



Great Western Operating Company, LLC

Schneider HD 11-219HNX

API # 05-123-46412

Surface

September 10, 2019

Quote #: QUO-35944-C6G8W9

Execution #: EXC-21089-M0T1Y902



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	Chad Johnson	RIG	Ikon 12
DISTRICT	Cheyenne, WY	COUNTY	WELD
SERVICE	Cementing	STATE / PROVINCE	CO

WELL GEOMETRY

TYPE	ID (in)	OD (in)	WEIGHT (lb/ft)	MD (ft)	TVD (ft)	EXCESS (%)	GRADE	THREAD
Open Hole	13.50	0.00	0.00	1,593.00	1,593.00	30.00		
Casing	8.92	9.63	36.00	1,593.00	1,593.00		J-55	LTC

HARDWARE

Bottom Plug Used?	No	Centralizers Type	Bow
Top Plug Used?	Yes	Landing Collar Depth (ft)	1,546.27
Top Plug Provided By	Non BJ	Pipe Movement	None
Top Plug Size	9.630	Job Pumped Through	Manifold
Centralizers Used	Yes	Top Connection Thread	LTC
Centralizers Quantity	16.00	Top Connection Size	9.63

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	Mud Density In (ppg)	8.34
Circulation Prior to Job	Yes	Mud Density Out (ppg)	8.34
Circulation Time (min)	30.00	Solids Present at End of Circulation	No
Circulation Rate (bpm)	10.00	Flare Prior to / during the Cement Job	No
Circulation Volume (bbls)	300.00	Gas Present	No
Lost Circulation Prior to Cement Job	No		

TEMPERATURE

Ambient Temperature (°F)	65.00	Mix Water Temperature (°F)	65.00
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Client: Great Western Operating Company, LLC

Well: SCHNEIDER HD 11-219HNX

Well API: 05-123-46412

Start Date: 9/9/2019

End Date: 9/10/2019



FLUID DETAILS

FLUID TYPE	FLUID NAME	DENSITY (ppg)	YIELD (Cu Ft/sk)	H ₂ O 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	6.81	1,550.00	720	1001.0000	178.3000
Displacement 1	Water	8.3300					0.0000	114.7000

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	Amt of Cement Returned / Reversed	33.00
Calculated Displacement Vol (bbls)	118.00	Method Used to Verify Returns	Visual
Actual Displacement Vol (bbls)	118.00	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)	700.00	Total Volume Pumped (bbls)	314.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement Returns During Job	Yes	Lost Circulation During Cement Job	No

Client: Great Western Operating Company, LLC

Well: SCHNEIDER HD 11-219HNX

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BJ Cementing Event Log

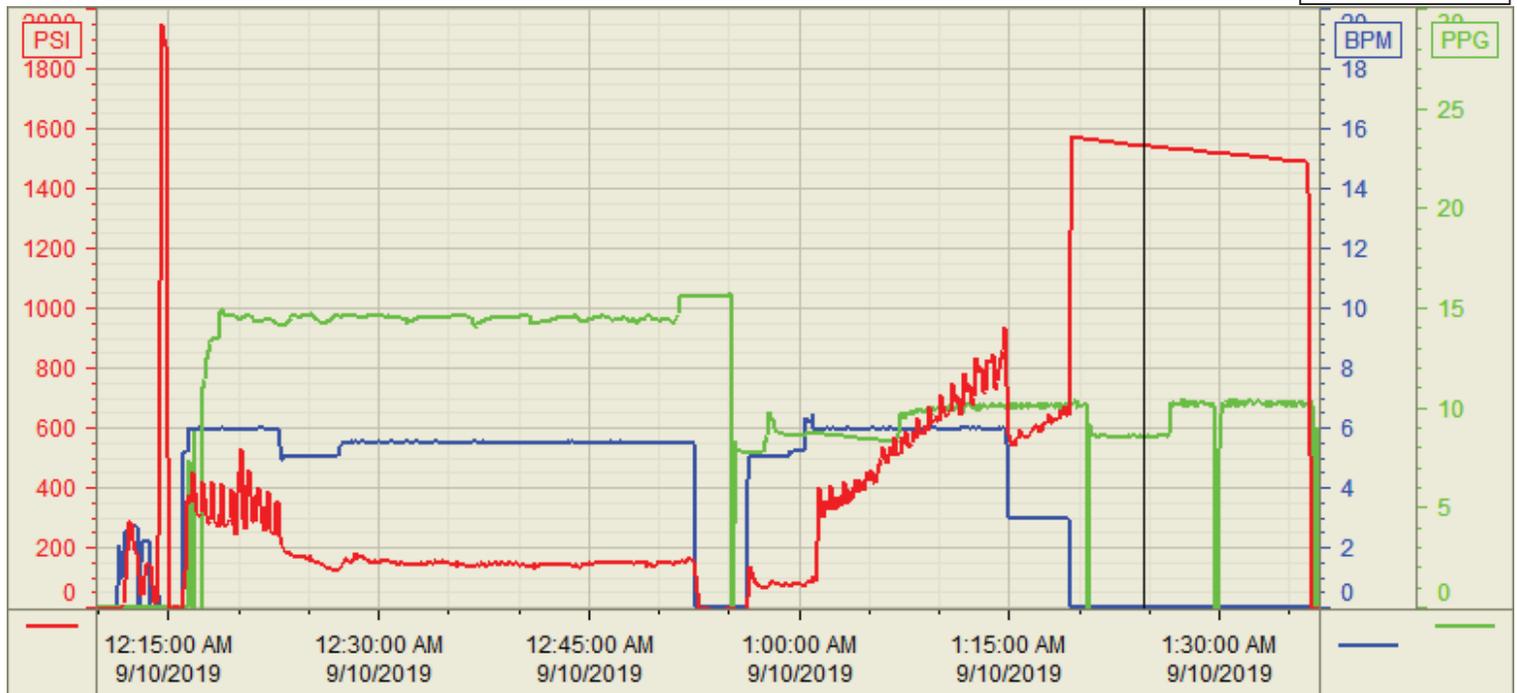
Surface - Cheyenne, WY - Chad Johnson

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	09/09/2019 17:00	Callout					Crew called out requested on location at 2100
2	09/09/2019 20:00	Arrive on Location					Crew arrived on location
3	09/09/2019 20:10	STEACS Briefing					Safety meeting
4	09/09/2019 20:30	Spot Units					Spotted all units
5	09/09/2019 20:40	Rig Up					Rigged up all equipment
6	09/09/2019 21:15	Client					Waiting on rig to finish running casing and circulate the well
7	09/09/2019 23:45	STEACS Briefing					Safety meeting
8	09/10/2019 00:16	Prime Up	8.3400	3.00	5.00	100.00	Fill lines
9	09/10/2019 00:19	Pressure Test					Pressure test lines to 2000 psi
10	09/10/2019 00:21	Pump Spacer	8.3400	5.00	20.00	250.00	Pump water spacer
11	09/10/2019 00:25	Pump Tail Cement	14.5000	6.00	178.00	250.00	Pump tail cement (720 sks, 1.39 Y, 6.81 gal/sk)
12	09/10/2019 00:58	Other (See comment)					Shutdown
13	09/10/2019 01:00	Drop Top Plug					Drop top plug
14	09/10/2019 01:01	Pump Displacement	8.3400	6.00	100.00	400.00	Pump displacement
15	09/10/2019 01:18	Cement Back-to-Surface					Cement back to surface, bbls cement to surface
16	09/10/2019 01:20	Other (See comment)	8.3400	3.00	18.00	600.00	Slow pump rate
17	09/10/2019 01:24	Land Plug					Land plug at 700 psi. Test csg for 15 min, start 1570 psi, end 1519 psi.
18	09/10/2019 01:39	Check Floats					Check floats, floats holding, 0.5 bbls back
19	09/10/2019 01:45	STEACS Briefing					Safety meeting
20	09/10/2019 02:00	Rig Down					Rigged down all equipment
21	09/10/2019 03:00	Leave Location					Crew departed location

Customer: Great Western
 Well Number: 11-219HNX
 Lease Info: Schneider HD



Print Date/Time
 9/10/2019 1:57:36 AM



	Name	Y value	X value/time stamp	Tag name Y
1	DS - Press (PSI)	1541.2 i.	9/10/2019 1:24:32 AM i.	CementerDS_DISCHARGE_PRESS_DIAL
2	Recirc - Density (PPG)	8.57	9/10/2019 1:24:31 AM	CementerDENSITY_ACTUAL_RATE
3	Combined Rate	0.00 i.	9/10/2019 1:24:32 AM i.	CementerFlow_Combined
4				
5				

Source: Control1 1:57:30 AM