



Great Western Operating Company, LLC

Schaefer LD 13-033HN

API # 05-001-10253

Surface

12/11/2018

Quote #: 23798

Execution #: 13877



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

BJ Cementing Treatment Report

SERVICE SUPERVISOR	Victor Corona-Marta	RIG	Ikon 12
CLIENT FIELD REPRESENTATIVE	Ricky W/Kyle H	COUNTY	ADAMS
DISTRICT	Cheyenne, WY	STATE / PROVINCE	CO
SERVICE	Cementing		

WELL GEOMETRY

TYPE	OD (in)	ID (in)	WEIGHT (lb/ft)	MD (ft)	TVD (ft)	EXCESS (%)	GRADE	THREAD
Open Hole	0.00	13.50	0.00	1,781.00	1,781.00	40.00		
Casing	9.63	8.92	36.00	1,781.00	1,781.00		J-55	LTC

HARDWARE

Top Plug Used?	Yes	Tool Type	Float Collar
Top Plug Provided By	Non BJ	Tool Depth (ft)	1,736.62
Top Plug Size	9.625	Pipe Movement	None
Centralizers Used	Yes	Job Pumped Through	Manifold
Centralizers Quantity	17.00	Top Connection Thread	LTC
Centralizers Type	Bow	Top Connection Size	9.625
Landing Collar Depth (ft)	1,737		

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	Mud Density In (ppg)	8.40
Circulation Prior to Job	Yes	Mud Density Out (ppg)	8.40
Circulation Time (min)	15.00	Solids Present at End of Circulation	No
Circulation Rate (bpm)	10.00	Flare Prior to / during the Cement Job	No
Circulation Volume (bbls)	150.00	Gas Present	No
Lost Circulation Prior to Cement Job	No		

TEMPERATURE

Ambient Temperature (°F)	50.00	Slurry Cement Temperature (°F)	50.00
Mix Water Temperature (°F)	50.00		

FLUID DETAILS

FLUID TYPE	FLUID NAME	DENSITY (ppg)	YIELD (Cu Ft/sk)	H ₂ O REQ (gals/sk)	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	6.81	890	1228.0000	220.0000
Displacement Final	Water	8.3300				0.0000	133.6000

FLUID TYPE	FLUID NAME	COMPONENT	CONCENTRATION	UOM
Tail Slurry	BJCem S100.3.XC	CEMENT, ASTM TYPE III	100.0000	PCT

DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ Services	Amt of Cement Returned / Reversed	40.00
Calculated Displacement Vol (bbls)	133.00	Method Used to Verify Returns	Visual
Actual Displacement Vol (bbls)	133.00	Amt of Spacer to Surface	20.00
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0.00
Bump Plug	Yes	Amt Bled Back After Job	0.50
Bump Plug Pressure (psi)	1240.00	Total Volume Pumped (bbls)	373.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement Returns During Job	Yes	Lost Circulation During Cement Job	No



BJ Cementing Event Log

Surface - Cheyenne, WY - Victor Corona-Marta

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	12/11/2018 05:00	Callout					Call out to location/pre-trip vehicles and load chemicals
2	12/11/2018 05:30	Depart for Location					Depart to location
3	12/11/2018 05:45	Arrive on Location					Arrived at location/rig crew was getting casing down hole
4	12/11/2018 08:00	Rig					Rig crew was getting casing down hole
5	12/11/2018 11:30	STEACS Briefing					Steacs briefing for rigging up
6	12/11/2018 11:35	Rig Up					Rig up to rig floor
7	12/11/2018 12:00	STEACS Briefing					Steacs briefing over job procedure
8	12/11/2018 12:16	Pump Spacer	8.3300	2.00	3.00	80.00	Pump 3bbls of fresh water with dye spacer
9	12/11/2018 12:20	Pressure Test				2000.00	Pressure test lines to 2000psi
10	12/11/2018 12:23	Pump Spacer	8.3300	4.00	17.00	230.00	Pump 17bbls of fresh water spacer with dye
11	12/11/2018 12:30	Pumping Cement	14.5000	5.00	220.00	150.00	Pump 220bbls of cement at 14.5lbs(890sacks/yield-1.3902/gpsk-6.81)
12	12/11/2018 13:30	Drop Top Plug			0.00		Drop top plug/wash pump and lines on top of plug
13	12/11/2018 13:34	Pump Displacement	8.3300	5.00	50.00	80.00	Start displacement/50bbls gone
14	12/11/2018 13:44	Cement Back-to-Surface			93.00		Cement to surface after 93bbls pumped/40bbls of cement to surface
15	12/11/2018 13:52	Pump Displacement	8.3300	5.00	110.00	680.00	110bbls gone/slow down rate to 3bpm
16	12/11/2018 13:57	Land Plug	8.3300	3.00	133.00	1240.00	Land top plug
17	12/11/2018 14:04	Pressure Test				1240.00	Test csg for 15 minutes - start 1192 psi, end 1217 psi
18	12/11/2018 14:19	Check Floats					Bleed off pressure/got .5bbls
19	12/11/2018 14:21	STEACS Briefing					Steacs briefing for rig down
20	12/11/2018 14:25	Rig Down					Rig down



JobMaster Program Version 4.02C1

Job Number:

Customer: Great Western

Well Name: Shaefer LD 13-33HN

