



Great Western Operating Company

Ottesen LE 06-370HN

API # 05-123-48288

Surface

11/11/2018

Quote #: 21683

Execution #: 12957



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	11/10/2018	Field Ticket#	FT-12957-X4X0T10202-11098
End Date	11/11/2018	Well	OTTESEN LE #06-370HN
Client	Great Western Operating Company LLC	API#	05-123-48288
Service Sup.	Hector Montoya	County	WELD
District	Cheyenne, WY	State/Province	CO
Type of Job	Surface	Project ID	PRJ1012537
Execution ID	EXC-12957-X4X0T102		

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	1,897.00	1,755.00	30.00		
Casing	8.92	9.63	36.00	1,897.00	1755.00		J-55	LTC

Shoe Length (ft): 41.00

HARDWARE

Top Plug Used?	Yes	Max Casing Pressure - Rated (psi)	3,520.00
Top Plug Provided By	Non BJ	Max Casing Pressure - Operated (psi)	2,800.00
Top Plug Size	9.625	Pipe Movement	None
Centralizers Used	Yes	Job Pumped Through	Manifold
Centralizers Quantity	17.00	Top Connection Thread	9.625
Centralizers Type	Bow	Top Connection Size	9.625
Landing Collar Depth (ft)	1,856		

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	Mud Density In (ppg)	8.33
Circulation Prior to Job	Yes	Mud Density Out (ppg)	8.33
Circulation Time (min)	30.00	Solids Present at End of Circulation	No
Circulation Rate (bpm)	6.00	Flare Prior to/during the Cement Job	No
Circulation Volume (bbls)	180.00	Gas Present	No
Lost Circulation Prior to Cement Job	No		

TEMPERATURE

Ambient Temperature (°F)	30.00	Slurry Cement Temperature (°F)	52.00
Mix Water Temperature (°F)	50.00	Flow Line Temperature (°F)	54.00

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	912	1,163.0000	212.0000
Displacement Final	Water	8.3300					0.0000	142.0000

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 Services	Amount of Cement Returned/Reversed	18.00
Calculated Displacement Volume (bbls)	142.00	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	142.00	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)	1,240.00	Total Volume Pumped (bbls)	142.00
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 #06-370HN

Job Type: Surface

Quote ID: QUO-21683-Z5M5K2

District: Cheyenne, WY

Plan ID: ORD-12957-X4X0T1

Execution ID: EXC-12957-X4X0T102

BJ Supervisor: Hector Montoya

Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol(bbls)	Pipe Pressure(psi)	Comments
1	11/10/2018 23:30	Callout					BJ Crew gets called out
2	11/11/2018 01:00	STEACS Briefing					BJ Crew talks about the hazards of going to location
3	11/11/2018 01:30	Arrive on Location					BJ Crew safely arrives to location
4	11/11/2018 04:00	STEACS Briefing					BJ Crew talks about the hazards of spotting equipment and rigging up
5	11/11/2018 04:30	Rig Up					Rig Up
6	11/11/2018 06:30	STEACS Briefing					BJ Crew talk and Rig Crew talk about hazards of pumping the job and job procedure
7	11/11/2018 07:00	Prime Up	8.3300	2.00	3.00	110.00	Fill lines 3bbl
8	11/11/2018 07:10	Pressure Test					Pressure test to 3500psi
9	11/11/2018 07:15	Pump Spacer	8.3300	3.00	20.00	150.00	Pump 20bbl Red Dye Spacer
10	11/11/2018 07:20	Pump Tail Cement	14.5000	5.00	148.00	470.00	Pump 212bbl at 14.5ppg, YIELD 1.3, G/SK 6.81, MIX WATER 147bbl
11	11/11/2018 08:10	Drop Top Plug					Customer witnesses plug leave
12	11/11/2018 08:18	Pump Displacement	8.3300	6.50	120.00	700.00	Pump total 142bbl displacement
13	11/11/2018 08:39	Pump Displacement	8.3300	3.00	22.00	1,240.00	Slow rate last 20bbl to 3bpm, land plug takes 500psi over
14	11/11/2018 08:49	Land Plug					Final circulating pressure was 700psi, took to 1240psi
15	11/11/2018 08:50	Other (See comment)					15min casing test, pressure held at 1240psi
16	11/11/2018 09:05	Check Floats					.5bbl back to the truck, Floats Held
17	11/11/2018 09:06	Rig Down					Rig Down
18	11/11/2018 10:30	Leave Location					BJ Crew leaves location

GREAT WESTERN
06-370HN - Ottesen LE - Surface

