



Great Western Operating Company, LLC

Ottesen LE 09-366HN

API # 05-123-44336

Surface

11/1/2018

Quote #: 21671

Execution #: 12666



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	11/1/2018	Well	Ottesen LE 09-366HN
End Date	11/1/2018	API#	05-123-44336
Client	Great Western Operating Company LLC	County	WELD
Service Sup.	Andrew Hyde	State/Province	CO
District	Cheyenne, WY	Execution ID	EXC-12666-X7K0F802
Type of Job	Surface	Project ID	PRJ1012251

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

Shoe Length (ft): 39.00

HARDWARE

Top Plug Used?	Yes	Landing Collar Depth (ft)	1,730
Top Plug Provided By	Non BJ	Tool Type	Float Collar
Top Plug Size	9.625	Tool Depth (ft)	1,730.08
Centralizers Used	Yes	Top Connection Thread	LTC
Centralizers Quantity	18.00	Top Connection Size	9.625
Centralizers Type	Bow		

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)	36.00	Mix Water Temperature (°F)	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	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	6.00
Calculated Displacement Volume (bbls)	132.60	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	132.60	Amount of Spacer to Surface	20.00
Did Float Hold?	No	Pressure Left on Casing (psi)	1,150.00
Bump Plug	Yes	Amount Bled Back After Job	2.00
Bump Plug Pressure (psi)	600.00	Total Volume Pumped (bbls)	350.60
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement returns During Job	Full	Lost Circulation During Cement Job	No

EVENT LOG



Customer Great Western Operating
Name: Company LLC

Well Name: Ottesen LE 09-366HN

Job Type: Surface

Quote ID: QUO-21671-C8T0C3

Plan ID: ORD-12666-X7K0F8

District: Cheyenne, WY

Execution ID: EXC-12666-X7K0F802

BJ Supervisor: Andrew Hyde

Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	11/01/2018 00:00	Callout					BJ crew gets called out and requested on location at 6:00
2	11/01/2018 02:00	STEACS Briefing					BJ crew talks about the hazards of driving to location
3	11/01/2018 02:30	Depart for Location					Depart yard
4	11/01/2018 04:30	Arrive on Location					Arrive on location
5	11/01/2018 04:40	STEACS Briefing					BJ crew talks about the hazards of spotting in equipment and rigging up
6	11/01/2018 04:50	Rig Up					Rig up
7	11/01/2018 08:00	STEACS Briefing					BJ and rig crew talk about the hazards of pumping the job
8	11/01/2018 08:46	Prime Up	8.3300	2.00	3.00	150.00	Pump 3 bbls to fill lines
9	11/01/2018 08:48	Pressure Test					Pressure test pumps and lines to 3,500 psi
10	11/01/2018 08:51	Pump Spacer	8.3300	3.00	20.00	130.00	Pump 20 bbls of dye water spacer
11	11/01/2018 08:57	Pump Tail Cement	14.5000	5.00	198.00	390.00	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	11/01/2018 09:36	Other (See comment)					Shutdown line out manifold to drop top plug
13	11/01/2018 09:37	Pump Displacement	8.3300	6.00	112.60	500.00	Pump 132.6 bbls of displacement
14	11/01/2018 10:04	Pump Displacement	8.3300	3.00	20.00	580.00	Slow rate the last 20 bbls to 3 bpm
15	11/01/2018 10:09	Land Plug					Bump plug at 600 psi, took it up to 1,150 psi
16	11/01/2018 10:10	Pressure Test					Hold pressure at 1,150 psi for 15 mins, casing test
17	11/01/2018 10:25	Check Floats					Floats didn't hold pressure back up to 1,150psi, and shut in the well

EVENT LOG



18	11/01/2018 10:40	STEACS Briefing					BJ crew talks about the hazards of rigging down
19	11/01/2018 10:50	Rig Down					Rig down
20	11/01/2018 11:30	Leave Location					Depart location
21	11/01/2018 11:31	Other (See comment)					Got 6 bbls cement to surface

Great Western

Ottesen LE 09-366H - - Surface

