



# Great Western Operating Company, LLC

B-Farm LD 18-387HC

API # 05-001-10260

Surface

April 13, 2020

Quote #: QUO-43760-G9P1P7

Execution #: EXC-25763-T2L4C302



# Great Western Operating Company, LLC

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

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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](mailto: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

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# BJ Cementing Treatment Report

SERVICE SUPERVISOR	Eric Dewit	RIG	Ikon 12
DISTRICT	Cheyenne, WY	COUNTY	ADAMS
SERVICE	Cementing	STATE / PROVINCE	CO

## WELL GEOMETRY

TYPE	ID (in)	OD (in)	WEIGHT (lbs/ft)	MD (ft)	TVD (ft)	EXCESS (%)	GRADE	THREAD
Open Hole	13.50	0.00	0.00	2,021.00	2,021.00	30.00		
Casing	8.92	9.63	36.00	2,021.00	2,021.00		J-55	LTC

## HARDWARE

Bottom Plug Used?	No	Tool Type	Float Collar
Top Plug Used?	Yes	Tool Depth (ft)	1,976.26
Top Plug Provided By	Non BJ	Max Casing Pressure - Rated (psi)	2,816.00
Top Plug Size	9.625	Max Casing Pressure - Operated (psi)	1,616.00
Centralizers Used	Yes	Pipe Movement	None
Centralizers Quantity	19.00	Job Pumped Through	Manifold
Centralizers Type	Bow	Top Connection Thread	LTC
		Top Connection Size	9.625

## 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)	45.00	Solids Present at End of Circulation	No
Circulation Rate (bpm)	10.00	Flare Prior to / during the Cement Job	No
Circulation Volume (bbls)	450.00	Gas Present	No
Lost Circulation Prior to Cement Job	No		

## TEMPERATURE

Ambient Temperature (°F)	20.00	Mix Water Temperature (°F)	52.00
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## FLUID DETAILS

FLUID TYPE	FLUID NAME	DENSITY (ppg)	YIELD (Cu Ft/sk)	H <sub>2</sub> O REQ. (gals/sk)	PLN TOP FLD (ft)	LENGTH (ft)	VOL (sk)	VOL (Cu Ft)	VOL (bbls)
Spacer / Pre Flush / Flush	Water	8.3300			0.00				20.0000
Tail Slurry	BJCem S100.3.XC	14.5000	1.3902	6.81	0.00	2,000.00	930	1,293.0000	230.3000
Displacement Final	Water	8.3300			0.00			0.0000	153.0000

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	23.00
Calculated Displacement Vol (bbls)	153.00	Method Used to Verify Returns	Visual
Actual Displacement Vol (bbls)	153.00	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	0.50
Bump Plug Pressure (psi)	1,539.00	Total Volume Pumped (bbls)	408.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement Returns During Job	Yes	Lost Circulation During Cement Job	No

# BJ Cementing Event Log

Surface - Cheyenne, WY

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	04/13/2020 05:15	Callout					Crew called out, requested on location at 09:00 on 4/13/2020
2	04/13/2020 05:16	STEACS Briefing					Journey management STEACS briefing with BJ crew about the hazards of driving to location.
3	04/13/2020 06:30	Depart for Location					BJ Crew departed for location
4	04/13/2020 09:00	Arrive on Location					BJ Crew arrived on location and conducted a STEACS briefing with BJ crew about the hazards of spotting equipment in
5	04/13/2020 09:15	STEACS Briefing					STEACS Briefing with BJ crew about the hazards of rigging up water, bulk and high pressure lines.
6	04/13/2020 09:16	Rig Up					BJ crew rig up water, bulk and high pressure lines.
7	04/13/2020 09:40	STEACS Briefing					STEACS Briefing with BJ crew and rig crew about the hazards of rigging up the head and pumping the job.
8	04/13/2020 10:08	Other (See comment)	8.3300	4.10	5.00	150.00	Pump 5 bbls water ahead to fill pumps and lines for pressure test.
9	04/13/2020 10:10	Pressure Test	8.3300	4.10	0.00	3000.00	Pressure test BJ lines and valves to 3000 psi. Good test no leaks.
10	04/13/2020 10:12	Pump Spacer	8.3300	4.10	10.00	127.00	Pump 15 bbls water spacer with blue dye
11	04/13/2020 10:18	Pump Spacer	8.3300	4.10	20.00	92.00	Shutdown to mix up cement.
12	04/13/2020 10:27	Pump Tail Cement	14.5000	5.70	77.00	188.00	Mix and pump 930 sacks of Type III cement at 14.5 lb/gal, 1.39 cuft/sack and 6.81 gals/sack at 5.7 bpm. 315 sacks from Tier 1 on CTF-014
13	04/13/2020 10:36	Pump Tail Cement	14.5000	5.70	154.00	157.00	Switch to tier 2 on CTF-014 for 315 sacks. Slow rate to 5.2bpm for the switch then back to 5.7 bpm
14	04/13/2020 10:51	Pump Tail Cement	14.5000	5.70	193.00	159.00	Switch to tier 1 on CTF-341 for 150 sacks. Slow rate to 5.2bpm for the switch then back to 5.7 bpm
15	04/13/2020 10:58	Pump Tail Cement	14.5000	5.70	200.00	92.00	Switch to tier 2 on CTF-341 for 150 sacks. Slow rate to 5.2bpm for the switch then back to 5.7 bpm
16	04/13/2020 11:00	Pump Tail Cement	14.5000	4.50	230.00	87.00	Shutdown due to poor cement delivery. get cement back to the correct density and pump remaining cement at 4.5 bpm.
17	04/13/2020 11:07	Drop Top Plug	8.3300	0.00	0.00	0.00	Shutdown to drop top plug and displace.

Client: Great Western Operating Company, LLC

Well Name / API: B-FARM LD #18-387HC / 05-001-10260



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Plan #: ORD-25763-T2L4C3

Execution #: EXC-25763-T2L4C302

18	04/13/2020 11:09	Pump Displacement	8.3300	7.20	0.00	110.00	Pump 153 bbls water displacement with biocide in first 100 bbls at 7.2 bpm.
19	04/13/2020 11:17	Pump Displacement	8.3300	7.20	50.00	400.00	50 bbls away.
20	04/13/2020 11:18	Pump Displacement	8.3300	5.60	90.00	675.00	Blue dye to surface. Slow rate to 5.6 bpm.
21	04/13/2020 11:25	Pump Displacement	8.3300	2.80	133.00	740.00	Cement to surface, Slow rate to 2.8 bpm to land plug.
22	04/13/2020 11:30	Land Plug	8.3300	0.00	153.00	1516.00	FCP was 740 psi, brought pressure up to 1516 psi. 23 bbl cmt to surface.
23	04/13/2020 11:35	Pressure Test	8.3300	0.00	153.00	1531.00	10 min pressure, 1531 psi.
24	04/13/2020 11:45	Pressure Test	8.3300	0.00	153.00	1533.00	20 min pressure, 1533 psi.
25	04/13/2020 11:55	Check Floats	8.3300	0.00	153.00	1539.00	Check Floats, final pressure was 1539. Floats held with 1 bbl back.
26	04/13/2020 12:06	STEACS Briefing					STEACS Briefing with BJ crew and rig crew about the hazards of rigging down the head, water, bulk and high pressure lines.
27	04/13/2020 12:10	Rig Down					BJ crew and rig crew start rigging down the head, water, bulk and high pressure lines.
28	04/13/2020 12:40	STEACS Briefing					BJ Journey management STEACS briefing with BJ crew about the hazards of driving to the yard.
29	04/13/2020 12:50	Leave Location					BJ Crew leave Location.



JobMaster Program Version 5.00C1  
Job Number:  
Customer: Great Western  
Well Name: B-Farm LD 18-387HC

