



# Great Western Operating Company

Ottesen LE 06-370HC

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API # 05-123-44355

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## Surface

11/10/2018

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Quote #: 21669

Execution #: 12958



# 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>	11/9/2018	<b>Field Ticket#</b>	FT-12958-T7V3D60202-90608
<b>End Date</b>	11/10/2018	<b>Well</b>	Ottesen LE 06-370HC
<b>Client</b>	Great Western Operating Company LLC	<b>API#</b>	05-123-44355
<b>Service Sup.</b>	Hector Montoya	<b>County</b>	WELD
<b>District</b>	Cheyenne, WY	<b>State/Province</b>	CO
<b>Type of Job</b>	Surface	<b>Project ID</b>	PRJ1012519
<b>Execution ID</b>	EXC-12958-T7V3D602		

## 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	1,855.00	1,786.00	30.00		
Casing	8.92	9.63	36.00	1,855.00	1,786.00	30.00	J-55	LTC

**Shoe Length (ft):** 41.00

## HARDWARE

<b>Top Plug Used?</b>	Yes	<b>Landing Collar Depth (ft)</b>	1,814
<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>	2,800.00
<b>Centralizers Used</b>	Yes	<b>Pipe Movement</b>	None
<b>Centralizers Quantity</b>	17.00	<b>Job Pumped Through</b>	Manifold
<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>	6.00	<b>Flare Prior to/during the Cement Job</b>	No
<b>Circulation Volume (bbls)</b>	120.00	<b>Gas Present</b>	No
<b>Lost Circulation Prior to Cement Job</b>	No		

## TEMPERATURE

<b>Ambient Temperature (°F)</b>	28.00	<b>Slurry Cement Temperature (°F)</b>	47.00
<b>Mix Water Temperature (°F)</b>	40.00	<b>Flow Line Temperature (°F)</b>	50.00

## 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	6.80	1803	837	1,163.0000	207.0000
Displacement Final	Water	8.3300					0.0000	139.0000

# Cementing Treatment



Fluid Type	Fluid Name	Component	Concentration	UOM
Tail Slurry	BJCem S100.3.XC	FOAM PREVENTER, FP-13L	0.0060	GALS/SK
Tail Slurry	BJCem S100.3.XC	CEMENT, ASTM TYPE III	100.0000	PCT

## DISPLACEMENT AND END OF JOB SUMMARY

<b>Displaced By</b>	BJ Services	<b>Amount of Cement Returned/Reversed</b>	20.00
<b>Calculated Displacement Volume (bbls)</b>	139.00	<b>Method Used to Verify Returns</b>	Visual
<b>Actual Displacement Volume (bbls)</b>	139.00	<b>Amount of Spacer to Surface</b>	20.00
<b>Did Float Hold?</b>	Yes	<b>Pressure Left on Casing (psi)</b>	0.00
<b>Bump Plug</b>	Yes	<b>Amount Bled Back After Job</b>	0.50
<b>Bump Plug Pressure (psi)</b>	1,240.00	<b>Total Volume Pumped (bbls)</b>	139.00
<b>Were Returns Planned at Surface</b>	Yes	<b>Top Out Cement Spotted</b>	No
<b>Cement returns During Job</b>	Yes	<b>Lost Circulation During Cement Job</b>	No

# EVENT LOG



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

**Well Name:** Ottesen LE 06-370HC

**Job Type:** Surface

**Quote ID:** QUO-21669-B4K9S6

**Plan ID:** ORD-12958-T7V3D6

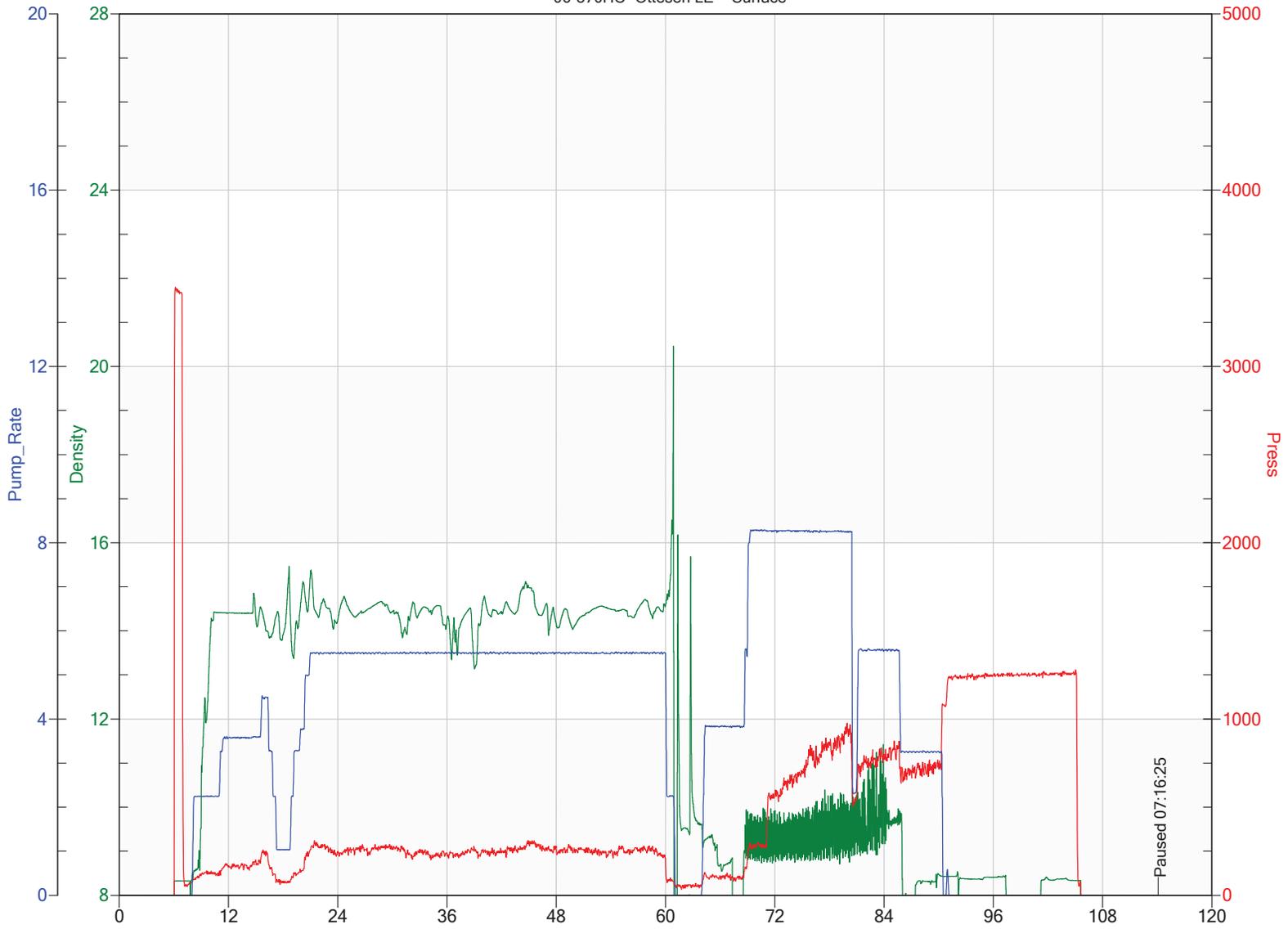
**District:** Cheyenne, WY

**Execution ID:** EXC-12958-T7V3D602

**BJ Supervisor:** Hector Montoya

Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol(bbls)	Pipe Pressure(psi)	Comments
1	11/09/2018 20:30	Callout					BJ Crew gets called out
2	11/09/2018 22:30	STEACS Briefing					BJ Crew talks about the hazards of driving to location
3	11/09/2018 23:00	Arrive on Location					BJ Crew arrives safely on location
4	11/10/2018 01:00	STEACS Briefing					BJ Crew talks about the hazards of spotting equipment and rigging up
5	11/10/2018 01:30	Rig Up					Rig Up
6	11/10/2018 03:45	STEACS Briefing					BJ Crew and Rig Crew talk about the hazards of pumping the job and go over the job procedure
7	11/10/2018 04:24	Prime Up					Fill lines 3bbl
8	11/10/2018 04:27	Pressure Test					Pressure Test to 3500psi
9	11/10/2018 04:29	Pump Spacer	8.3300	3.00	20.00	160.00	Pump 20bbl Red Dye
10	11/10/2018 04:34	Pump Tail Cement	14.5000	5.00	207.00	230.00	Tail cement at 14.5ppg, yield-1.3, Gal/Sk-6.81, 837sks, Mix Water 135
11	11/10/2018 05:22	Drop Top Plug					Customer witnesses plug leave
12	11/09/2018 05:25	Pump Displacement	8.3300	6.00	119.00	700.00	Total displacement 139bbl
13	11/10/2018 05:47	Pump Displacement	8.3300	3.00	20.00	1,240.00	Slow rate last 20bbl to 3bpm, Land plug, take 500psi over
14	11/10/2018 05:51	Land Plug					Final Circulating pressure was 700psi, took to 1240psi
15	11/10/2018 05:52	Other (See comment)				1,240.00	Casing Test for 15 min pressure 1240
16	11/10/2018 06:07	Check Floats					.5bbl back
17	11/10/2018 06:08	STEACS Briefing					BJ Crew and talks about the hazards of rigging down
18	11/10/2018 06:30	Rig Down					Rig Down
19	11/10/2018 07:00	Leave Location					BJ Crew leaves location

GREAT WESTERN  
06-370HC -Ottesen LE - Surface



Paused 07:16:25