



Great Western Operating Company

B-Farm LD 18-386HN

API # 05-001-10268

Surface

April 14, 2020

Quote #: QUO-43762-F4P7K9

Execution #: EXC-25764-V5P9Y802



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

WELL GEOMETRY

TYPE	ID (in)	OD (in)	WEIGHT (lb/ft)	MD (ft)	TVD (ft)	EXCESS (%)	GRADE	THREAD
Open Hole	13.50	0.00	0.00	2,023.00	2,022.00	30.00		
Casing	8.92	9.63	36.00	2,023.00	2,022.00		J-55	LTC

HARDWARE

Bottom Plug Used?	No	Tool Type	Float Collar
Top Plug Used?	Yes	Tool Depth (ft)	1,978.19
Top Plug Provided By	Non BJ	Max Casing Pressure - Rated (psi)	2816.00
Top Plug Size	9.625	Max Casing Pressure - Operated (psi)	2000.00
Centralizers Used	Yes	Pipe Movement	None
Centralizers Quantity	19.00	Job Pumped Through	Manifold
Centralizers Type	Bow	Top Connection Thread	9.625
Landing Collar Depth (ft)	1,978.19	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)	30.00	Solids Present at End of Circulation	No
Circulation Rate (bpm)	8.00	Flare Prior to / during the Cement Job	No
Circulation Volume (bbls)	240.00	Gas Present	No
Lost Circulation Prior to Cement Job	No	30 min SGS	

TEMPERATURE

Ambient Temperature (°F)	28.00	Slurry Cement Temperature (°F)	51.00
Mix Water Temperature (°F)	50.00		

FLUID DETAILS

FLUID TYPE	FLUID NAME	DENSITY (ppg)	YIELD (Cu Ft/sk)	H ₂ 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	1293.0000	230.3000
Displacement Final	Water	8.3300			0.00			0.0000	151.4000

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	18.00
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	1.00
Bump Plug Pressure (psi)	1502.00	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 - Eric Dewit

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	04/14/2020 03:00	Callout					Customer calls with an O/L time of 09:00 on 4/14/20, crew gets equipment, and materials ready to travel to location
2	04/14/2020 05:00	Depart for Location					Crew leaves yard to travel to location
3	04/14/2020 07:00	Arrive on Location					Crew arrives on location (rig is running casing) Pre-rig up safety meeting before spotting trucks
4	04/14/2020 07:15	Spot Units					Spot trucks
5	04/14/2020 07:20	Rig Up					Rig up water, bulk, and treating line
6	04/14/2020 08:00	Rig					Waiting on rig to finish running in the hole with casing
7	04/14/2020 09:35	STEACS Briefing					Pre-job safety meeting with BJ crew, Rig crew, and Company man
8	04/14/2020 09:45	Rig Up					Rig up cement head
9	04/14/2020 10:05	Other (See comment)	8.3400	4.10	5.00	87.00	Load pumps and lines with 5 bbls of fresh water ahead
10	04/14/2020 10:11	Pressure Test	8.3400	0.00	0.00	3015.00	Test pumps and lines
11	04/14/2020 10:13	Pump Spacer	8.3400	5.70	15.00	219.00	Pump 15 more bbls of fresh water + Dye ahead of cement
12	04/14/2020 10:16	Pumping Cement	14.5000	6.50	150.00	318.00	Pump 930 sks of surface cement @14.5 ppg (Pods 3&4 From field bin CTF-014, and both pods from bulk truck CTF-215)
13	04/14/2020 10:41	Pumping Cement	14.5000	5.10	40.00	173.00	Dropped rate when we swapped over to the rear pod of CTF-215, in order to hold density
14	04/14/2020 10:48	Pumping Cement	14.5000	4.10	40.00	118.00	Had to drop rate when we swapped to the front pod of CTF-215 in order to hold density
15	04/14/2020 10:58	Drop Top Plug	14.5000	0.00	0.00	0.00	Shut down, wash pump, and drop top plug
16	04/14/2020 11:02	Pump Displacement	8.3400	7.70	0.00	151.00	Send plug, start freshwater displacement + Biocide (provided by the customer)
17	04/14/2020 11:10	Pump Displacement	8.3400	7.70	50.00	458.00	
18	04/14/2020 11:15	Pump Displacement	8.3400	5.40	90.00	573.00	Drop rate (Pressure was @850 psi)
19	04/14/2020 11:17	Spacer Back-to-Surface	8.3400	5.40	110.00	640.00	Start getting spacer to surface
20	04/14/2020 11:23	Cement Back-to-Surface	8.3400	2.80	135.00	680.00	Drop rate to land the plug, start getting good cement to surface

Client: Great Western Operating Company, LLC

Well Name / API: B-FARM LD #18-386HN / 05-001-10268



Quote #: QUO-43762-F4P7K9

Plan #: ORD-25764-V5P9Y8

Execution #: EXC-25764-V5P9Y802

21	04/14/2020 11:30	Land Plug	8.3400	2.80	153.00	1502.00	Land plug (FCP was 786) 18 bbls of cement to surface
22	04/14/2020 11:40	Pressure Test	8.3400	0.00	0.00	1471.00	10 min. into casing test
23	04/14/2020 11:50	Pressure Test	8.3400	0.00	0.00	1482.00	20 min. into casing test
24	04/14/2020 12:00	Check Floats	8.3400	0.00	0.00	1496.00	Floats held, 1 bbl back, final casing test pressure was 1,496 psi
25	04/14/2020 12:02	STEACS Briefing					Pre-rig down safety meeting
26	04/14/2020 12:10	Rig Down					Rig down
27	04/14/2020 12:40	Leave Location					Leave location



JobMaster Program Version 5.00C1

Job Number: 22228

Customer: Great Western

Well Name: B-Farms LD 18-386HN

