



Great Western Operating Company

Ottesen LE 06-351HNX

API # 05-123-48287

Surface

11/9/2018

Quote #: 22411

Execution #: 12917



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	11/9/2018	Field Ticket#	FT-12917-C6D3L20202-16118
End Date	11/9/2018	Well	OTTESEN LE #06-351HNX
Client	Great Western Operating Company LLC	API#	05-123-48287
Service Sup.	Hector Montoya	County	WELD
District	Cheyenne, WY	State/Province	CO
Type of Job	Surface	Project ID	PRJ1012480
Execution ID	EXC-12917-C6D3L202		

WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	TVD (ft)	Excess(%)	Grade	Thread
Open Hole	13.50			1,862.00	1,777.00	30.00		
Casing	8.92	9.63	36.00	1,862.00	1,777.00		J-55	LTC

Shoe Length (ft): 41

HARDWARE

Bottom Plug Used?	Yes	Landing Collar Depth (ft)	1,820
Bottom Plug Provided By	Non BJ	Max Casing Pressure - Rated (psi)	3,520.00
Bottom Plug Size	9.625	Max Casing Pressure - Operated (psi)	2,816.00
Centralizers Used	Yes	Job Pumped Through	No Manifold
Centralizers Quantity	17.00	Top Connection Thread	LTC
Centralizers Type	Bow	Top Connection Size	9.625

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	Mud Density In (ppg)	8.30
Circulation Prior to Job	Yes	Solids Present at End of Circulation	No
Circulation Time (min)	30.00	Flare Prior to/during the Cement Job	No
Circulation Rate (bpm)	6.00	Gas Present	No
Lost Circulation Prior to Cement Job	No		

TEMPERATURE

Ambient Temperature (°F)	46.00	Slurry Cement Temperature (°F)	52.00
Mix Water Temperature (°F)	46.00		

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	1,803.00	837	1,163.0000	207.0000
Displacement Final	Water	8.3300					0.0000	136.1000

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	25.00
Calculated Displacement Volume (bbls)	139.00	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	139.00	Pressure Left on Casing (psi)	0.00
Did Float Hold?	Yes	Amount Bled Back After Job	0.50
Bump Plug	Yes	Total Volume Pumped (bbls)	139.00
Bump Plug Pressure (psi)	1,220.00	Top Out Cement Spotted	No
Were Returns Planned at Surface	Yes	Lost Circulation During Cement Job	No
Cement returns During Job	Full		

EVENT LOG



Service Line Cementing
Client Great Western Operating Company LLC
District Cheyenne, WY

Quotes: QUO-22411-B5Y4Q7

Plans: ORD-12917-C6D3L2

Executions: EXC-12917-C6D3L202

Seq.	Well	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	OTTESEN LE #06-351HNX	11/08/2018 18:30:57	Callout	0.0000	0.00	0.00	0.00	BJ Crew gets called out
2	OTTESEN LE #06-351HNX	11/08/2018 19:30:57	Arrive on Location					BJ Crew safely arrives on location
3	OTTESEN LE #06-351HNX	11/08/2018 22:00:00	STEACS Briefing					BJ Crew talks about the hazards of spotting equipment and Rigging up
4	OTTESEN LE #06-351HNX	11/08/2018 22:15:00	Rig Up					Rig Up
5	OTTESEN LE #06-351HNX	11/08/2018 23:30:00	STEACS Briefing	0.0000	0.00	0.00	0.00	BJ Crew and rig crew talk about hazards of pumping the job and job procedure
6	OTTESEN LE #06-351HNX	11/08/2018 23:59:00	Prime Up	8.3300	2.00	3.00	100.00	Fill Lines 3bbl Fresh Water
7	OTTESEN LE #06-351HNX	11/09/2018 03:35:00	Pressure Test	0.0000	0.00	0.00	0.00	Pressure test lines to 3500psi
8	OTTESEN LE #06-351HNX	11/09/2018 03:37:00	Pump Spacer	8.3300	3.00	20.00	160.00	Pump 20bbl Red Dye
9	OTTESEN LE #06-351HNX	11/09/2018 03:50:00	Pump Tail Cement	14.5000	5.00	201.00	190.00	Pump 14.5ppg Cement Yield 1.3, Gal/sk 6.81, 837sks
10	OTTESEN LE #06-351HNX	11/09/2018 04:40:00	Drop Top Plug	0.0000	0.00	0.00	0.00	Customer witnesses top plug leave
11	OTTESEN LE #06-351HNX	11/09/2018 04:45:00	Pump Displacement	8.3300	6.00	116.00	710.00	Pump 116bbl Fresh Water at 6bpm
12	OTTESEN LE #06-351HNX	11/09/2018 05:00:00	Pump Displacement	8.3300	3.00	20.00	1279.00	Slow rate last 20bbl to 3bpm, land plug, take it 500psi over
13	OTTESEN LE #06-351HNX	11/09/2018 05:07:00	Land Plug					Land plug at 710psi, took to 1220psi. Hold pressure 15min for casing test
14	OTTESEN LE #06-351HNX	11/09/2018 05:22:00	Check Floats	0.0000	0.00	0.00	0.00	.5bbl back, floats HELD
15	OTTESEN LE #06-351HNX	11/09/2018 05:23:00	Rig Down	0.0000	0.00	0.00	0.00	Rig down
16	OTTESEN LE #06-351HNX	11/09/2018 06:15:00	Leave Location	0.0000	0.00	0.00	0.00	BJ Crew departs location

GREAT WESTERN

OTTESEN 06-351HNX - Entry Blank - Surface

