POST JOB REPORT

Great Western Operating Company, LLC

Schneider HD 11-022HC

API # 05-123-46411

Surface

September 01, 2019

Quote #: QUO-35929-N1P6Q9

Execution #: EXC-20888-Z3X0L102

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	Hector Montoya	**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
Casing	8.92	9.63	36.00	1,611.00	1,611.00		J-55	LTC
Open Hole	13.50	0.00	0.00	1,611.00	1,611.00	30.00		

HARDWARE

Bottom Plug Used?	No	**Landing Collar Depth (ft)**	1,564.25
Top Plug Used?	Yes	**Max Casing Pressure - Rated (psi)**	3520.00
Top Plug Provided By	Non BJ	**Max Casing Pressure - Operated (psi)**	2860.00
Top Plug Size	9.625	**Job Pumped Through**	Manifold
Centralizers Used	Yes	**Top Connection Thread**	LTC
Centralizers Quantity	16.00	**Top Connection Size**	9.625
Centralizers Type	Bow		

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	**PV Mud Out**	1
Circulation Prior to Job	Yes	**YP Mud In**	1
Circulation Time (min)	30.00	**YP Mud Out**	1
Circulation Rate (bpm)	6.00	**Solids Present at End of Circulation**	No
Circulation Volume (bbls)	180.00	**10 sec SGS**	1
Lost Circulation Prior to Cement Job	No	**10 min SGS**	1
Mud Density In (ppg)	8.50	**30 min SGS**	1
Mud Density Out (ppg)	8.50	**Flare Prior to / during the Cement Job**	No
PV Mud In	1	**Gas Present**	No

TEMPERATURE

Ambient Temperature (°F)	65.00	**Slurry Cement Temperature (°F)**	68.00
Mix Water Temperature (°F)	65.00	**Flow Line Temperature (°F)**	90.00

FLUID DETAILS

FLUID TYPE	FLUID NAME	DENSITY (ppg)	YIELD (Cu Ft/sk)	H_2O 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	117.0000

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**	39.00
Calculated Displacement Vol (bbls)	119.00	**Method Used to Verify Returns**	Visual
Actual Displacement Vol (bbls)	119.00	**Amt of Spacer to Surface**	20.00
Did Float Hold?	Yes	**Pressure Left on Casing (psi)**	0.00
Bump Plug	No	**Amt Bled Back After Job**	0.50
Were Returned Planned at Surface	Yes	**Total Volume Pumped (bbls)**	317.00
Cement Returns During Job	Yes	**Top Out Cement Spotted**	No
		Lost Circulation During Cement Job	No

BJ Cementing Event Log

Surface - Cheyenne, WY - Hector Montoya

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	09/01/2019 01:30	Callout					BJ Crew gets called out
2	09/01/2019 03:30	Other (See comment)					Load Up for job
3	09/01/2019 04:00	STEACS Briefing					BJ Crew discusses the hazards of driving to location
4	09/01/2019 04:15	Arrive on Location					Arrive safely on location
5	09/01/2019 06:00	STEACS Briefing					BJ Crew talks about the hazards of rigging up
6	09/01/2019 06:10	Rig Up					Rig Up
7	09/01/2019 06:35	STEACS Briefing					BJ Crew and Rig Crew discuss job hazards and job procedure
8	09/01/2019 06:45	Prime Up					Fill Lines
9	09/01/2019 06:48	Pressure Test					Pressure Test to 3500psi
10	09/01/2019 06:52	Pump Spacer	8.3300	3.00	20.00	120.00	Pump 20bbl Red Dye
11	09/01/2019 07:02	Pump Lead Cement	14.5000	5.50	178.00	310.00	Primary 178bbl at 14.5ppg, y-1.39, gps-6.81, mix water-116bbl
12	09/01/2019 07:35	Drop Top Plug					Customer Witnesses Top Plug leave
13	09/01/2019 07:40	Pump Displacement	8.3300	6.00	100.00	600.00	Total Displacement 119bbl. 39bbl cement to surface
14	09/01/2019 08:00	Pump Displacement	8.3300	3.00	19.00	1336.00	Slow rate last 20bbl to 3bpm
15	09/01/2019 08:05	Other (See comment)				1330.00	15min csg test: start 1336 psi, end 1358 psi
16	09/01/2019 08:20	STEACS Briefing					BJ Crew discusses the hazards of rigging down
17	09/01/2019 08:30	Rig Down					Rig Down
18	09/01/2019 09:30	Leave Location					Depart location

Client: Great Western Operating Company, LLC

Well: SCHNEIDER HD 11-022HC

Well API: 05-123-46411

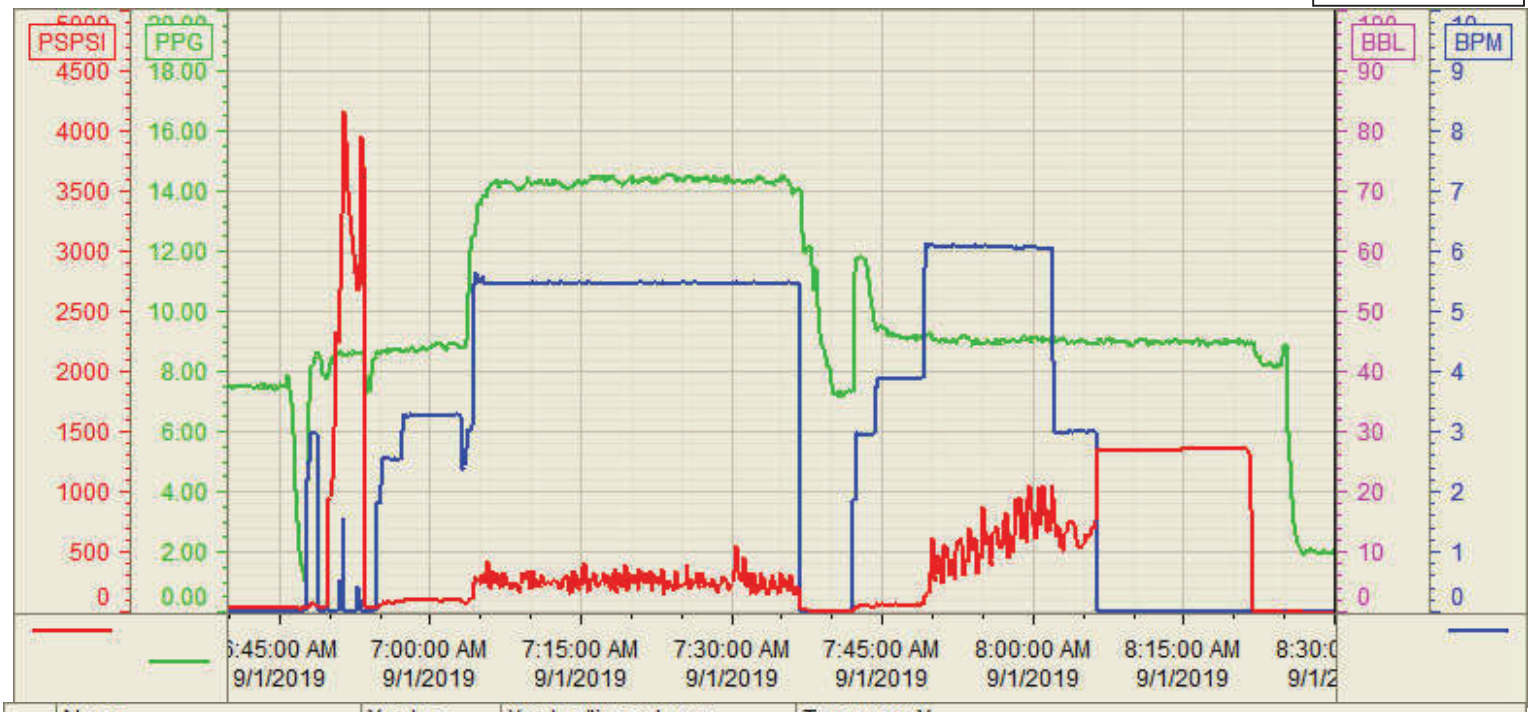
Plan #: ORD-20888-Z3X0L1

Execution #: EXC-20888-Z3X0L102

Quote #: QUO-35929-N1P6Q9

Customer: GREAT WESTERN
Well Number: 11-022HC
Lease Info: SCHNEIDER HD

Print Date/Time
9/1/2019 9:16:50 AM



	Name	Y value	X value/time stamp	Tag name Y
1	PSPSI	-8.7	9/1/2019 8:30:03 AM	Cementer\PS_DISCHARGE_PRESS_DIAL
2	BPM	0.00	9/1/2019 8:30:03 AM	Cementer\Flow_Combined
3	Den2 - Discharge Density (F	2.00	9/1/2019 8:30:03 AM	Cementer\DENSITY2_ACTUAL_RATE
4				
5				

Source: Control1 9:16:37 AM