



Great Western Operating Company, LLC

B-Farm LD 18-385HNX

API # 05-001-10266

Surface

April 20, 2020

Quote #: QUO-43764-L5H6P0

Execution #: EXC-25790-TH9M302



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	Richard White	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
Casing	8.92	9.63	36.00	2,012.00	2,011.00		J-55	LTC
Open Hole	13.50	0.00	0.00	2,012.00	2,011.00	30.00		

HARDWARE

Bottom Plug Used?	No	Tool Type	Float Collar
Top Plug Used?	Yes	Tool Depth (ft)	1,966.43
Top Plug Provided By	Non BJ	Max Casing Pressure - Rated (psi)	3520.00
Top Plug Size	9.625	Max Casing Pressure - Operated (psi)	1509.00
Centralizers Used	Yes	Pipe Movement	None
Centralizers Quantity	19.00	Job Pumped Through	Manifold
Centralizers Type	Bow	Top Connection Thread	8rd
Landing Collar Depth (ft)	1,966.43	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)	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)	32.00	Slurry Cement Temperature (°F)	60.00
Mix Water Temperature (°F)	65.00	Flow Line Temperature (°F)	60.00

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	42.00
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)	711.00	Total Volume Pumped (bbls)	376.00
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 - Richard White

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	04/20/2020 02:07	Callout					Crew called out early before storm closed roads
2	04/20/2020 02:07	Depart for Location					Leave for location
3	04/20/2020 03:00	Arrive on Location					Arrive on location
4	04/20/2020 05:30	STEACS Briefing					Pre rig up safety meeting
5	04/20/2020 05:45	Rig Up					Rig up treating equipment
6	04/20/2020 06:30	Other (See comment)					Wait for rig to finish running casing and circulating
7	04/20/2020 13:15	STEACS Briefing					Safety meeting with rig crew and customer
8	04/20/2020 13:35	Prime Up	8.3300	3.50	5.00	61.00	Fill lines with 5 bbl water
9	04/20/2020 13:37	Pressure Test					Pressure test lines to 3000 psi
10	04/20/2020 13:41	Pump Spacer	8.3300	4.30	15.00	320.00	Pump 15 bbl fresh water
11	04/20/2020 13:47	Pump Tail Cement	14.5000	5.70	78.00	390.00	Pump 78 bbl cmt@ 14.5ppg 1.3902y 315 sks 6.81gps from tier 4 of ctf-014 wet and dry samples taken and verified
12	04/20/2020 14:03	Pump Tail Cement	14.5000	6.50	78.00	423.00	Pump 78 bbl cmt@ 14.5ppg 1.3902y 315 sks 6.81gps from tier 3 of ctf-014 wet and dry samples taken and verified
13	04/20/2020 14:17	Pump Tail Cement	14.5000	5.70	37.00	350.00	Pump 37 bbl cmt@ 14.5ppg 1.3902y 150 sks 6.81gps from tier 2 of CTF-005 wet and dry samples taken and verified
14	04/20/2020 14:24	Pump Tail Cement	14.5000	5.70	37.00	387.00	Pump 37 bbl cmt@ 14.5ppg 1.3902y 315 sks 6.81gps from tier 1 of CTF-005 wet and dry samples taken and verified
15	04/20/2020 14:32	Pump Tail Cement	14.5000		230.00		Pump a total of 230 bbl cmt@ 14.5ppg 1.3902y 930sks 6.81 gps
16	04/20/2020 14:33	Drop Top Plug					
17	04/20/2020 14:35	Pump Displacement	8.3300	7.90	130.00	680.00	Pump 130 bbl water disp. With bio-cide
18	04/20/2020 14:54	Pump Displacement	8.3300	2.80	13.00	665.00	Pump 13 bbl water disp. With bio-cide
19	04/20/2020 14:58	Pump Displacement			153.00		Pump a total of 153 bbl water disp. With bio-cide got 33 bbl cmt to surface
20	04/20/2020 14:59	Land Plug				1582.00	Land plug @ 1582 psi start 30 min casing test

Client: Great Western Operating Company, LLC

Well Name / API: B-FARM LD #18-385HNX / 05-001-10266



Quote #: QUO-43764-L5H6P0

Plan #: ORD-25790-T6H9M3

Execution #: EXC-25790-T6H9M302

21	04/20/2020 15:09	Other (See comment)				1571.00	1571 psi @ 10 min
22	04/20/2020 15:19	Other (See comment)				1574.00	1574 psi @ 20 min
23	04/20/2020 15:29	Other (See comment)				1587.00	1587 psi @ 30 min
24	04/20/2020 15:30	Check Floats					Floats held bbl back
25	04/20/2020 15:32	STEACS Briefing					Pre rig down safety briefing
26	04/20/2020 15:35	Rig Down					Rig down treating equipment
27	04/20/2020 15:55	Leave Location					



JobMaster Program Version 5.00C1

Job Number:

Customer: GW

Well Name: B-Farm LD 18-385HNX

