



Bonanza Creek Energy

Pronghorn 21-24-18HNB

API # 05-123-43382

Production

11/1/2018

Quote #: 21978

Execution #: 12654



Bonanza Creek Energy

Attention: Mr. Adam Conry | (303) 883.3351 | AConry@bonanzacrck.com

Bonanza Creek Energy | 410 17th St Suite 1400 | Denver, CO. 80202

Dear Mr. Adam Conry,

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,
Gage Putnam
Field Engineer I | (307) 887-4243 | Gage.Putnam@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

Cementing Treatment



Start Date	10/31/2018	Well	Pronghorn 21-24-18HNB
End Date	11/1/2018	API#	05-123-43382
Client	Bonanza Creek Energy	County	WELD
Service Sup.	Travis Tolman	State/Province	CO
District	Cheyenne, WY	Formation	NIOBRARA
Type of Job	Long String	Rig	Akita 519
Execution ID	EXC-12654-J5Y2H302	Project ID	PRJ1012241

WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	TVD (ft)	Excess(%)
Previous Casing	8.92	9.63	36.00	1,604.00	1,604.00	
Open Hole	8.50	0.00	0.00	10,948.00	6,099.00	12.50
Casing	4.89	5.50	17.00	10,938.00	6,099.00	

Shoe Length (ft): 42.00

HARDWARE

Top Plug Used?	Yes	Max Casing Pressure - Rated (psi)	10,640.00
Top Plug Provided By	Non BJ	Max Casing Pressure - Operated (psi)	4,000.00
Top Plug Size	5.500	Pipe Movement	None
Centralizers Used	Yes	Job Pumped Through	Manifold
Centralizers Quantity	130.00	Top Connection Thread	8RND
Centralizers Type	Rigid	Top Connection Size	5.5
Landing Collar Depth (ft)	10,896		

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	Solids Present at End of Circulation	No
Circulation Prior to Job	Yes	10 sec SGS	6.00
Circulation Time (min)	120.00	10 min SGS	8.00
Lost Circulation Prior to Cement Job	No	30 min SGS	10.00
Mud Density In (ppg)	9.30	Flare Prior to/during the Cement Job	No
PV Mud In	6	Gas Present	No
YP Mud In	5	Gas Units	

TEMPERATURE

Ambient Temperature (°F)	26.00	Flow Line Temperature (°F)	122.00
Mix Water Temperature (°F)	57.00		

Cementing Treatment



BJ FLUID DETAILS

Fluid Type	Fluid Name	Density (ppg)	Yield (Cu Ft/sk)	H2O Req. (gals/sk)	Planned Top of Fluid (Ft)	Length (Ft)	Vol (sk)	Vol (Cu Ft)	Vol (bbls)
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	12.0000			0.00				60.0000
Lead Slurry	BJCem P100.3.01C	12.5000	2.1538	12.23	0.00	5000	605	1,307.0000	231.6000
Tail Slurry	BJCem P50.6.02C	13.5000	1.4772	7.45	5,000.00	5920	1037	1,532.0000	271.4000
Displacement 2	Retarded Water	8.3337			13,244.00	0	0	0.0000	20.0000
Displacement Final	Displacement Final (Water)	8.3308			0.00			0.0000	233.3000

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	WEIGHTING ADDITIVE, W-11	243.6000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	SPACER SURFACTANT, SS-267	1.0000	GPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	RETARDER, R-7C	2.0000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	IntegraGuard GW-86	1.2000	PPB
Lead Slurry	BJCem P100.3.01C	FOAM PREVENTER, FP-25	0.3000	BWOB
Lead Slurry	BJCem P100.3.01C	BONDING AGENT, BA-60	0.4000	BWOB
Lead Slurry	BJCem P100.3.01C	EXTENDER, BENTONITE	4.0000	BWOB
Lead Slurry	BJCem P100.3.01C	FLUID LOSS, FL-24	0.3000	BWOB
Lead Slurry	BJCem P100.3.01C	IntegraGuard GW-86	0.2000	BWOB
Lead Slurry	BJCem P100.3.01C	RETARDER, SR-20	0.4000	BWOB
Lead Slurry	BJCem P100.3.01C	CEMENT, ASTM TYPE III	100.0000	PCT
Lead Slurry	BJCem P100.3.01C	IntegraSeal POLI	0.1300	LBS/SK
Tail Slurry	BJCem P50.6.02C	FOAM PREVENTER, FP-25	0.3000	BWOB
Tail Slurry	BJCem P50.6.02C	Flyash (Rockies)	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	CEMENT, CLASS G	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	IntegraGuard GW-86	0.1000	BWOB
Tail Slurry	BJCem P50.6.02C	EXTENDER, BENTONITE	2.0000	BWOB
Tail Slurry	BJCem P50.6.02C	FLUID LOSS, FL-66	0.2000	BWOB
Tail Slurry	BJCem P50.6.02C	RETARDER, SR-20	0.0700	BWOB
Displacement 2	Retarded Water	RETARDER, R-8L	0.5000	GPB
Displacement 2	Retarded Water	BIOCIDE, BIOC11139W	0.0100	GPB
Displacement Final	Displacement Final (Water)	BIOCIDE, BIOC11139W	0.0100	GPB

Cementing Treatment



DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ Services	Amount of Cement Returned/Reversed	100.00
Calculated Displacement Volume (bbls)	253.30	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	253.00	Amount of Spacer to Surface	60.00
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0.00
Bump Plug	Yes	Amount Bled Back After Job	2.50
Bump Plug Pressure (psi)	3,100.00	Total Volume Pumped (bbls)	820.50
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement returns During Job	Full	Lost Circulation During Cement Job	No

EVENT LOG



Customer Name: Bonanza Creek Energy

Well Name: Pronghorn 21-24-18HNB

Job Type: Long String

Quote ID: QUO-21978-K9K6W3

Plan ID: ORD-12654-J5Y2H3

Execution ID: EXC-12654-J5Y2H302

District: Cheyenne, WY

BJ Supervisor: Travis Tolman

Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol (bbbls)	Pipe Pressure (psi)	Comments
1	10/31/2018 14:00	Callout					Crew called out for on location of 2000
2	10/31/2018 18:40	Leave Location					Crew left location heading to location
3	10/31/2018 19:25	Arrive on Location					Arrived on location, running casing, met with company man to get numbers, discuss job and safety issues
4	10/31/2018 21:30	Spot Units					Spot equipment
5	10/31/2018 21:35	STEACS Briefing					Held safety meeting with crew to discuss rig up, job tasks and safety
6	10/31/2018 21:45	Rig Up					Rigged up from equipment to rig floor
7	10/31/2018 23:20	STEACS Briefing					Held safety meeting with company man, rig hands and crew to discuss job and safety
8	11/01/2018 00:05	Other (See comment)	8.3000	2.50	3.00	200.00	Load pump and lines with fresh water
9	11/01/2018 00:09	Pressure Test	8.3000			5,600.00	Pressure test pump and lines with fresh water
10	11/01/2018 00:17	Pump Spacer	11.0000	4.00	20.00	300.00	Pump 20bbbls of spacer at 11# with chemicals
11	11/01/2018 00:23	Pump Spacer	12.0000	4.00	20.00	250.00	Pump 20bbbls of spacer at 12# with chemicals
12	11/01/2018 00:28	Pump Spacer	11.0000	4.00	20.00	250.00	Pump 20bbbls of spacer at 11# with chemicals
13	11/01/2018 00:39	Pump Lead Cement	12.5000	6.00	231.00	400.00	Pump 605sks/231.6bbbls of lead cement at 12.5#-2.15Y-12.23gps
14	11/01/2018 01:37	Pump Tail Cement	13.5000	6.00	271.00	500.00	Pump 1037sks/271.4bbbls of tail cement at 13.5#-1.47Y-7.45gps
15	11/01/2018 02:28	End Pumping					Shut down, wash up pump and lines
16	11/01/2018 02:40	Drop Top Plug					Drop top plug witnessed by company man, tool hand and BJ rep
17	11/01/2018 02:50	Pump Displacement	8.3000	8.00	240.00	2,300.00	Pump displacement, first 20bbbls with R-8, rest with Biocide. Calculated displacement 253.3bbbls, 60bbbls of spacer and 44.5bbbls of cement to surface.
18	11/01/2018 03:30	Other (See comment)	8.3000	5.00	13.00	1,900.00	Slowed rate to land plug

EVENT LOG



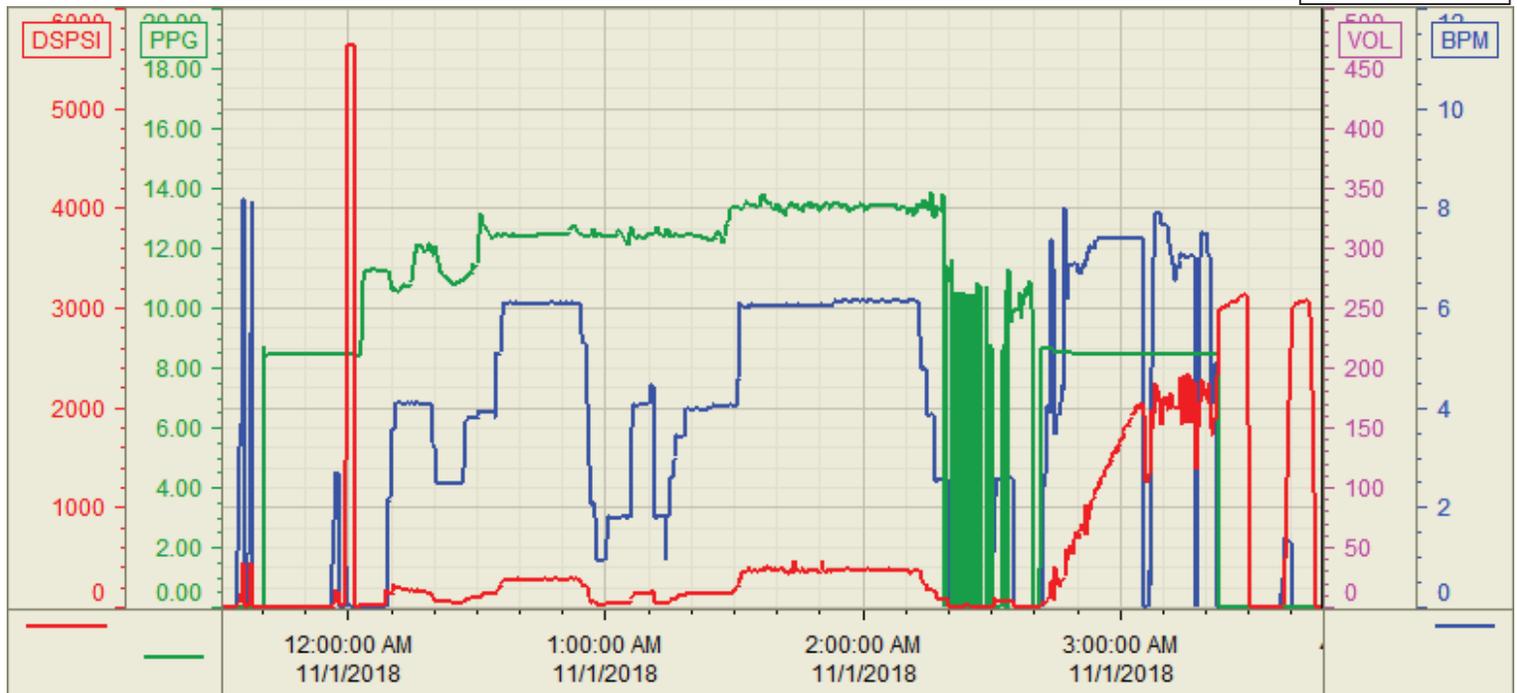
19	11/01/2018 03:31	Land Plug				3,100.00	Land plug, hold for 5mins, got 100bbls of cement to surface plus 60bbls of spacer, pumped 253bbls of displacement
20	11/01/2018 03:37	Check Floats					Check float, did not hold, 2.5bbls back
21	11/01/2018 03:46	Other (See comment)	8.3000	1.40	2.50	3,000.00	Pressure back up onto plug, pumped 2.5bbls
22	11/01/2018 03:49	End Pumping				3,000.00	Shut down and hold for 3mins
23	11/01/2018 03:52	Check Floats					Check float, 2.5bbls back
24	11/01/2018 03:53	STEACS Briefing					Held safety meeting with crew to discuss rig down and safety
25	11/01/2018 04:00	Rig Down					Rigged down from rig floor to equipment
26	11/01/2018 06:00	Leave Location					Crew ready to leave location

Customer: Bonanza Creek
 Well Number: 21-24-18HNB
 Lease Info: Pronghorn



Print Date/Time

11/1/2018 4:33:36 AM



	Name	Y value	X value/time stamp	Tag name Y
1	DS - Press(PSI)	-4.2 i.	11/1/2018 3:47:00 AM i.	Cementer\DS_DISCHARGE_PRESS_DIAL
2	Recirc - Density (PPG)	0.01	11/1/2018 3:47:03 AM	Cementer\DENSITY_ACTUAL_RATE
3	Combined rate (BPM)	0.00	11/1/2018 3:47:03 AM	Cementer\Flow_Combined
4				
5				

Source: Control1 4:33:29 AM