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# **Crestone Peak Resources, LP Lab Report**

Test/Iteration 8812-2  
BJCem PL100.6.XC

10/8/2018



**Lab Report**

Crestone Peak Resources, LP  
10188 E I25 Frontage Rd | Firestone, CO 80504  
10/8/2018

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Dear Crestone Peak Resources, LP,

Thank you for the opportunity to submit a lab report for cementing services on the attached wellbore. BJ Services' priority is providing premium customer service while operating in a safe, efficient manner. If you have any questions regarding the proposal or services offered, please contact BJ Services at any time.

Sincerely,

**Aimee Sankovich**

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## 1 General Lab Test Information

Date:	<b>10/8/2018</b>
Well Name:	<b>Melbon Ranch 4E-17H-M265</b>
Well API #:	<b>05-123-47749</b>
Fluid Type:	<b>Plug</b>
Job Type:	<b>Kickoff Plug</b>
Test Type	<b>Pilot</b>
TMD:	<b>8450 ft</b>
TVD:	<b>7081 ft</b>
BHCT:	<b>195 °F</b>
BHST:	<b>230 °F</b>
Temperature Gradient:	<b>2.15 °F/100ft</b>
Surface Temperature:	<b>80 °F</b>
Density:	<b>17.00 lb/gal</b>
Yield:	<b>0.99 ft<sup>3</sup>/sk</b>
Water Requirement:	<b>3.75 gal/sk</b>
Sack Weight:	<b>94.00 lbs</b>
Fluid SG:	<b>2.04</b>
Service District:	<b>Cheyenne</b>

## 2 Material Weigh-up Information

No	Material	Function	Type	Form	Concen.	Uom	SG	Weight (g)	Volume (mL)	Lot
1	Class G	Cement	Base	Dry	100.00	%	3.14	913.00	290.76	
2	CD-31	Dispersant	Additive	Dry	0.50	%BWOB	1.30	4.57	3.51	0811217-01
3	SR-20	Retarder	Additive	Dry	0.40	%BWOB	1.42	3.65	2.57	060718-03
	Water	-	-	-	-	-	1.00	303.15	303.15	
								<b>1224.37</b>	<b>600.00</b>	

Density: **17.00 lb/gal** Yield: **0.99 ft<sup>3</sup>/sk** SG: **2.04** Water Req.: **3.75 gal/sk** Water Src: **Tap** Water SG: **1.00**

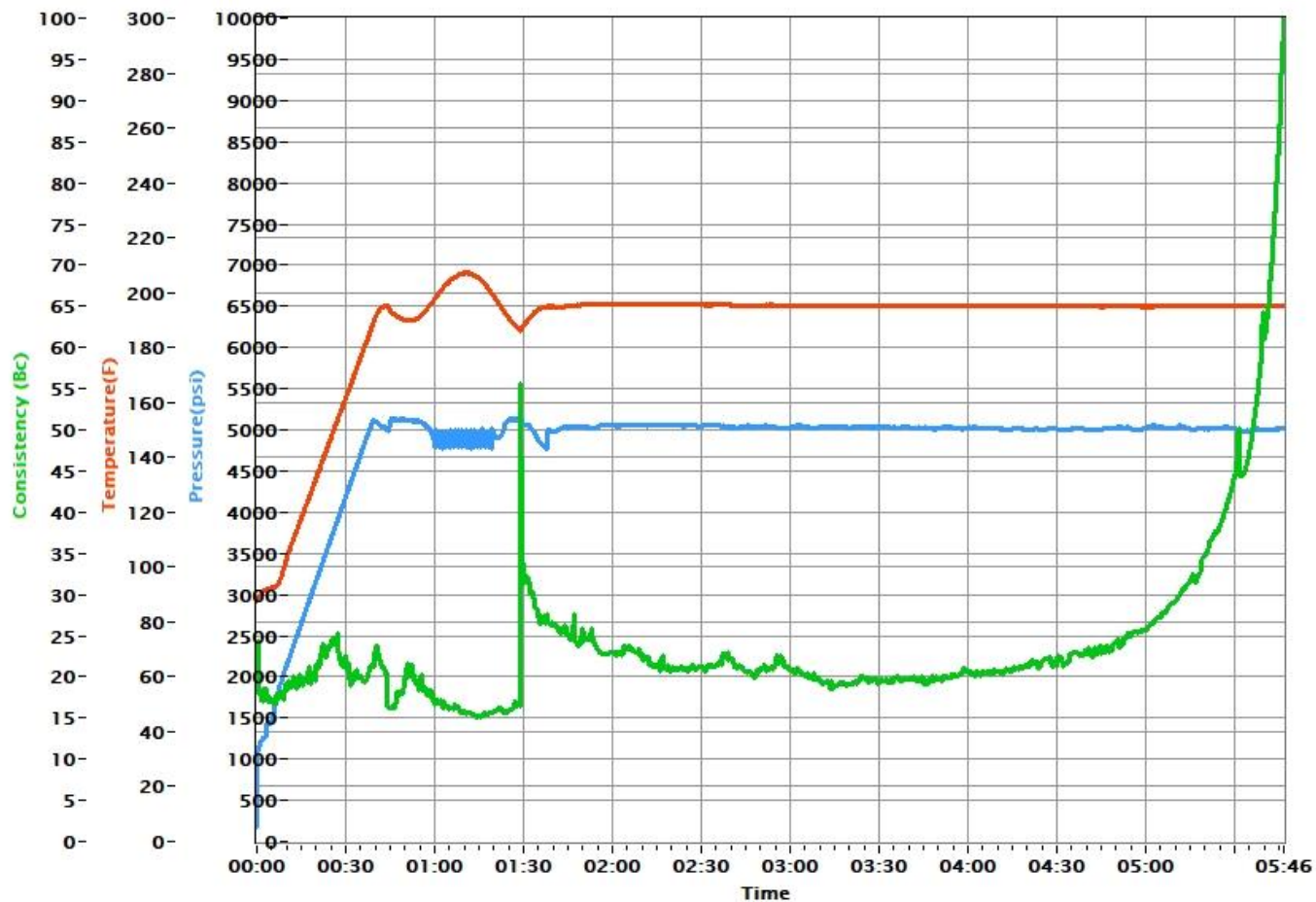
### 3 Test Analysis/Results

#### Mixability Analysis

	#1
Vortex:	Nickle Size @ 12,000 RPM

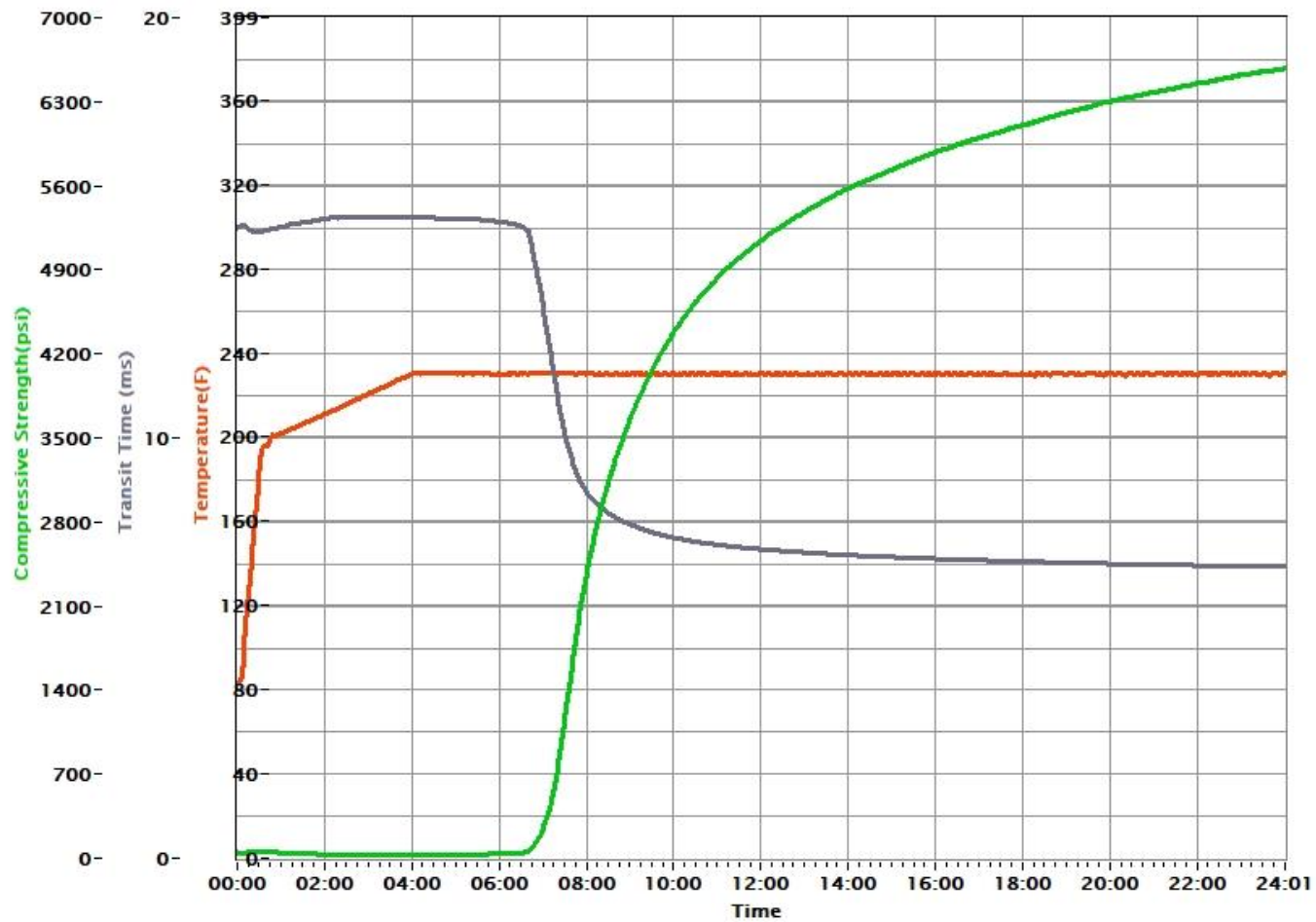
#### Thickening Time Analysis

	#1
Initial Consistency:	23.48 bc
30 bc:	01:29 (HH:MM)
50 bc:	01:29 (HH:MM)
70 bc:	05:42 (HH:MM)
100 bc:	05:46 (HH:MM)
Termination Time:	05:46 (HH:MM)
Termination Consistency:	100 bc



### UCA Compressive Strength Analysis

	#1
Test Temperature:	230 °F
Time to 50 psi:	00:16 (HH:MM)
Time to 500 psi:	07:13 (HH:MM)
6h Strength:	36.49 psi
12h Strength:	5146.03 psi
24h Strength:	6575.16 psi
Algorithm:	B



## 4 Conditioning Schedules

### Thickening Time #1

No	Time (min)	Temp (°F)	Pressure (psi)	Conditioning	Static
1	0	80	1067.4	Yes	No
2	39	195	4871	Yes	No
3	5	195	4871	Yes	No
4	45	195	4871	No	Yes
5	257	195	4871	Yes	No

### UCA Compressive Strength #1

No	Time (min)	Temp (°F)	Pressure (psi)	Conditioning	Static
1	30	190	0	Yes	No
2	0	80	3000	No	Yes
3	30	195	3000	No	Yes
4	210	230	3000	No	Yes
5	1200	230	3000	No	Yes