



# Great Western Operating Company

Ottesen LE 09-368HC

API # 05-123-44343

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## Surface

11/3/2018

Quote #: 21675

Execution #: 12697



# 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>	11/3/2018	<b>Well</b>	Ottesen LE 09-368HC
<b>End Date</b>	11/3/2018	<b>API#</b>	05-123-44343
<b>Client</b>	Great Western Operating Company LLC	<b>County</b>	WELD
<b>Service Sup.</b>	Andrew Hyde	<b>State/Province</b>	CO
<b>District</b>	Cheyenne, WY	<b>Execution ID</b>	EXC-12697-F2D1N302
<b>Type of Job</b>	Surface	<b>Project ID</b>	PRJ1012279

## 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	1,773.00	1,772.00	30.00		
Casing	8.92	9.63	36.00	1,773.00	1,772.00		J-55	LTC

**Shoe Length (ft):** 42.00

## HARDWARE

<b>Top Plug Used?</b>	Yes	<b>Landing Collar Depth (ft)</b>	1,731
<b>Top Plug Provided By</b>	Non BJ	<b>Tool Type</b>	Float Collar
<b>Top Plug Size</b>	9.625	<b>Tool Depth (ft)</b>	1,717.00
<b>Centralizers Used</b>	Yes	<b>Top Connection Thread</b>	LTC
<b>Centralizers Quantity</b>	18.00	<b>Top Connection Size</b>	9.625
<b>Centralizers Type</b>	Bow		

## CIRCULATION PRIOR TO JOB

<b>Well Circulated By</b>	Rig	<b>Mud Density In (ppg)</b>	9.00
<b>Circulation Prior to Job</b>	Yes	<b>Mud Density Out (ppg)</b>	9.00
<b>Circulation Time (min)</b>	30.00	<b>Solids Present at End of Circulation</b>	No
<b>Circulation Rate (bpm)</b>	8.00	<b>Flare Prior to/during the Cement Job</b>	No
<b>Circulation Volume (bbls)</b>	240.00	<b>Gas Present</b>	No
<b>Lost Circulation Prior to Cement Job</b>	No		

## TEMPERATURE

<b>Ambient Temperature (°F)</b>	44.00	<b>Mix Water Temperature (°F)</b>	60.00
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## 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	1720	799	1,110.0000	197.7000
Displacement Final	Water	8.3300					0.0000	129.7000

# Cementing Treatment



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

## DISPLACEMENT AND END OF JOB SUMMARY

<b>Displaced By</b>	BJ Services	<b>Amount of Cement Returned/Reversed</b>	10.00
<b>Calculated Displacement Volume (bbls)</b>	132.00	<b>Method Used to Verify Returns</b>	Visual
<b>Actual Displacement Volume (bbls)</b>	132.00	<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>	700.00	<b>Total Volume Pumped (bbls)</b>	350.00
<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 09-368HC

**Job Type:** Surface

**Quote ID:** QUO-21675-R1M8C1

**Plan ID:** ORD-12697-F2D1N3

**District:** Cheyenne, WY

**Execution ID:** EXC-12697-F2D1N302

**BJ Supervisor:** Andrew Hyde

Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	11/03/2018 04:00	Callout					BJ crew gets called out and requested on location at 10:00
2	11/03/2018 05:30	STEACS Briefing					BJ crew talks about the hazards of driving to location
3	11/03/2018 06:00	Depart for Location					Depart yard
4	11/03/2018 08:00	Arrive on Location					Arrive on location
5	11/03/2018 08:10	STEACS Briefing					BJ crew talks about the hazards of spotting in equipment and rigging up
6	11/03/2018 08:30	Rig Up					Rig up
7	11/03/2018 11:00	STEACS Briefing					BJ and rig crew talked about the hazards of pumping the job
8	11/03/2018 11:35	Prime Up	8.3300	2.00	3.00	340.00	Pump 3 bbls of water to fill lines
9	11/03/2018 11:38	Pressure Test					Pressure test pumps and lines to 3,500 psi
10	11/03/2018 11:40	Pump Spacer	8.3300	3.00	20.00	290.00	Pump 20 bbls of dye water spacer
11	11/03/2018 11:49	Pump Tail Cement	14.5000	5.00	198.00	430.00	Mix up and pump 799 sks of BJ Cem S100.3.XC , 14.5 ppg, yield 1.39, 6.81 gal/sk, 198 bbls
12	11/03/2018 12:30	Other (See comment)					Shutdown line out manifold to drop top plug
13	11/03/2018 12:31	Drop Top Plug					Customer witness plug leave manifold
14	11/03/2018 12:32	Pump Displacement	8.3300	6.00	112.00	480.00	Pump 132 bbls of displacement
15	11/03/2018 12:53	Pump Displacement	8.3300	3.00	20.00	550.00	Slow rate the last 20 bbls to bump plug
16	11/03/2018 13:01	Land Plug					Bump plug at 700 psi, took it up to 1,320 psi
17	11/03/2018 13:01	Pressure Test					Casing test to 1,310 psi for 15 min
18	11/03/2018 13:16	Check Floats					Got .5 bbls back to the truck

# EVENT LOG



19	11/03/2018 13:20	STEACS Briefing					BJ crew talks about the hazards of rigging down
20	11/03/2018 13:30	Rig Down					Rig down
21	11/03/2018 14:30	Leave Location					Depart location
22	11/03/2018 14:31	Other (See comment)					Got 10 bbls cement to surface

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Ottesen LE 09-368HC - Surface

