



Great Western Operating Company

Ottesen LE 09-363HN

API # 05-123-44332

Surface

10/28/2018

Quote #: 21665

Execution #: 12494



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

Cementing Treatment



Start Date	10/28/2018	Well	Ottesen LE 09-363HN
End Date	10/28/2018	API#	05-123-44332
Client	Great Western Operating Company, LLC	County	WELD
Service Sup.	Andrew Hyde	State/Province	CO
District	Cheyenne, WY	Execution ID	EXC-12494-Q6R7V602
Type of Job	Surface	Project ID	PRJ1012094
		Rig	Spud Rig

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	1,765.00	1,764.00	30.00		
Casing	8.92	9.63	36.00	1,765.00	1,764.00		J-55	LTC

Shoe Length (ft): 41.00

HARDWARE

Top Plug Used?	Yes	Landing Collar Depth (ft)	1,723
Top Plug Provided By	Non BJ	Tool Type	Float Collar
Top Plug Size	9.625	Tool Depth (ft)	1,723.37
Centralizers Used	Yes	Pipe Movement	None
Centralizers Quantity	18.00	Top Connection Thread	LTC
Centralizers Type	Bow	Top Connection Size	9.625

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	Mud Density In (ppg)	8.90
Circulation Prior to Job	Yes	Mud Density Out (ppg)	8.90
Circulation Time (min)	30.00	Solids Present at End of Circulation	No
Circulation Rate (bpm)	8.00	Flare Prior to/during the Cement Job	No
Circulation Volume (bbls)	240.00	Gas Present	No
Lost Circulation Prior to Cement Job	No		

TEMPERATURE

Ambient Temperature (°F)	70.00	Mix Water Temperature (°F)	65.00
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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	1,068.0000	198.2000
Displacement Final	Water	8.3300					0.0000	129.7000

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

Displaced By	BJ Services	Amount of Cement Returned/Reversed	12.00
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)	600.00	Total Volume Pumped (bbls)	350.00
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: Ottesen LE 09-363HN

Job Type: Surface

Quote ID: QUO-21665-J4X9G3

Plan ID: ORD-12494-Q6R7V6

District: Cheyenne, WY

Execution ID: EXC-12494-Q6R7V602

BJ Supervisor: Andrew Hyde

Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	10/28/2018 12:30	Callout					BJ crew gets called out and requested on location at 18:30
2	10/28/2018 14:00	Safety Meeting					BJ crew talks about the hazards of driving to location
3	10/28/2018 14:30	Other (See comment)					Depart yard
4	10/28/2018 16:30	Arrive on Location					Arrive on location
5	10/28/2018 16:40	Safety Meeting					BJ crew talks about the hazards of Spotting in equipment and rigging up
6	10/28/2018 16:50	Rig Up					Rig up
7	10/28/2018 19:00	Safety Meeting					BJ and rig crew talk about the hazards of pumping the job
8	10/28/2018 19:56	Prime Up	8.3300	3.00	3.00	15.00	Pump 3 bbls of water to fill lines
9	10/28/2018 19:58	Pressure Test					Pressure test pumps and lines to 3,500 psi
10	10/28/2018 20:00	Pump Spacer	8.3300	3.00	20.00	100.00	Pump 20 bbls of dye water spacer
11	10/28/2018 20:07	Pump Tail Cement	14.5000	6.50	198.00	400.00	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	10/28/2018 20:40	Other (See comment)					Shutdown line out manifold to drop top plug
13	10/28/2018 20:41	Drop Top Plug					Customer witness plug leave manifold
14	10/28/2018 20:42	Pump Displacement	8.3300	6.00	112.00	500.00	Pump 132 bbls of water displacement
15	10/28/2018 21:01	Pump Displacement	8.3300	3.00	20.00	600.00	Slow rate the last 20 bbls to 3 bpm
16	10/28/2018 21:08	Land Plug					Bump plug at 600 psi, took it up to 1,200 psi, casing test for 15 mins 1,200 psi
17	10/28/2018 21:23	Check Floats					Got .5 bbls back to the truck
18	10/28/2018 21:30	Safety Meeting					BJ crew talks about the hazards of rigging down

EVENT LOG

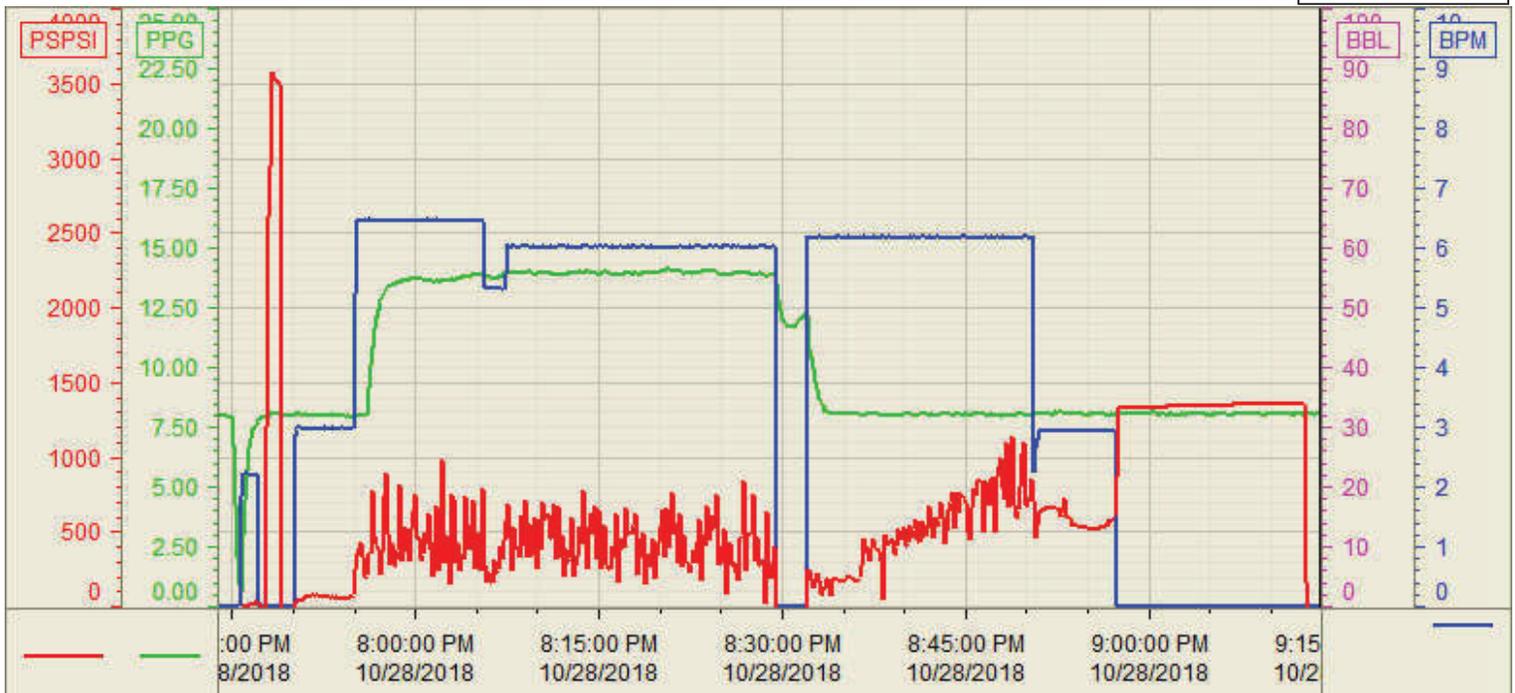


19	10/28/2018 21:40	Rig Down					Rig down
20	10/28/2018 22:30	Leave Location					Depart location
21	10/28/2018 22:31	Other (See comment)					Got 12 bbls cement to surface

Customer: Great Western
 Well Number: 09-363HN
 Lease Info: Ottesen



Print Date/Time
 10/28/2018 9:23:54 PM



	Name	Y value	X value/time stamp	Tag name Y
1	DSPSI	-21.7	10/28/2018 9:13:58 PM	CementerDS_DISCHARGE_PRESS_DIAL
2	BPM	0.00 i.	10/28/2018 9:14:00 PM i.	CementerFlow_Combined
3	Den2 - Discharge Density (F	8.09	10/28/2018 9:13:59 PM	CementerDENSITY2_ACTUAL_RATE
4				
5				

Source: Control1 9:23:28 PM