



Great Western Operating Company

Ottesen LE 06-311HC

API # 05-123-44337

Surface

11/6/2018

Quote #: 21678

Execution #: 12786



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	11/6/2018	Well	Ottesen LE 06-311HC
End Date	11/6/2018	API#	05-123-44337
Client	Great Western Operating Company LLC	County	WELD
Service Sup.	Andrew Hyde	State/Province	CO
District	Cheyenne, WY	Execution ID	EXC-12786-X4Q6F802
Type of Job	Surface	Project ID	PRJ1012366

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	1,786.00	1,773.00	30.00		
Casing	8.92	9.63	36.00	1,786.00	1,773.00		J-55	LTC

Shoe Length (ft): 41.00

HARDWARE

Top Plug Used?	Yes	Landing Collar Depth (ft)	1,744.15
Top Plug Provided By	Non BJ	Tool Type	Float Collar
Top Plug Size	9.625	Max Casing Pressure - Rated (psi)	3,520.00
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)	9.00
Circulation Prior to Job	Yes	Mud Density Out (ppg)	9.00
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)	35.00	Mix Water Temperature (°F)	60.00
---------------------------------	-------	-----------------------------------	-------

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	1720	809	1,125.0000	200.0000
Displacement Final	Water	8.3300					0.0000	133.7000

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	15.00
Calculated Displacement Volume (bbls)	133.00	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	133.00	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)	750.00	Total Volume Pumped (bbls)	351.00
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 06-311HC

Job Type: Surface

Quote ID: QUO-21678-G2S2L5

Plan ID: ORD-12786-X4Q6F8

District: Cheyenne, WY

Execution ID: EXC-12786-X4Q6F802

BJ Supervisor: Andrew Hyde

Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol(bbls)	Pipe Pressure(psi)	Comments
1	11/06/2018 03:00	Callout					BJ crew gets called out and requested on location at
2	11/06/2018 04:30	STEACS Briefing					BJ crew talks about the hazards of driving to location
3	11/06/2018 05:00	Depart for Location					Depart yard
4	11/06/2018 07:00	Arrive on Location					Arrive on location
5	11/06/2018 07:05	STEACS Briefing					BJ crew talks about the hazards of spotting in equipment and rigging up
6	11/06/2018 07:10	Rig Up					Rig up
7	11/06/2018 07:30	STEACS Briefing					BJ and rig crew talk about the hazards of pumping the job
8	11/06/2018 07:49	Prime Up	8.3300	2.00	3.00	220.00	Pump 3 bbls of water to fill lines
9	11/06/2018 07:52	Pressure Test					Pressure test pumps and lines to 3,500 psi
10	11/06/2018 07:54	Pump Spacer	8.3300	3.00	20.00	190.00	Pump 20 bbls of dye water spacer
11	11/06/2018 08:02	Pump Tail Cement	14.5000	5.00	200.00	200.00	Mix up and pump 809 sks of BJ Cem S100.3.XC , 14.5 ppg, yield 1.39, 6.81 gal/sk, 200 bbls
12	11/06/2018 08:48	Other (See comment)					Shutdown line out manifold
13	11/06/2018 08:49	Drop Top Plug					Customer witness plug leave manifold
14	11/06/2018 08:50	Pump Displacement	8.3300	6.00	113.70	600.00	Pump 133.7 bbls of water displacement
15	11/06/2018 09:14	Pump Displacement	8.3300	3.00	20.00	700.00	Slow rate the last 20 bbls to 3 bpm
16	11/06/2018 09:19	Land Plug					Bump plug at 750 psi, took it up to 1,210psi
17	11/06/2018 09:20	Pressure Test					Casing test to 1,210 psi for 15 mins
18	11/06/2018 09:35	Check Floats					Got .5 bbls back to the truck

EVENT LOG



19	11/06/2018 09:36	STEACS Briefing					BJ crew talks about the hazards of rigging down
20	11/06/2018 09:50	Rig Down					Rig down
21	11/06/2018 10:30	Leave Location					Depart location
22	11/06/2018 10:31	Other (See comment)					Got 15 bbls cement to surface

Great Western

Ottesen LE 06-311H - - Surface

