



Great Western Operating Company, LLC

Brant LE #08-082HC

API # 05-001-10345

Surface

June 07, 2019

Quote #: 32387

Execution #: 18624



Great Western Operating Company, LLC

Great Western Operating Company, LLC | 1801 Broadway, Suite 500 | Denver, CO 80202

Dear Great Western Operating Company, LLC,

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,
Jason Creel
Field Engineer I | (307) 256-0306 | Jason.Creel@BJServices.com

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

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

BJ Cementing Treatment Report

SERVICE SUPERVISOR	Chad Johnson	COUNTY	ADAMS
DISTRICT	Cheyenne, WY	STATE / PROVINCE	CO
SERVICE	Cementing		

WELL GEOMETRY

TYPE	ID (in)	OD (in)	WEIGHT (lb/ft)	MD (ft)	TVD (ft)	EXCESS (%)	GRADE	THREAD
Casing	8.92	9.63	36.00	1,778.00	1,778.00		J-55	LTC
Open Hole	13.50	0.00	0.00	1,778.00	1,778.00	30.00		

HARDWARE

Bottom Plug Used?	No	Centralizers Type	Bow
Top Plug Used?	Yes	Landing Collar Depth (ft)	1,731
Top Plug Provided By	Non BJ	Pipe Movement	None
Top Plug Size	9.630	Job Pumped Through	Manifold
Centralizers Used	Yes	Top Connection Thread	LTC
Centralizers Quantity	17.00	Top Connection Size	9.63

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	Mud Density In (ppg)	8.40
Circulation Prior to Job	Yes	Mud Density Out (ppg)	8.40
Circulation Time (min)	30.00	Solids Present at End of Circulation	No
Circulation Rate (bpm)	6.00	Flare Prior to / during the Cement Job	No
Circulation Volume (bbls)	180.00	Gas Present	No
Lost Circulation Prior to Cement Job	No		

TEMPERATURE

Ambient Temperature (°F)	70.00	Mix Water Temperature (°F)	60.00
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Client: Great Western Operating
Company LLC

Well: BRANT LE #08-082HC

Well
API: 05-001-10345

Start
Date: 6/7/2019

End
Date: 6/7/2019



FLUID TYPE	FLUID NAME	DENSITY (ppg)	YIELD (Cu Ft/sk)	H ₂ O REQ (gals/sk)	LENGTH (ft)	VOL (sk)	VOL (Cu Ft)	VOL (bbls)
Spacer / Pre Flush / Flush	Water	8.3300						20.0000
Tail Slurry	BJCem S100.3.XC	14.5000	1.3902	6.81	1,750.00	815	1134.0000	201.8000
Displacement 1	Water	8.3300					0.0000	133.0000

FLUID TYPE	FLUID NAME	COMPONENT	CONCENTRATION	UOM
Tail Slurry	BJCem S100.3.XC	CEMENT, ASTM TYPE III	100.0000	PCT

DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amt of Cement Returned / Reversed	53.00
Calculated Displacement Vol (bbls)	133.00	Method Used to Verify Returns	Visual
Actual Displacement Vol (bbls)	133.00	Amt of Spacer to Surface	20.00
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0.00
Bump Plug	Yes	Amt Bled Back After Job	1.00
Bump Plug Pressure (psi)	600.00	Total Volume Pumped (bbls)	360.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement Returns During Job	Yes	Lost Circulation During Cement Job	No

Client: Great Western Operating
Company LLC

Well: BRANT LE #08-082HC

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Start Date: 6/7/2019

End Date: 6/7/2019



BJ Cementing Event Log

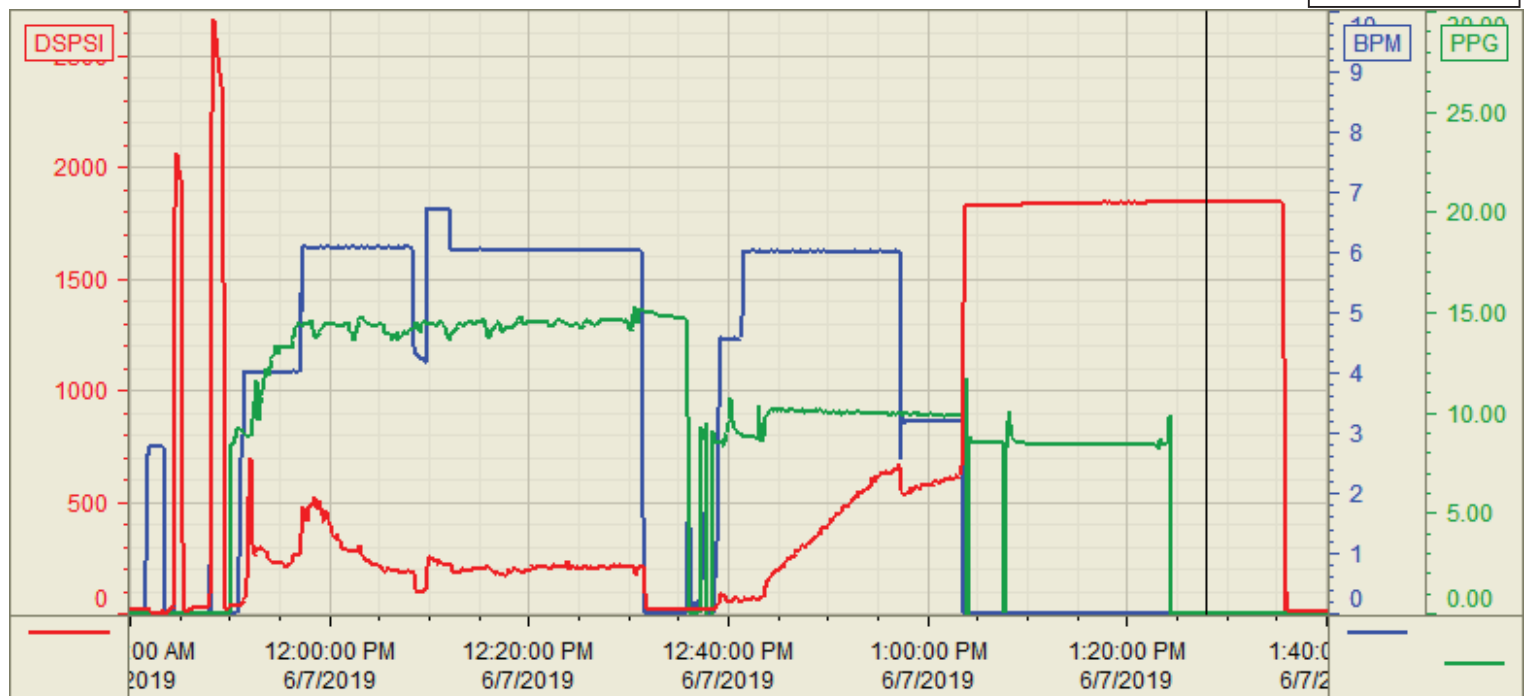
Surface - Cheyenne, WY - Chad Johnson

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	06/07/2019 01:00	Callout					Crew called out requested on location for 0700
2	06/07/2019 07:00	Arrive on Location					Crew arrived on location
3	06/07/2019 07:10	STEACS Briefing					Safety meeting
4	06/07/2019 07:20	Rig Up					Rigged up all equipment
5	06/07/2019 08:00	Client					Waiting on rig to finish running casing and circulate the well
6	06/07/2019 11:00	STEACS Briefing					Safety meeting
7	06/07/2019 11:48	Prime Up	8.3400	2.00	5.00	50.00	Fill lines with 5 bbls dye water
8	06/07/2019 11:50	Pressure Test					Pressure test lines to 2000 psi
9	06/07/2019 11:53	Pump Spacer	8.3400	4.00	20.00	150.00	Pump 20 bbls water spacer
10	06/07/2019 11:56	Pump Tail Cement	14.5000	5.00	202.00	250.00	Pump cement at 14.5 ppg (815 sks, 1.39 Y, 6.81 gal/sk)
11	06/07/2019 12:33	Other (See comment)					Shutdown
12	06/07/2019 12:39	Drop Top Plug					Drop top plug
13	06/07/2019 12:40	Pump Displacement	8.3400	5.00	110.00	500.00	Pump displacement
14	06/07/2019 12:54	Cement Back-to-Surface					Cement back to surface, 53 bbls cement back
15	06/07/2019 12:58	Other (See comment)	8.3400	2.00	23.00	600.00	Slow pump rate
16	06/07/2019 13:05	Land Plug					Land plug at 600 psi. 30 min casing test: start 1818 psi, end 1844 psi.
17	06/07/2019 13:36	Check Floats					Check floats, floats holding, 1 bbls back
18	06/07/2019 13:40	STEACS Briefing					Safety meeting
19	06/07/2019 14:00	Rig Down					Rigged down all equipment
20	06/07/2019 15:00	Leave Location					Crew departed location

Customer: Great Western
Well Number: #08-082HC
Lease Info: Brant LE



Print Date/Time
6/7/2019 1:43:28 PM



	Name	Y value	X value/time stamp	Tag name Y
1	DS - Press(Psi)	1844.6	6/7/2019 1:27:51 PM	Cement\DS_DISCHARGE_PRESS_DIAL
2	Recirc - Density (PPG)	0.01	6/7/2019 1:27:51 PM	Cement\DENSITY_ACTUAL_RATE
3	Combined rate (BPM)	0.00	6/7/2019 1:27:51 PM	Cement\Flow_Combined
4				
5				

Source: Control1 1:43:22 PM