



# Crestone Peak Resources Operating

HERREN 1F-33H-H367

API # 05-123-47729

## Production

12/23/2018

Quote #: 24764

Execution #: 14245



# Crestone Peak Resources Operating

Attention: Mr. Jerry Thorstad | (303) 829-8179 | [Jerry.Thorstad@Crestonepr.com](mailto:Jerry.Thorstad@Crestonepr.com)

Crestone Peak Resources Operating | 10188 E I25 Frontage Rd. | Firestone, CO. 80504

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Dear Mr. Jerry Thorstad,

Thank you for the opportunity to provide cementing services on this well. BJ Services strives to achieve complete customer satisfaction. If you have any questions regarding the services or data provided, please contact BJ Services at any time.

Sincerely,  
Ashraf Hamid  
Field Engineer I | (307) 365-9484 | [Ashraf.hamid@bjservices.com](mailto:Ashraf.hamid@bjservices.com)

Field Office 1716 East Allison Rd., Cheyenne WY, 82007  
Phone: (307) 638-5585

Sales Office 999 18th St. Suite 1200 Denver, CO 80202  
Phone: (281) 408-2361

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# BJ Cementing Treatment Report

SERVICE SUPERVISOR	Chad Johnson	FORMATION	Codell
DISTRICT	Cheyenne, WY	RIG	Ensign 153
SERVICE	Cementing	COUNTY	WELD
STATE / PROVINCE	CO		

## WELL GEOMETRY

TYPE	OD (in)	ID (in)	WEIGHT (lb/ft)	MD (ft)	TVD (ft)	EXCESS (%)
Open Hole	0.00	8.50	0.00	12,098.00	7,347.00	10.00
Previous Casing	9.63	8.84	40.00	1,973.00	1,973.00	
Casing	5.50	4.78	20.00	12,087.00	7,347.00	

## HARDWARE

Bottom Plug Used?	No	Pipe Movement	None
Top Plug Used?	Yes	Job Pumped Through	Manifold
Top Plug Provided By	Non BJ	Top Connection Thread	BTC
Top Plug Size	5.500	Top Connection Size	5.5
Centralizers Used	Yes	Landing Collar Depth (ft)	12,082
Centralizers Type	Rigid		

## CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	YP Mud In	7
Circulation Prior to Job	Yes	Solids Present at End of Circulation	No
Circulation Time (min)	150.00	10 sec SGS	4
Lost Circulation Prior to Cement Job	No	10 min SGS	5
Mud Density In (ppg)	10.40	30 min SGS	7
Mud Density Out (ppg)	10.40	Flare Prior to / during the Cement Job	No
PV Mud In	15	Gas Present	No

## TEMPERATURE

Ambient Temperature (°F)	30.00	Mix Water Temperature (°F)	60.00
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## FLUID DETAILS

FLUID TYPE	FLUID NAME	DENSITY (ppg)	YIELD (Cu Ft/sk)	H <sub>2</sub> O REQ (gals/sk)	VOL (sk)	VOL (Cu Ft)	VOL (bbls)
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	12.0000					90.0000
Lead Slurry	BJCem P100.3.01C	13.0000	1.9295	10.45	720	1388.0000	247.1000
Tail Slurry	BJCem P50.6.02C	13.5000	1.7523	8.70	960	1684.0000	299.9000
Displacement 1	Retarded Water	8.3300				0.0000	10.0000
Displacement Final	Displacement Final (Water)	8.3308				0.0000	257.4000

FLUID TYPE	FLUID NAME	COMPONENT	CONCENTRATION	UOM
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	RETARDER, R-31	0.5000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	SPACER SURFACTANT, SS-267	1.0000	GPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	WEIGHTING ADDITIVE, W-11	243.6000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	IntegraGuard GW-86	1.2000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	RETARDER, R-7C	2.0000	PPB
Lead Slurry	BJCem P100.3.01C	CEMENT, ASTM TYPE III	100.0000	PCT
Lead Slurry	BJCem P100.3.01C	XCem-05	0.5000	BWOB
Lead Slurry	BJCem P100.3.01C	FOAM PREVENTER, FP-25	0.3000	BWOB
Lead Slurry	BJCem P100.3.01C	RETARDER, SR-20	0.4000	BWOB
Lead Slurry	BJCem P100.3.01C	FLUID LOSS, FL-66	0.6000	BWOB
Lead Slurry	BJCem P100.3.01C	EXTENDER, BENTONITE	4.0000	BWOB
Lead Slurry	BJCem P100.3.01C	BONDING AGENT, BA-60	0.4000	BWOB
Lead Slurry	BJCem P100.3.01C	IntegraGuard GW-86	0.1000	BWOB
Lead Slurry	BJCem P100.3.01C	FLUID LOSS, FL-24	0.6000	BWOB
Tail Slurry	BJCem P50.6.02C	Flyash (Rockies)	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	SAND, S-8, Silica Flour, 200 Mesh	20.0000	BWOB
Tail Slurry	BJCem P50.6.02C	CEMENT, CLASS G	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	EXTENDER, BENTONITE	2.0000	BWOB
Tail Slurry	BJCem P50.6.02C	FOAM PREVENTER, FP-25	0.3000	BWOB
Tail Slurry	BJCem P50.6.02C	IntegraGuard GW-86	0.1000	BWOB
Tail Slurry	BJCem P50.6.02C	FLUID LOSS, FL-66	0.6000	BWOB
Tail Slurry	BJCem P50.6.02C	RETARDER, R-6	0.2000	BWOB

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**Client Name:** Crestone Peak Resources Operating

**Well:** HERREN 1F-33H-H367

**Well API:** 05-123-47729



**Start Date:** 12/23/2018

**End Date:** 12/23/2018

**Field Ticket #:**

## DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amt of Cement Returned / Reversed	46.00
Calculated Displacement Vol (bbls)	268.00	Method Used to Verify Returns	Visual
Actual Displacement Vol (bbls)	268.00	Amt of Spacer to Surface	90.00
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0.00
Bump Plug	Yes	Amt Bled Back After Job	1.50
Bump Plug Pressure (psi)	2300.00	Total Volume Pumped (bbls)	904.40
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement Returns During Job	Full	Lost Circulation During Cement Job	No

# BJ Cementing Event Log

Long String - Cheyenne, WY - Chad Johnson

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	12/23/2018 14:30	Callout					Crew called out requested on location at 2000
2	12/23/2018 19:00	Arrive on Location					Arrived on location
3	12/23/2018 19:05	STEACS Briefing					Safety meeting
4	12/23/2018 19:20	Spot Units					Spotted all units
5	12/23/2018 19:25	Rig Up					Rigged up all equipment
6	12/23/2018 20:30	Client					Waiting on rig to finish circulating the well
7	12/23/2018 23:30	STEACS Briefing					Safety meeting
8	12/24/2018 00:01	Prime Up	8.3400	3.00	5.00	300.00	Fill lines with 5 bbls fresh water
9	12/24/2018 00:04	Pressure Test					Pressure test lines to 5000 psi
10	12/24/2018 00:09	Pump Spacer	11.0000	4.00	30.00	350.00	Pump 30 bbls spacer at 11 ppg
11	12/24/2018 00:19	Pump Spacer	12.0000	4.00	30.00	350.00	Pump 30 bbls spacer at 12 ppg
12	12/24/2018 00:29	Pump Spacer	11.0000	4.00	30.00	350.00	Pump 30 bbls spacer at 11 ppg
13	12/24/2018 00:39	Pump Lead Cement	13.0000	7.50	248.00	500.00	Pump 248 bbls lead cement at 13 ppg (720 sks, 1.93 Y, 10.45 gal/sk)
14	12/24/2018 01:15	Pump Tail Cement	13.5000	8.00	299.00	500.00	Pump 299 bbls tail cement at 13.5 ppg (960 sks, 1.75 Y, 8.70 gal/sk)
15	12/24/2018 01:59	Other (See comment)					Shutdown
16	12/24/2018 02:04	Wash Pumps and Lines					Wash pumps and lines to pit
17	12/24/2018 02:13	Drop Top Plug					Drop top plug
18	12/24/2018 02:14	Pump Displacement	8.3400	12.00	220.00	2500.00	Pump 268 bbls displacement
19	12/24/2018 02:23	Spacer Back-to-Surface					Spacer back to surface at 130 bbls away 90 bbls spacer to surface
20	12/24/2018 02:32	Other (See comment)	8.3400	5.00	48.00	2300.00	Slow pump rate to 4 bpm at 220 bbls away
21	12/24/2018 02:33	Cement Back-to-Surface					Cement back to surface at 220 bbls away, 46 bbls cement to surface
22	12/24/2018 02:40	Land Plug					Land plug at 2300 psi, took to 3100 psi, pressure bleed off to 1900

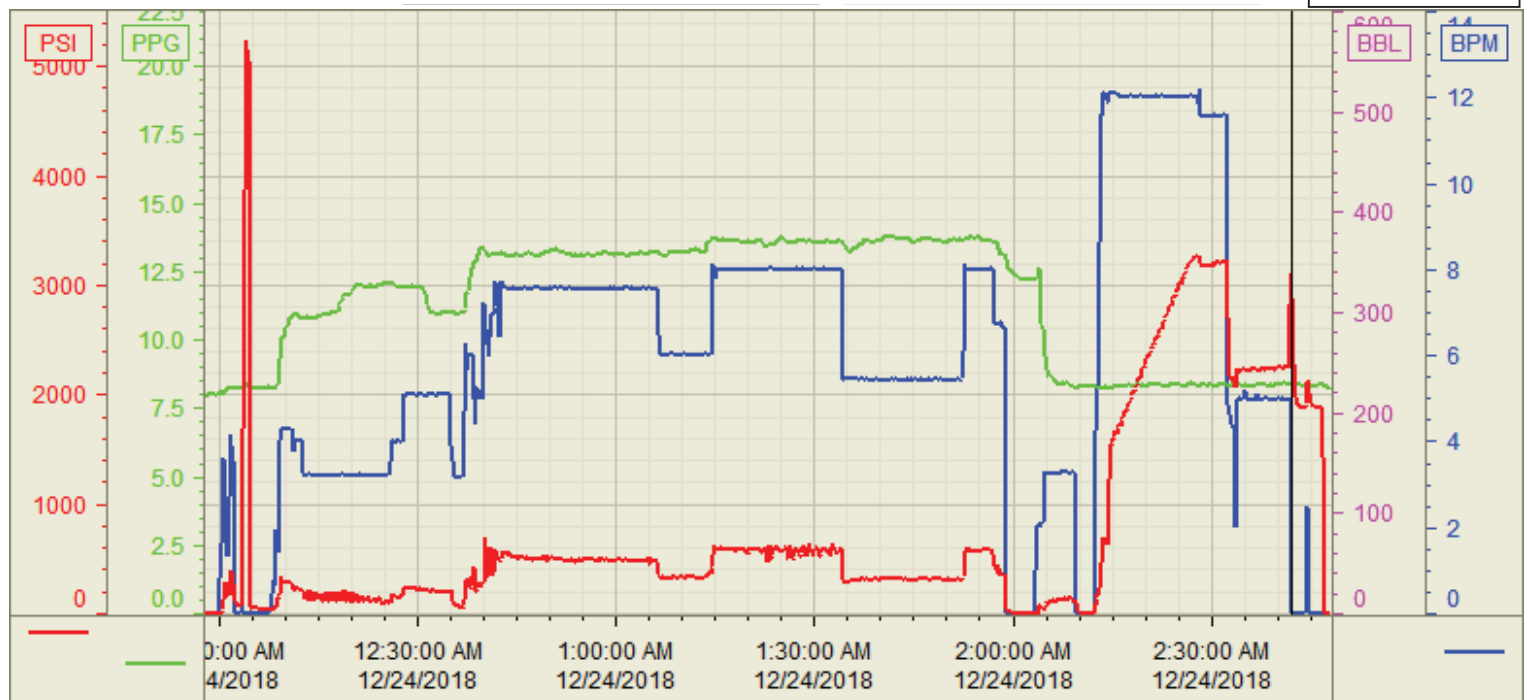
23	12/24/2018 02:45	Check Floats					Check floats, floats holding, 1.5 bbls back
24	12/24/2018 03:00	STEACS Briefing					Safety meeting
25	12/24/2018 03:15	Rig Down					Rigged down all equipment
26	12/24/2018 05:00	Leave Location					Crew departed location



Customer: Crestone  
Well Number: 1F-33H  
Lease Info: Herren



Print Date/Time  
12/24/2018 2:56:32 AM



	Name	Y value	X value/time stamp	Tag name Y
1	DS - Press (PSI)	3108.5	12/24/2018 2:42:01 AM	Cementer\DS_DISCHARGE_PRESS_DIAL
2	DH - Density (PPG)	8.41	12/24/2018 2:42:01 AM	Cementer\DENSITY2_ACTUAL_RATE
3	Combined Rate	0.00	12/24/2018 2:42:01 AM	Cementer\Flow_Combined
4				
5				

Source: Control1 2:56:27 AM