



# Great Western Operating Company

Ottesen LE 06-351HN

API # 05-123-44347

Surface

11/8/2018

Quote #: 21698

Execution #: 12887



# 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](mailto: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>	11/8/2018	<b>Well</b>	Ottesen LE 06-351HN
<b>End Date</b>	11/8/2018	<b>API#</b>	05-123-44347
<b>Client</b>	Great Western Operating Company LLC	<b>County</b>	WELD
<b>Client Field Rep.</b>	Ricky	<b>State/Province</b>	CO
<b>Service Sup.</b>	Roger Acuna	<b>Execution ID</b>	EXC-12887-J1Q2C702
<b>District</b>	Cheyenne, WY	<b>Project ID</b>	PRJ1012454
<b>Type of Job</b>	Surface		

## 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	1,818.00	1,772.00	30.00		
Casing	8.92	9.63	36.00	1,818.00	1,772.00		J-55	LTC

Shoe Length (ft): 41.00

## HARDWARE

<b>Top Plug Used?</b>	Yes	<b>Tool Depth (ft)</b>	1,775.77
<b>Top Plug Provided By</b>	Non BJ	<b>Max Casing Pressure - Rated (psi)</b>	2,020.00
<b>Top Plug Size</b>	9.625	<b>Max Casing Pressure - Operated (psi)</b>	1,250.00
<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 Thread</b>	LTC
<b>Landing Collar Depth (ft)</b>	1,776	<b>Top Connection Size</b>	9.625
<b>Tool Type</b>	Float Collar		

## CIRCULATION PRIOR TO JOB

<b>Well Circulated By</b>	Rig	<b>Mud Density In (ppg)</b>	8.40
<b>Circulation Prior to Job</b>	Yes	<b>Mud Density Out (ppg)</b>	8.40
<b>Circulation Time (min)</b>	30.00	<b>Solids Present at End of Circulation</b>	No
<b>Circulation Rate (bpm)</b>	10.00	<b>Flare Prior to/during the Cement Job</b>	No
<b>Circulation Volume (bbls)</b>	300.00	<b>Gas Present</b>	No
<b>Lost Circulation Prior to Cement Job</b>	No		

## TEMPERATURE

<b>Ambient Temperature (°F)</b>	30.00	<b>Slurry Cement Temperature (°F)</b>	45.00
<b>Mix Water Temperature (°F)</b>	45.00		

# 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	6.80	1803	837	1,163.0000	207.0000
Displacement Final	Water	8.3300					0.0000	136.2000

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

Displaced By	BJ	Amount of Cement Returned/Reversed	26.00
Calculated Displacement Volume (bbls)	136.20	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	136.20	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)	1,250.00	Total Volume Pumped (bbls)	363.20
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:** Ottesen LE 06-351HN

**Job Type:** Surface

**Quote ID:** QUO-21698-M8C0Y5

**Plan ID:** ORD-12887-J1Q2C7

**Execution ID:** EXC-12887-J1Q2C702

**District:** Cheyenne, WY

**BJ Supervisor:** Roger Acuna

Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	11/07/2018 20:00	Callout					CALLED OUT RTS 0200
2	11/07/2018 22:00	Depart for Location					DEPART CHEYENNE WY CAMP
3	11/08/2018 00:30	Arrive on Location					ARRIVE TO LOCATION
4	11/08/2018 00:30	Spot Units					SPOT EQUIPMENT
5	11/08/2018 00:45	Rig Up					RIG UP IRON AND HOSES
6	11/08/2018 01:30	Client	8.4000	10.00	300.00	200.00	WAITING ON RIG TO RUN CASING AND CIRCULATE WELL
7	11/08/2018 04:06	Pump Spacer	8.3300	3.00	3.00	100.00	PUMP DYE WATER TO FILL LINES
8	11/08/2018 04:09	Pressure Test				3,500.00	TEST LINES
9	11/08/2018 04:11	Pump Spacer	8.3300	5.00	17.00	250.00	PUMP FRESH WATER FLUSH
10	11/08/2018 04:16	Pump Tail Cement	14.5000	5.00	207.00	400.00	PUMP 207BBLS BJCEM S100.3. XC @ 14.5PPG (837SKS 1.39YLD 6.80GPS)
11	11/08/2018 05:05	End Pumping					SHUTDOWN
12	11/08/2018 05:05	Drop Top Plug					DROP TOP PLUG
13	11/08/2018 05:06	Pump Displacement	8.3300	6.00	116.00	700.00	PUMP FRESH WATER DISPLACEMENT
14	11/08/2018 05:27	Cement Back-to-Surface					CEMENT TO SURFACE @ 110BBLS INTO DISPLACEMENT
15	11/08/2018 05:29	Pump Displacement	8.3300	3.00	20.20	700.00	SLOW RATE TO LAND PLUG
16	11/08/2018 05:35	Land Plug				1,250.00	LAND PLUG 500PSI OVER FINAL CIRCULATING PRESSURE
17	11/08/2018 05:35	Pressure Test				1,250.00	CASING TEST TO 1250 PSI FOR 15MIN - OK
18	11/08/2018 05:50	Check Floats					CHECK FLOATS, FLOATS HELD
19	11/08/2018 05:51	End Pumping					END JOB
20	11/08/2018 05:51	Rig Down					RIG DOWN IRON AND HOSES
21	11/08/2018 06:30	Leave Location					DEPART LOCATION

# GREAT WESTERN

OTTESEN LE 06-351H - - SURFACE

