



# Crestone Peak Resources Operating

HERREN 1G-33H-H367

API # 05-123-47731

## Production

12/28/2018

Quote #: 24862

Execution #: 14310



# 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	RIG	Ensign 153
DISTRICT	Cheyenne, WY	COUNTY	WELD
SERVICE	Cementing	STATE / PROVINCE	CO
FORMATION	NIOBRARA		

## WELL GEOMETRY

TYPE	OD (in)	ID (in)	WEIGHT (lb/ft)	MD (ft)	TVD (ft)	EXCESS (%)
Previous Casing	9.63	8.84	40.00	1,997.00	1,997.00	
Casing	5.50	4.78	20.00	11,910.00	7,224.00	
Open Hole	0.00	8.50	0.00	11,921.00	7,224.00	10.00

## HARDWARE

Bottom Plug Used?	No
Top Plug Used?	Yes
Top Plug Provided By	Non BJ
Top Plug Size	5.500
Centralizers Used	Yes
Centralizers Quantity	214.00

Pipe Movement	None
Job Pumped Through	Manifold
Top Connection Thread	BTC
Top Connection Size	5.5
Centralizers Type	Rigid
Landing Collar Depth (ft)	11,901

## CIRCULATION PRIOR TO JOB

Well Circulated By	Rig
Circulation Prior to Job	Yes
Circulation Time (min)	200.00
Circulation Rate (bpm)	10.00
Lost Circulation Prior to Cement Job	No
Mud Density In (ppg)	10.70
PV Mud In	15

YP Mud In	9
Solids Present at End of Circulation	No
10 sec SGS	5
10 min SGS	7
30 min SGS	9
Flare Prior to / during the Cement Job	No
Gas Present	No

## TEMPERATURE

Ambient Temperature (°F)	10.00
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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	1.9311	10.44	715	1375.0000	244.7000
Tail Slurry	BJCem P50.6.02C	13.5000	1.7523	8.70	950	1661.0000	295.7000
Displacement 1	Retarded Water	8.3300				0.0000	10.0000
Displacement Final	Displacement Final (Water)	8.3308				0.0000	254.2000

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

## DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ
Calculated Displacement Vol (bbls)	264.00
Actual Displacement Vol (bbls)	264.00
Did Float Hold?	Yes
Bump Plug	Yes
Bump Plug Pressure (psi)	2200.00
Were Returns Planned at Surface	Yes
Cement Returns During Job	Full

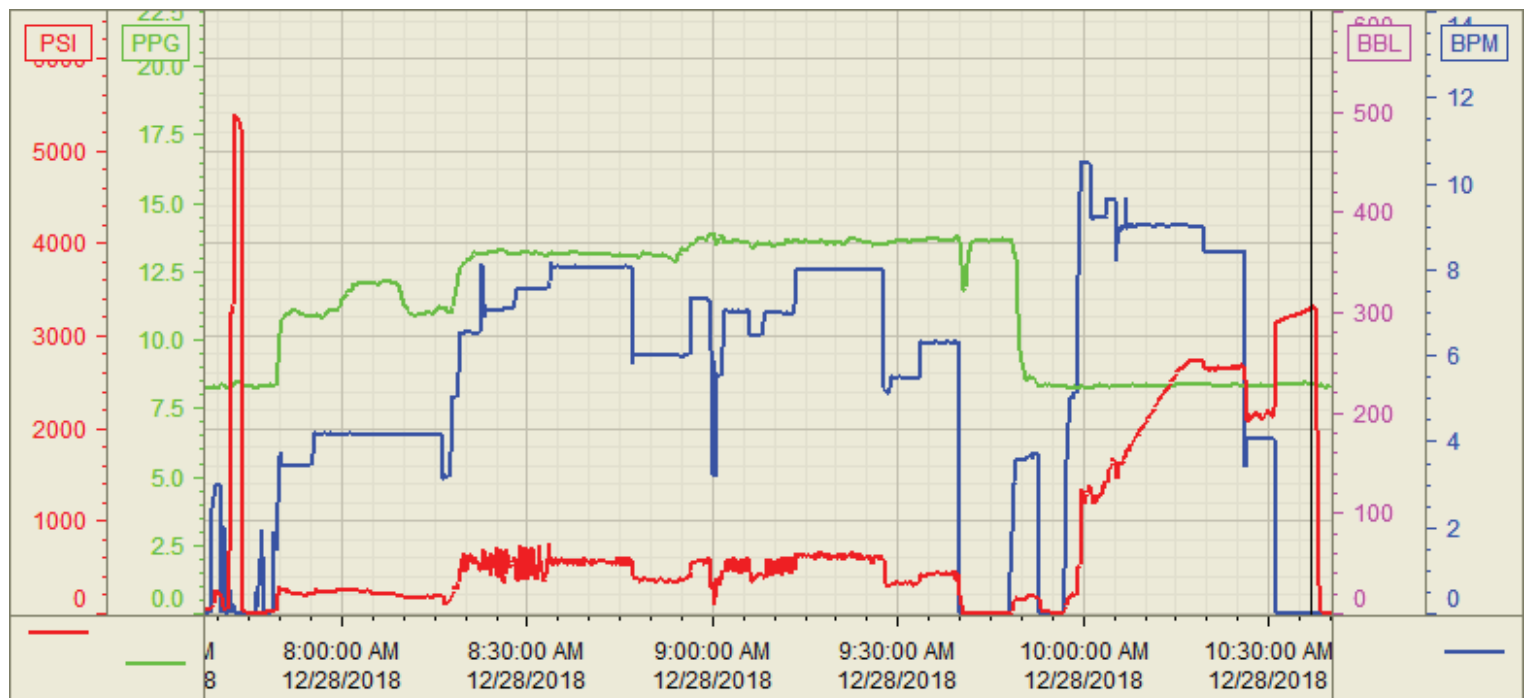
Amt of Cement Returned / Reversed	70.00
Method Used to Verify Returns	Visual
Amt of Spacer to Surface	90.00
Pressure Left on Casing (psi)	0.00
Amt Bled Back After Job	3.00
Total Volume Pumped (bbls)	894.60
Top Out Cement Spotted	No
Lost Circulation During Cement Job	No

# 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	12/27/2018 22:00	Callout					crew called out and requested on location for 0330
2	12/28/2018 03:25	Arrive on Location					crew arrived on location
3	12/28/2018 03:30	STEACS Briefing					safety meeting
4	12/28/2018 03:45	Spot Units					spotted all units
5	12/28/2018 03:50	Rig Up					rigged up all equipment
6	12/28/2018 05:15	Client					waiting on rig to finish circulating
7	12/28/2018 07:00	STEACS Briefing					safety meeting
8	12/28/2018 07:40	Prime Up	8.3400	3.00	5.00	300.00	fill lines with 5 bbls water
9	12/28/2018 07:43	Pressure Test					pressure test lines to 5000 psi
10	12/28/2018 07:49	Pump Spacer	11.0000	4.00	90.00	300.00	pump 30 bbls spacer at 11ppg, 30 bbls spacer at 12ppg, 30 bbls spacer at 11ppg
11	12/28/2018 08:19	Pump Lead Cement	13.0000	7.00	246.00	500.00	pump 246 bbls lead cement at 13 ppg (715 sks, 1.93 Y, 10.45 gal/sk)
12	12/28/2018 08:56	Pump Tail Cement	13.5000	7.00	296.00	500.00	pump 296 bbls tail cement at 13.5 ppg (950 sks, 1.75 Y, 8.7 gal/sk)
13	12/28/2018 09:41	Other (See comment)					shutdown
14	12/28/2018 09:48	Wash Pumps and Lines					wash pumps and lines to pit
15	12/28/2018 09:56	Drop Top Plug					drop top plug
16	12/28/2018 09:57	Pump Displacement	8.3400	9.00	220.00	2800.00	pump 264 bbls displacement
17	12/28/2018 10:12	Spacer Back-to-Surface					spacer back to surface at 100 bbls away, 90 bbls spacer to surface
18	12/28/2018 10:21	Cement Back-to-Surface					cement back to surface at 190 bbls away, 70 bbls cement to surface
19	12/28/2018 10:27	Other (See comment)	8.3400	4.00	26.00	2200.00	slow rate to 5 bpm
20	12/28/2018 10:32	Land Plug					land plug at 2200 psi, took to 3200 psi
21	12/28/2018 10:37	Check Floats					check floats, floats holding, 3 bbls back
22	12/28/2018 10:45	STEACS Briefing					safety meeting
23	12/28/2018 11:00	Rig Down					rigged down all equipment
24	12/28/2018 12:30	Leave Location					crew departed location

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



	Name	Y value	X value/time stamp	Tag name Y
1	DS - Press (PSI)	3290.4	12/28/2018 10:36:46 AM	Cementer\DS_DISCHARGE_PRESS_DIAL
2	DH - Density (PPG)	8.41 i.	12/28/2018 10:36:48 AM i.	Cementer\DENSITY2_ACTUAL_RATE
3	Combined Rate	0.00 i.	12/28/2018 10:36:48 AM i.	Cementer\Flow_Combined
4				
5				

Source: Control1 10:43:59 AM