



# Great Western Operating Company

B-Farm LD 18-391HNX

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API # 05-001-10258

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Surface

11/29/2018

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Quote #: 23516

Execution #: 13539



# 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

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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# Cementing Treatment



<b>Start Date</b>	11/29/2018	<b>Well</b>	B-FARM LD #18-391HNX
<b>End Date</b>	11/29/2018	<b>API#</b>	05-001-10258
<b>Client</b>	Great Western Operating Company LLC	<b>County</b>	ADAMS
<b>Service Sup.</b>	Hector Montoya	<b>State/Province</b>	CO
<b>District</b>	Cheyenne, WY	<b>Rig</b>	460
<b>Type of Job</b>	Surface	<b>Project ID</b>	PRJ1013053
<b>Execution ID</b>	EXC-13539-X9V9L702		

## WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	TVD (ft)	Excess(%)	Grade	Thread
Open Hole	13.50	0.00	0.00	1,758.00	1,758.00	25.00		
Casing	8.92	9.63	36.00	1,758.00	1,758.00		J-55	LTC

**Shoe Length (ft):** 42.00

## HARDWARE

<b>Top Plug Used?</b>	Yes	<b>Landing Collar Depth (ft)</b>	1,714
<b>Top Plug Provided By</b>	Non BJ	<b>Max Casing Pressure - Rated (psi)</b>	3,520.00
<b>Top Plug Size</b>	9.625	<b>Max Casing Pressure - Operated (psi)</b>	2,816.00
<b>Centralizers Used</b>	Yes	<b>Job Pumped Through</b>	Squeeze Manifold
<b>Centralizers Quantity</b>	18.00	<b>Top Connection Thread</b>	LTC
<b>Centralizers Type</b>	Bow	<b>Top Connection Size</b>	9.625

## CIRCULATION PRIOR TO JOB

<b>Well Circulated By</b>	Rig	<b>Mud Density In (ppg)</b>	8.33
<b>Circulation Prior to Job</b>	Yes	<b>Mud Density Out (ppg)</b>	8.33
<b>Circulation Time (min)</b>	30.00	<b>Solids Present at End of Circulation</b>	No
<b>Circulation Rate (bpm)</b>	5.00	<b>Flare Prior to/during the Cement Job</b>	No
<b>Circulation Volume (bbls)</b>	150.00	<b>Gas Present</b>	No
<b>Lost Circulation Prior to Cement Job</b>	No		

## TEMPERATURE

<b>Ambient Temperature (°F)</b>	40.00	<b>Slurry Cement Temperature (°F)</b>	60.00
<b>Mix Water Temperature (°F)</b>	55.00	<b>Flow Line Temperature (°F)</b>	60.00

# Cementing Treatment



## BJ FLUID DETAILS

Fluid Type	Fluid Name	Density (ppg)	Yield (Cu Ft/sk)	H2O 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	1700	760	1,056.0000	188.0000
Displacement Final	Water	8.3300					0.0000	132.0000

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 Services	Amount of Cement Returned/Reversed	22.00
Calculated Displacement Volume (bbls)	132.00	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	132.00	Amount of Spacer to Surface	20.00
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0.00
Bump Plug	Yes	Amount Bled Back After Job	0.50
Bump Plug Pressure (psi)	1,210.00	Total Volume Pumped (bbls)	132.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement returns During Job	Yes	Lost Circulation During Cement Job	No

# EVENT LOG



**Customer Name:** Great Western Operating Company LLC

**Well Name:** B-FARM LD #18-391HNX

**Job Type:** Surface

**Quote ID:** QUO-23516-C1H2P5

**Plan ID:** ORD-13539-X9V9L7

**District:** Cheyenne, WY

**Execution ID:** EXC-13539-X9V9L702

**BJ Supervisor:** Hector Montoya

Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	11/29/2018 01:00	Callout					BJ Crew gets called
2	11/29/2018 03:00	STEACS Briefing					BJ Crew talks about the hazards of driving to location
3	11/29/2018 03:30	Arrive on Location					BJ Crew arrives safely
4	11/29/2018 05:00	STEACS Briefing					BJ Crew talks about hazards of rigging down
5	11/29/2018 05:30	Rig Up					Rig Up
6	11/29/2018 07:00	STEACS Briefing					BJ Crew and Rig Crew talk about the hazards of rigging down
7	11/29/2018 07:20	Prime Up	8.3300	2.00	3.00	80.00	Fill Lines
8	11/29/2018 07:24	Pressure Test					Pressure Test to 3000psi
9	11/29/2018 07:26	Pump Spacer	8.3300	3.00	20.00	110.00	Pump 20bbl Red Dye
10	11/29/2018 07:39	Pump Tail Cement	14.5000	5.00	188.00	160.00	
11	11/29/2018 08:25	Drop Top Plug					Customer witnesses top plug leave
12	11/29/2018 08:27	Pump Displacement	8.3300	7.00	122.00	650.00	Pump 132 total displacement
13	11/29/2018 08:49	Pump Displacement	8.3300	3.00	10.00	1,210.00	Slow rate last 10bbl to 3bpm
14	11/29/2018 08:51	Land Plug				1,210.00	Final circulating pressure was 610 took to 1210psi
15	11/29/2018 08:52	Other (See comment)				1,210.00	15 min casing test: start 1210 psi, end 1220 psi.
16	11/29/2018 09:05	Check Floats					Floats hold, .5bbl back
17	11/29/2018 09:06	STEACS Briefing					Rig Down steacs
18	11/29/2018 09:15	Rig Down					Rig Down
19	11/29/2018 10:00	Leave Location					BJ Crew departs location

# GREAT WESTERN

B-Farm LD 18-391HNX - Surface

