45

Notes and Definitions

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.

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

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

October 21, 2016

Colby Sterling
Talon/LPE
1811 E Mulberry
Ft Collins, CO 80524
RE: Razor 30K

Enclosed are the results of analyses for samples received by Summit Scientific on 10/20/16 17:45. 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 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW-10@3'	1610169-01	Soil	10/20/16 13:23	10/20/16 17:45
SW-11@3'	1610169-02	Soil	10/20/16 13:25	10/20/16 17:45
SW-12@3'	1610169-03	Soil	10/20/16 13:27	10/20/16 17:45
SW-13@3'	1610169-04	Soil	10/20/16 13:29	10/20/16 17:45
BH-3@4'	1610169-05	Soil	10/20/16 13:31	10/20/16 17:45
BH-4@4'	1610169-06	Soil	10/20/16 13:33	10/20/16 17:45

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

Summit Scientific 10/10/16

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

Page 1 of 1

Client: Talon/LPE - Bill Whiting Petroleum	Project Manager: Colby Sterling
Address: 1811 East Mulberry	E-Mail: csterling@talonlpe.com
City/State/Zip: Fort Collins, CO 80525	Project Name: Razor 30K
Phone: 970-818-5330 Fax:	Project Number: 701530.027.02
Sampler Name: Jennifer Galles / Jason Leverton	

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)	GRO/DRO	BTEX	EC	SAR	pH					
SW-10 @ 3'	10/20/2016	1323	1		x			x				x	x	x	x	x					
SW-11 @ 3'	10/20/2016	1325	1		x			x				x	x	x	x	x					
SW-12 @ 3"	10/20/2016	1327	1		x			x				x	x	x	x	x					
SW-13 @ 3'	10/20/2016	1329	1		x			x				x	x	x	x	x					
BH-3 @ 4'	10/20/2016	1331	1		x			x				x	x	x	x	x					
BH-4 @ 4'	10/20/2016	1333	1		x			x				x	x	x	x	x					
Relinquished by: 10/20/16 16:15 Date/Time:				Received by: 10/20/16 10:20 Date/Time:				Turn Around Time (Check)										Notes:			
Relinquished by: 10/20/16 14:10 Date/Time:				Received by: 10/20/16 10:20 Date/Time:				Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/>													
Relinquished by: 10/20/16 10:20 Date/Time:				Received by: 10/20/16 10:20 Date/Time:				24 Hours <input checked="" type="checkbox"/> Standard <input type="checkbox"/>													
Relinquished by: 10/20/16 10:20 Date/Time:				Received by: 10/20/16 10:20 Date/Time:				48 Hours <input type="checkbox"/>										Sample Integrity:			
								Temperature Upon Receipt: 14.8													
								Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>													

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

SW-10@3'
1610169-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/20/16 13:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610228	10/20/16	10/21/16	8015M	

Date Sampled: **10/20/16 13:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		92.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/20/16 13:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610227	10/20/16	10/20/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/20/16 13:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

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

Date Sampled: **10/20/16 13:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	7390	12.9	mg/kg dry	1	1610231	10/21/16	10/21/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	577	6.47	"	"	"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

SW-10@3'
1610169-01 (Soil)

Summit Scientific

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

Sodium	812	6.47 mg/kg dry	1	1610231	10/21/16	10/21/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	2.45	units	"	1610241	10/21/16	10/21/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/20/16 13:23**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	1.52	0.0100	mmhos/cm	1	1610233	10/21/16	10/21/16	SM 2510B	
% Solids	77.3		%	"	1610234	10/21/16	10/21/16	% calculation	
pH	8.47	0.100	pH Units	"	1610232	10/21/16	10/21/16	EPA 9045	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

SW-11@3'
1610169-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/20/16 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610228	10/20/16	10/21/16	8015M	

Date Sampled: **10/20/16 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		92.6 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/20/16 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610227	10/20/16	10/20/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/20/16 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		125 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		108 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

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

Date Sampled: **10/20/16 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	4700	12.5	mg/kg dry	1	1610231	10/21/16	10/21/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	489	6.27	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

SW-11@3'
1610169-02 (Soil)

Summit Scientific

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

Sodium	1990	6.27 mg/kg dry	1	1610231	10/21/16	10/21/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	7.38	units	"	1610241	10/21/16	10/21/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/20/16 13:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	79.7		%	1	1610234	10/21/16	10/21/16	% calculation	
pH	8.41	0.100	pH Units	"	1610232	10/21/16	10/21/16	EPA 9045	
Specific Conductance (EC)	3.81	0.0100	mmhos/cm	"	1610233	10/21/16	10/21/16	SM 2510B	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

SW-12@3'
1610169-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/20/16 13:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610228	10/20/16	10/21/16	8015M	

Date Sampled: **10/20/16 13:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		89.4 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/20/16 13:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610227	10/20/16	10/20/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	0.50	0.50	"	"	"	"	"	"	

Date Sampled: **10/20/16 13:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		124 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

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

Date Sampled: **10/20/16 13:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	5500	13.4	mg/kg dry	1	1610231	10/21/16	10/21/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	376	6.68	"	"	"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

SW-12@3'
1610169-03 (Soil)

Summit Scientific

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

Sodium	1010	6.68 mg/kg dry	1	1610231	10/21/16	10/21/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	3.56	units	"	1610241	10/21/16	10/21/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/20/16 13:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.87	0.100	pH Units	1	1610232	10/21/16	10/21/16	EPA 9045	
Specific Conductance (EC)	3.97	0.0100	mmhos/cm	"	1610233	10/21/16	10/21/16	SM 2510B	
% Solids	74.8		%	"	1610234	10/21/16	10/21/16	% calculation	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

SW-13@3'
1610169-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/20/16 13:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610228	10/20/16	10/21/16	8015M	

Date Sampled: **10/20/16 13:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		92.4 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/20/16 13:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610227	10/20/16	10/21/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/20/16 13:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		122 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

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

Date Sampled: **10/20/16 13:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	3820	12.7	mg/kg dry	1	1610231	10/21/16	10/21/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	455	6.33	"	"	"	"	"	"	

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

SW-13@3'
1610169-04 (Soil)

Summit Scientific

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

Sodium	730	6.33 mg/kg dry	1	1610231	10/21/16	10/21/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	2.97	units	"	1610241	10/21/16	10/21/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/20/16 13:29**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.38	0.100	pH Units	1	1610232	10/21/16	10/21/16	EPA 9045	
Specific Conductance (EC)	1.79	0.0100	mmhos/cm	"	1610233	10/21/16	10/21/16	SM 2510B	
% Solids	79.0		%	"	1610234	10/21/16	10/21/16	% calculation	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

BH-3@4'
1610169-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/20/16 13:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610228	10/20/16	10/21/16	8015M	

Date Sampled: **10/20/16 13:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		90.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/20/16 13:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610227	10/20/16	10/21/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/20/16 13:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		128 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	21-167		"	"	"	"	

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

Date Sampled: **10/20/16 13:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2260	13.5	mg/kg dry	1	1610231	10/21/16	10/21/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	267	6.77	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

BH-3@4'
1610169-05 (Soil)

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

Sodium	2390	6.77 mg/kg dry	1	1610231	10/21/16	10/21/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	12.7	units	"	1610241	10/21/16	10/21/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/20/16 13:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	73.9		%	1	1610234	10/21/16	10/21/16	% calculation	
pH	8.32	0.100	pH Units	"	1610232	10/21/16	10/21/16	EPA 9045	
Specific Conductance (EC)	4.85	0.0100	mmhos/cm	"	1610233	10/21/16	10/21/16	SM 2510B	

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1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

BH-4@4'
1610169-06 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/20/16 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1610228	10/20/16	10/21/16	8015M	

Date Sampled: **10/20/16 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.6 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/20/16 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1610227	10/20/16	10/21/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/20/16 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		124 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

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

Date Sampled: **10/20/16 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1780	13.2	mg/kg dry	1	1610231	10/21/16	10/21/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	260	6.60	"	"	"	"	"	"	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

BH-4@4'
1610169-06 (Soil)

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

Sodium	613	6.60 mg/kg dry	1	1610231	10/21/16	10/21/16	EPA 6020/Mod. USDA60 6(2, 3A)
Sodium Adsorption Ratio	3.59	units	"	1610241	10/21/16	10/21/16	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/20/16 13:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.20	0.0100	mmhos/cm	1	1610233	10/21/16	10/21/16	SM 2510B	
pH	8.68	0.100	pH Units	"	1610232	10/21/16	10/21/16	EPA 9045	
% Solids	75.8		%	"	1610234	10/21/16	10/21/16	% calculation	

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

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 1610228 - EPA 3550A

Blank (1610228-BLK1)

Prepared & Analyzed: 10/20/16

C10-C28 (DRO)	ND	50	mg/kg							
Surrogate: o-Terphenyl	11.6		"	12.5		93.1	30-150			

LCS (1610228-BS1)

Prepared & Analyzed: 10/20/16

C10-C28 (DRO)	424	50	mg/kg	499		85.0	73-134			
Surrogate: o-Terphenyl	14.4		"	12.5		115	30-150			

Matrix Spike (1610228-MS1)

Source: 1610166-02

Prepared & Analyzed: 10/20/16

C10-C28 (DRO)	439	50	mg/kg	499	18.2	84.4	50-148			
Surrogate: o-Terphenyl	13.9		"	12.5		111	30-150			

Matrix Spike Dup (1610228-MSD1)

Source: 1610166-02

Prepared & Analyzed: 10/20/16

C10-C28 (DRO)	434	50	mg/kg	499	18.2	83.4	50-148	1.17	20	
Surrogate: o-Terphenyl	13.6		"	12.5		109	30-150			

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

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 1610227 - EPA 5030 Soil MS

Blank (1610227-BLK1)

Prepared & Analyzed: 10/20/16

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	0.0435		"	0.0400		109	23-173			
Surrogate: Toluene-d8	0.0421		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	21-167			

LCS (1610227-BS1)

Prepared & Analyzed: 10/20/16

Benzene	0.0837	0.0020	mg/kg	0.100		83.7	58-130			
Toluene	0.0879	0.0050	"	0.100		87.9	61-134			
Ethylbenzene	0.109	0.0050	"	0.0992		109	74-139			
m,p-Xylene	0.196	0.010	"	0.200		98.0	73-137			
o-Xylene	0.101	0.0050	"	0.0980		103	73-141			
Xylenes (total)	0.296	0.0050	"				30-150			
Gasoline Range Hydrocarbons	2.96	0.50	"				30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0472		"	0.0400		118	23-173			
Surrogate: Toluene-d8	0.0410		"	0.0400		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0406		"	0.0400		102	21-167			

Matrix Spike (1610227-MS1)

Source: 1610166-02

Prepared & Analyzed: 10/20/16

Benzene	0.0854	0.0020	mg/kg	0.100	ND	85.4	30-131			
Toluene	0.0890	0.0050	"	0.100	ND	89.0	30-134			
Ethylbenzene	0.111	0.0050	"	0.0992	ND	112	22-153			
m,p-Xylene	0.199	0.010	"	0.200	ND	99.6	10-159			
o-Xylene	0.103	0.0050	"	0.0980	ND	105	31-151			
Xylenes (total)	0.302	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	3.24	0.50	"		0.351		30-150			
Surrogate: 1,2-Dichloroethane-d4	0.0490		"	0.0400		122	23-173			
Surrogate: Toluene-d8	0.0414		"	0.0400		104	20-170			
Surrogate: 4-Bromofluorobenzene	0.0422		"	0.0400		106	21-167			

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

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 1610227 - EPA 5030 Soil MS

Matrix Spike Dup (1610227-MSD1)		Source: 1610166-02			Prepared & Analyzed: 10/20/16					
Benzene	0.0859	0.0020	mg/kg	0.100	ND	85.9	30-131	0.560	34	
Toluene	0.0881	0.0050	"	0.100	ND	88.1	30-134	1.02	30	
Ethylbenzene	0.106	0.0050	"	0.0992	ND	107	22-153	4.41	24	
m,p-Xylene	0.191	0.010	"	0.200	ND	95.7	10-159	4.00	68	
o-Xylene	0.101	0.0050	"	0.0980	ND	103	31-151	2.24	38	
Xylenes (total)	0.292	0.0050	"		ND		30-150	3.40	20	
Gasoline Range Hydrocarbons	3.09	0.50	"		0.351		30-150	4.86	20	
Surrogate: 1,2-Dichloroethane-d4	0.0497		"	0.0400		124	23-173			
Surrogate: Toluene-d8	0.0413		"	0.0400		103	20-170			
Surrogate: 4-Bromofluorobenzene	0.0420		"	0.0400		105	21-167			

Summit Scientific

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

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

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

Batch 1610231 - General Preparation

Blank (1610231-BLK1)

Prepared & Analyzed: 10/21/16

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

LCS (1610231-BS1)

Prepared & Analyzed: 10/21/16

Calcium	530	10.0	mg/kg wet	500	106	82.9-118
Magnesium	496	5.00	"	500	99.1	77.1-123
Sodium	488	5.00	"	500	97.6	71-129

Duplicate (1610231-DUP1)

Source: 1610169-01

Prepared & Analyzed: 10/21/16

Calcium	6250	12.9	mg/kg dry	7390	16.7	200
Magnesium	541	6.47	"	577	6.34	200
Sodium	787	6.47	"	812	3.08	200

Matrix Spike (1610231-MS1)

Source: 1610169-01

Prepared & Analyzed: 10/21/16

Calcium	6750	12.9	mg/kg dry	647	7390	NR	75-125
Magnesium	1130	6.47	"	647	577	85.9	75-125
Sodium	1380	6.47	"	647	812	87.7	75-125

Matrix Spike Dup (1610231-MSD1)

Source: 1610169-01

Prepared & Analyzed: 10/21/16

Calcium	6130	12.9	mg/kg dry	647	7390	NR	75-125	9.55	25
Magnesium	1130	6.47	"	647	577	86.1	75-125	0.127	25
Sodium	1400	6.47	"	647	812	90.5	75-125	1.29	25

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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 1610232 - General Preparation

LCS (1610232-BS1) Prepared & Analyzed: 10/21/16

pH	8.01	0.100	pH Units	8.00	100	95-105
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Duplicate (1610232-DUP1) Source: 1610169-01 Prepared & Analyzed: 10/21/16

pH	8.58	0.100	pH Units	8.47	1.29	20
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Batch 1610233 - General Preparation

Blank (1610233-BLK1) Prepared & Analyzed: 10/21/16

Specific Conductance (EC)	ND	0.0100	mmhos/cm
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LCS (1610233-BS1) Prepared & Analyzed: 10/21/16

Specific Conductance (EC)	0.508	0.0100	mmhos/cm	0.500	102	90-110
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Duplicate (1610233-DUP1) Source: 1610169-01 Prepared & Analyzed: 10/21/16

Specific Conductance (EC)	1.46	0.0100	mmhos/cm	1.52	3.53	20
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Batch 1610234 - General Preparation

Duplicate (1610234-DUP1) Source: 1610171-01 Prepared & Analyzed: 10/21/16

% Solids	79.2		%	85.5	7.65	20
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Talon/LPE
1811 E Mulberry
Ft Collins CO, 80524

Project: Razor 30K
Project Number: 701530.027.02
Project Manager: Colby Sterling

Reported:
10/21/16 15:37

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