

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403


303.277.9310

January 25, 2021

Brent Hedstrom
Crestone Peak Resources
2020 E. Grand Avenue, Suite 515
Laramie, WY 82070
RE: Bickler 24-34
Work Order #2101135

Enclosed are the results of analyses for samples received by Summit Scientific on 01/14/21 14:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large initial "M" and a long, sweeping underline.

Muri Premer For Paul Shrewsbury
President



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

Project: Bickler 24-34

Project Number: [none]

Project Manager: Brent Hedstrom

Reported:
01/25/21 16:31

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Surface Casing	2101135-01	Water	12/17/20 00:00	01/14/21 14:00

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2101135

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

City/State/Zip: Firestone, CO 80504

Phone: 303-434-3007

Project Name: Bickler 24-34

Sampler Name:

Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Anion	Cations	TDS	BTEX 8020	DRO	GRO	RSK-175		
1	Surface casing	#####		8					X					X	X	X	X	X	X	X	COGCC 293762
2		12-17-20																			LOE/AFE 16192851.1 9728
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
Relinquished by:		Date/Time:		Received by:		Date/Time:		Turn Around Time (Check)							Notes:						
<i>Bb</i>		1-14-21 / 1400		<i>MD</i>		1-14-21 14:00		Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/>													
								24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>													
								48 hours <input type="checkbox"/>													
Relinquished by:		Date/Time:		Received by:		Date/Time:		Sample Integrity:													
								Temperature Upon Receipt: 37													
								Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No													

Sample Receipt Checklist

S2 Work Order 2101135

Client: Crestone Peak Resources Client Project ID: Bickler 24-34

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other _____ Airbill #: _____

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

Temp (°C)	3.7
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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 ⁽¹⁾ ? 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 ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<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 ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	HNO3
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

Samples must be acid preserved by Summit at extraction

⁽¹⁾ 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

1/14/21
Date/Time



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

Project: Bickler 24-34
Project Number: [none]
Project Manager: Brent Hedstrom

Reported:
01/25/21 16:31

Surface Casing
2101135-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

I-02

Date Sampled: **12/17/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	42	1.0	ug/l	1	BEA0155	01/15/21	01/15/21	EPA 8260B	
Toluene	79	1.0	"	"	"	"	"	"	
Ethylbenzene	12	1.0	"	"	"	"	"	"	
Xylenes (total)	110	2.0	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1000	500	"	"	"	"	"	"	

Date Sampled: **12/17/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	117 %	23-173	"	"	"	"	"	"	
Surrogate: Toluene-d8	103 %	20-170	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	100 %	21-167	"	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/17/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	5.0	mg/L	1	BEA0178	01/18/21	01/19/21	EPA 8015M	

Date Sampled: **12/17/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	120 %	58.9-148	"	"	"	"	"	"	

Dissolved Gases by RSK-175

Date Sampled: **12/17/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methane	4.6	1.0	mg/L	100	BEA0162	01/15/21	01/19/21	RSK-175 mod	I-02
Ethane	0.14	0.10	"	10	"	"	"	"	I-02
Propane	0.15	0.10	"	"	"	"	"	"	I-02

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Project Manager: Brent Hedstrom

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**Surface Casing
2101135-01 (Water)**

Summit Scientific

Dissolved Gases by RSK-175

Date Sampled: **12/17/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: Ethene		115 %	70-130		BEA0162	01/15/21	01/19/21	RSK-175 mod	I-02

Total Metals by EPA Method 200.8

Date Sampled: **12/17/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	10600	500	ug/l	10	BEA0186	01/19/21	01/19/21	EPA 200.8	
Magnesium	2030	500	"	"	"	"	"	"	
Potassium	7280	500	"	"	"	"	"	"	
Sodium	707000	500	"	"	"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **12/17/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chloride	372	6.00	mg/L	100	BEA0172	01/18/21	01/19/21	EPA 300.0	I-03
Sulfate	ND	30.0	"	"	"	"	"	"	I-03

Total Dissolved Solids by SM2540C

Date Sampled: **12/17/20 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Total Dissolved Solids	1270	10.0	mg/L	1	BEA0152	01/15/21	01/15/21	SM2540C	I-03

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Project: Bickler 24-34

Project Number: [none]
Project Manager: Brent Hedstrom

Reported:
01/25/21 16:31

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEA0155 - EPA 5030 Water MS

Blank (BEA0155-BLK1)

Prepared & Analyzed: 01/15/21

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Gasoline Range Hydrocarbons	ND	500	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.9		"	13.3		104	23-173			
<i>Surrogate: Toluene-d8</i>	13.4		"	13.3		101	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	13.2		"	13.3		98.9	21-167			

LCS (BEA0155-BS1)

Prepared & Analyzed: 01/15/21

Benzene	26.6	1.0	ug/l	33.3		79.8	70-130			
Toluene	32.4	1.0	"	33.3		97.4	70-130			
Ethylbenzene	35.5	1.0	"	33.3		107	70-130			
m,p-Xylene	70.8	2.0	"	66.7		106	70-130			
o-Xylene	35.7	1.0	"	33.3		107	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.6		"	13.3		102	23-173			
<i>Surrogate: Toluene-d8</i>	13.8		"	13.3		103	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	13.4		"	13.3		100	21-167			

Matrix Spike (BEA0155-MS1)

Source: 2101123-01

Prepared & Analyzed: 01/15/21

Benzene	26.9	1.0	ug/l	33.3	ND	80.6	70-130			
Toluene	32.1	1.0	"	33.3	ND	96.4	70-130			
Ethylbenzene	35.0	1.0	"	33.3	ND	105	70-130			
m,p-Xylene	69.8	2.0	"	66.7	ND	105	70-130			
o-Xylene	35.0	1.0	"	33.3	ND	105	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	13.6		"	13.3		102	23-173			
<i>Surrogate: Toluene-d8</i>	13.6		"	13.3		102	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	13.1		"	13.3		98.4	21-167			

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 Project Manager: Brent Hedstrom

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 01/25/21 16:31

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEA0155 - EPA 5030 Water MS

Matrix Spike Dup (BEA0155-MSD1)	Source: 2101123-01			Prepared & Analyzed: 01/15/21						
Benzene	27.1	1.0	ug/l	33.3	ND	81.3	70-130	0.889	30	
Toluene	32.3	1.0	"	33.3	ND	97.0	70-130	0.651	30	
Ethylbenzene	35.6	1.0	"	33.3	ND	107	70-130	1.67	30	
m,p-Xylene	70.9	2.0	"	66.7	ND	106	70-130	1.65	30	
o-Xylene	36.1	1.0	"	33.3	ND	108	70-130	2.90	30	
Surrogate: 1,2-Dichloroethane-d4	13.9		"	13.3		104	23-173			
Surrogate: Toluene-d8	13.6		"	13.3		102	20-170			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		100	21-167			

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Project Number: [none]
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Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEA0178 - EPA 3520B

Blank (BEA0178-BLK1)

Prepared: 01/18/21 Analyzed: 01/19/21

C10-C28 (DRO) ND 5.0 mg/L

LCS (BEA0178-BS1)

Prepared: 01/18/21 Analyzed: 01/19/21

C10-C28 (DRO) 64.5 5.0 mg/L 50.0 129 70-130

Matrix Spike (BEA0178-MS1)

Source: 2101133-01

Prepared: 01/18/21 Analyzed: 01/19/21

C10-C28 (DRO) 50.8 5.0 mg/L 50.0 8.36 85.0 70-130

Matrix Spike Dup (BEA0178-MSD1)

Source: 2101133-01

Prepared: 01/18/21 Analyzed: 01/19/21

C10-C28 (DRO) 51.9 5.0 mg/L 50.0 8.36 87.0 70-130 2.02 20

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Project: Bickler 24-34

Project Number: [none]
Project Manager: Brent Hedstrom

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Dissolved Gases by RSK-175 - Quality Control
Summit Scientific

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

Batch BEA0162 - GC

Blank (BEA0162-BLK1)

Prepared: 01/15/21 Analyzed: 01/18/21

Methane	ND	0.010	mg/L							
Ethane	ND	0.010	"							
Propane	ND	0.010	"							
<i>Surrogate: Ethene</i>	<i>0.0336</i>		<i>"</i>	<i>0.0364</i>		<i>92.3</i>	<i>70-130</i>			

LCS (BEA0162-BS1)

Prepared: 01/15/21 Analyzed: 01/18/21

Methane	0.035	0.010	mg/L	0.0428		82.5	70-130			
Ethane	0.069	0.010	"	0.0798		86.7	70-130			
Propane	0.10	0.010	"	0.139		75.3	70-130			
<i>Surrogate: Ethene</i>	<i>0.0637</i>		<i>"</i>	<i>0.0728</i>		<i>87.5</i>	<i>70-130</i>			

LCS Dup (BEA0162-BSD1)

Prepared: 01/15/21 Analyzed: 01/18/21

Methane	0.039	0.010	mg/L	0.0428		91.0	70-130	9.70	200	
Ethane	0.081	0.010	"	0.0798		102	70-130	15.8	200	
Propane	0.12	0.010	"	0.139		87.1	70-130	14.5	200	
<i>Surrogate: Ethene</i>	<i>0.0762</i>		<i>"</i>	<i>0.0728</i>		<i>105</i>	<i>70-130</i>			

Duplicate (BEA0162-DUP1)

Source: 2101094-01

Prepared: 01/15/21 Analyzed: 01/18/21

Methane	3.1	1.0	mg/L		3.1			0.325	30	
Ethane	ND	0.010	"		ND				30	
Propane	ND	0.010	"		ND				30	
<i>Surrogate: Ethene</i>	<i>0.0410</i>		<i>"</i>	<i>0.0364</i>		<i>113</i>	<i>70-130</i>			

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Project: Bickler 24-34

Project Number: [none]
Project Manager: Brent Hedstrom

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01/25/21 16:31

Total Metals by EPA Method 200.8 - Quality Control
Summit Scientific

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

Batch BEA0186 - EPA 200.8

Blank (BEA0186-BLK1)

Prepared & Analyzed: 01/19/21

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

LCS (BEA0186-BS1)

Prepared & Analyzed: 01/19/21

Calcium	4650	50.0	ug/l	5000		92.9	85-115		
Magnesium	5030	50.0	"	5000		101	85-115		
Potassium	4780	50.0	"	5000		95.6	85-115		
Sodium	4820	50.0	"	5000		96.4	85-115		

Duplicate (BEA0186-DUP1)

Source: 2101167-01

Prepared & Analyzed: 01/19/21

Calcium	264000	50.0	ug/l		287000			8.28	20
Magnesium	61400	50.0	"		60500			1.53	20
Potassium	33300	50.0	"		32700			1.85	20
Sodium	391000	50.0	"		382000			2.34	20

Matrix Spike (BEA0186-MS1)

Source: 2101167-01

Prepared & Analyzed: 01/19/21

Calcium	292000	50.0	ug/l	5000	287000	89.6	70-130		
Magnesium	66300	50.0	"	5000	60500	117	70-130		
Potassium	39200	50.0	"	5000	32700	129	70-130		
Sodium	388000	50.0	"	5000	382000	107	70-130		

Matrix Spike Dup (BEA0186-MSD1)

Source: 2101167-01

Prepared & Analyzed: 01/19/21

Calcium	292000	50.0	ug/l	5000	287000	99.6	70-130	0.170	25
Magnesium	65600	50.0	"	5000	60500	104	70-130	0.965	25
Potassium	37300	50.0	"	5000	32700	91.4	70-130	4.96	25
Sodium	388000	50.0	"	5000	382000	117	70-130	0.134	25

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Anions by EPA Method 300.0 - Quality Control
Summit Scientific

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

Batch BEA0172 - General Preparation

Blank (BEA0172-BLK1)

Prepared & Analyzed: 01/18/21

Sulfate	ND	0.300	mg/L							
Chloride	ND	0.0600	"							

LCS (BEA0172-BS1)

Prepared & Analyzed: 01/18/21

Chloride	2.97	0.0600	mg/L	3.00	99.1	90-110				
Sulfate	15.7	0.300	"	15.0	105	90-110				

Duplicate (BEA0172-DUP1)

Source: 2101131-01

Prepared & Analyzed: 01/18/21

Sulfate	94.3	30.0	mg/L		188		66.4	20		
Chloride	2290	6.00	"		1390		49.0	20		QM-02

Matrix Spike (BEA0172-MS1)

Source: 2101131-01

Prepared & Analyzed: 01/18/21

Sulfate	1600	30.0	mg/L	1500	188	94.2	80-120			
Chloride	3590	6.00	"	300	1390	735	80-120			QM-02

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Project: Bickler 24-34

Project Number: [none]
 Project Manager: Brent Hedstrom

Reported:
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Total Dissolved Solids by SM2540C - Quality Control
Summit Scientific

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

Batch BEA0152 - General Preparation

Blank (BEA0152-BLK1)

Prepared & Analyzed: 01/15/21

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BEA0152-DUP1)

Source: 2101131-01

Prepared & Analyzed: 01/15/21

Total Dissolved Solids 2890 10.0 mg/L 2900 0.656 20

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Project: Bickler 24-34

Project Number: [none]
Project Manager: Brent Hedstrom

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Notes and Definitions

- 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.
- I-02 This sample was 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