

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 23, 2020

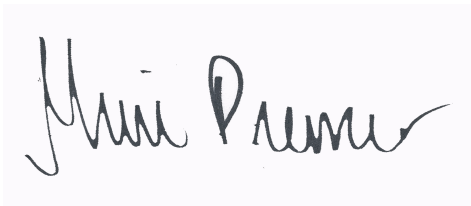
Brent Hedstrom  
Crestone Peak Resources  
2020 E. Grand Avenue, Suite 515  
Laramie, WY 82070

RE: Kats 42-34

Work Order #2011148

Enclosed are the results of analyses for samples received by Summit Scientific on 11/12/20 11:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premier", is displayed on a light purple rectangular background.

Muri Premier For Paul Shrewsbury  
President



Crestone Peak Resources  
2020 E. Grand Avenue, Suite 515  
Laramie WY, 82070

Project: Kats 42-34  
Project Number: [none]  
Project Manager: Brent Hedstrom

**Reported:**  
11/23/20 14:58

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Surface casing	2011148-01	Water	11/03/20 00:00	11/12/20 11:10

Summit Scientific

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# Summit Scientific

S<sub>2</sub>

2011148

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310

Page 1 of 1

Client: Crestone Peak Resources

Project Manager: Brent Hedstrom

Address: 10188 East I-25 Frontage road

E-Mail: [brent.hedstrom@crestonepr.com](mailto:brent.hedstrom@crestonepr.com)

City/State/Zip: Firestone, CO 80504

AFE 16192930.1 Code 9728 COGCC 322



Phone: 303-434-3007

Project Name: Kats 42-34

Sampler Name:

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO <sub>3</sub>	None	Other	Water	Soil	Air-Canister #	Other	Anion	Cations	TDS	BTEX 8020	DRO	GRO	RSK-175		
1	Surface casing	11/3/2020		9		X	X		X				X	X	X	X	X	X	X		
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check)	Notes:
	11/12/20 11:10		11-12-20 11:10	Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	48 hours <input type="checkbox"/>	Sample Integrity: Temperature Upon Receipt: <u>6.2</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No
Relinquished by:	Date/Time:	Received by:	Date/Time:		

2011148

## Sample Receipt Checklist

S2 Work Order \_\_\_\_\_

Client: Crestone Peak ResourcesClient Project ID: Kats 42-34Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: \_\_\_\_\_
☒ ☐ ☐ ☐ ☐
Matrix (check all that apply): ☐ Air ☐ Soil/Solid ☒ Water ☐ Other: \_\_\_\_\_  
(Describe)

Temp (°C)	6.2
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Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	On Ice
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact <sup>(1)</sup> ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	anions
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation <b>(excluding cooling)</b> <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , ect	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HNO <sub>3</sub>
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	add @ lab
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

MP

Custodian Printed Name or Initials

*Muri Premer*

Signature of Custodian

11/12/20

Date/Time



Crestone Peak Resources  
2020 E. Grand Avenue, Suite 515  
Laramie WY, 82070

Project: Kats 42-34

Project Number: [none]  
Project Manager: Brent Hedstrom

**Reported:**  
11/23/20 14:58

**Surface casing**  
**2011148-01 (Water)**

**Summit Scientific**

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

Date Sampled: **11/03/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>38</b>	1.0	ug/l	1	BDK0195	11/17/20	11/19/20	EPA 8260B	
<b>Toluene</b>	<b>7.4</b>	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>6.6</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>38</b>	2.0	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>820</b>	500	"	"	"	"	"	"	

Date Sampled: **11/03/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		94.4 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		102 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/03/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	5.0	mg/L	1	BDK0196	11/17/20	11/19/20	EPA 8015M	

Date Sampled: **11/03/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		101 %	58.9-148		"	"	"	"	

**Dissolved Gases by RSK-175**

Date Sampled: **11/03/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Methane</b>	<b>4.4</b>	1.0	mg/L	100	BDK0224	11/17/20	11/19/20	RSK-175 mod	
<b>Ethane</b>	<b>1.7</b>	0.10	"	10	"	"	"	"	
<b>Propane</b>	<b>4.0</b>	1.0	"	100	"	"	"	"	

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Project: Kats 42-34  
Project Number: [none]  
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**Reported:**  
11/23/20 14:58

**Surface casing**  
**2011148-01 (Water)**

**Summit Scientific**

**Dissolved Gases by RSK-175**

Date Sampled: **11/03/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Ethene		110 %	70-130		BDK0224	11/17/20	11/19/20	RSK-175 mod	

**Total Metals by EPA Method 200.8**

Date Sampled: **11/03/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	3620	500	ug/l	10	BDK0168	11/16/20	11/16/20	EPA 200.8	
Magnesium	182	50.0	"	1	"	"	"	"	
Potassium	1400	500	"	10	"	"	"	"	
Sodium	218000	500	"	"	"	"	"	"	

**Anions by EPA Method 300.0**

Date Sampled: **11/03/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	66.0	12.0	mg/L	200	BDK0156	11/16/20	11/16/20	EPA 300.0	
Sulfate	39.0	6.00	"	20	"	"	"	"	

**Total Dissolved Solids by SM2540C**

Date Sampled: **11/03/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	690	10.0	mg/L	1	BDK0160	11/13/20	11/13/20	SM2540C	I-03

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Project Number: [none]  
Project Manager: Brent Hedstrom

**Reported:**  
11/23/20 14:58

### 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 BDK0196 - EPA 3520B

##### Blank (BDK0196-BLK1)

Prepared: 11/17/20 Analyzed: 11/19/20

C10-C28 (DRO) ND 5.0 mg/L

##### LCS (BDK0196-BS1)

Prepared: 11/17/20 Analyzed: 11/19/20

C10-C28 (DRO) 49.0 5.0 mg/L 50.0 98.0 70-130

##### Matrix Spike (BDK0196-MS1)

Source: 2011148-01

Prepared: 11/17/20 Analyzed: 11/19/20

C10-C28 (DRO) 50.3 5.0 mg/L 50.0 4.26 92.0 70-130

##### Matrix Spike Dup (BDK0196-MSD1)

Source: 2011148-01

Prepared: 11/17/20 Analyzed: 11/19/20

C10-C28 (DRO) 49.0 5.0 mg/L 50.0 4.26 89.5 70-130 2.50 20

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Project: Kats 42-34  
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**Reported:**  
11/23/20 14:58

**Dissolved Gases by RSK-175 - Quality Control**  
**Summit Scientific**

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

**Batch BDK0224 - GC**

**Blank (BDK0224-BLK1)**

Prepared: 11/17/20 Analyzed: 11/19/20

Methane	ND	0.010	mg/L							
Ethane	ND	0.010	"							
Propane	ND	0.010	"							
Surrogate: Ethene	0.0397		"	0.0364		109	70-130			

**LCS (BDK0224-BS1)**

Prepared: 11/17/20 Analyzed: 11/19/20

Methane	0.033	0.010	mg/L	0.0428		77.4	70-130			
Ethane	0.077	0.010	"	0.0798		96.2	70-130			
Propane	0.12	0.010	"	0.139		83.5	70-130			
Surrogate: Ethene	0.0692		"	0.0728		95.1	70-130			

**Duplicate (BDK0224-DUP1)**

Source: 2011145-01

Prepared: 11/17/20 Analyzed: 11/19/20

Methane	3.5	1.0	mg/L		3.4			2.60	30	
Ethane	2.2	1.0	"		2.4			6.68	30	
Propane	2.0	1.0	"		2.0			0.603	30	
Surrogate: Ethene	0.0500		"	0.0364		137	70-130			S-06

**Matrix Spike (BDK0224-MS1)**

Source: 2011145-01

Prepared: 11/17/20 Analyzed: 11/19/20

Methane	4.3	1.0	mg/L	0.0428	3.4	NR	70-130			QM-02
Ethane	2.5	1.0	"	0.0798	2.4	198	70-130			QM-02
Propane	1.9	1.0	"	0.139	2.0	NR	70-130			QM-02
Surrogate: Ethene	0.0600		"	0.0728		82.4	70-130			

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11/23/20 14:58

**Total Metals by EPA Method 200.8 - Quality Control**  
**Summit Scientific**

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

**Batch BDK0168 - EPA 200.8**

**Blank (BDK0168-BLK1)**

Prepared & Analyzed: 11/16/20

Calcium	ND	50.0	ug/l
Magnesium	ND	50.0	"
Potassium	ND	50.0	"
Sodium	ND	50.0	"

**LCS (BDK0168-BS1)**

Prepared & Analyzed: 11/16/20

Calcium	5300	50.0	ug/l	5000	106	85-115
Magnesium	4470	50.0	"	5000	89.4	85-115
Potassium	4330	50.0	"	5000	86.5	85-115
Sodium	4260	50.0	"	5000	85.2	85-115

**Duplicate (BDK0168-DUP1)**

Source: 2011178-01

Prepared & Analyzed: 11/16/20

Calcium	6060	50.0	ug/l	6120	0.927	20	QM-02
Magnesium	12000	50.0	"	11700	2.35	20	
Potassium	4360	50.0	"	5230	18.2	20	
Sodium	255000	50.0	"	330000	25.8	20	

**Matrix Spike (BDK0168-MS1)**

Source: 2011178-01

Prepared & Analyzed: 11/16/20

Calcium	11600	50.0	ug/l	5000	6120	109	70-130	QM-02
Magnesium	15600	50.0	"	5000	11700	77.6	70-130	
Potassium	11300	50.0	"	5000	5230	122	70-130	
Sodium	214000	50.0	"	5000	330000	NR	70-130	

**Matrix Spike Dup (BDK0168-MSD1)**

Source: 2011178-01

Prepared & Analyzed: 11/16/20

Calcium	11500	50.0	ug/l	5000	6120	108	70-130	0.436	25	QM-02
Magnesium	16400	50.0	"	5000	11700	93.6	70-130	4.99	25	
Potassium	9810	50.0	"	5000	5230	91.6	70-130	14.4	25	
Sodium	254000	50.0	"	5000	330000	NR	70-130	17.1	25	

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**Anions by EPA Method 300.0 - Quality Control**  
**Summit Scientific**

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

**Batch BDK0156 - General Preparation**

**Blank (BDK0156-BLK1)**

Prepared & Analyzed: 11/16/20

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

**LCS (BDK0156-BS1)**

Prepared & Analyzed: 11/16/20

Chloride	2.97	0.0600	mg/L	3.00	99.0	90-110
Sulfate	15.8	0.300	"	15.0	105	90-110

**Duplicate (BDK0156-DUP1)**

Source: 2011144-01

Prepared & Analyzed: 11/16/20

Sulfate	38.2	60.0	mg/L	38.6	1.04	20
Chloride	13.4	12.0	"	14.6	8.57	20

**Matrix Spike (BDK0156-MS1)**

Source: 2011144-01

Prepared & Analyzed: 11/16/20

Chloride	569	12.0	mg/L	600	14.6	92.4	80-120
Sulfate	3060	60.0	"	3000	38.6	101	80-120

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Project: Kats 42-34

Project Number: [none]  
Project Manager: Brent Hedstrom

**Reported:**  
11/23/20 14:58

**Total Dissolved Solids by SM2540C - Quality Control**  
**Summit Scientific**

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

**Batch BDK0160 - General Preparation**

**Blank (BDK0160-BLK1)**

Prepared & Analyzed: 11/13/20

Total Dissolved Solids ND 10.0 mg/L

**Duplicate (BDK0160-DUP1)**

Source: 2011144-01

Prepared & Analyzed: 11/13/20

Total Dissolved Solids 1440 10.0 mg/L 1440 0.0696 20

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Project: Kats 42-34

Project Number: [none]  
Project Manager: Brent Hedstrom

**Reported:**  
11/23/20 14:58

### Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interferences.
QM-02	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
I-03	This sample was recieved and analyzed outside of the recommended holding time.
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