



Great Western Operating Company, LLC

Production Post-Job Report

Marcus LD 11-378HNX (API: 05-123-45387)

S:34 T:1N R:67W Weld, CO



Great Western Operating Company, LLC

[Great Western Operating Company, LLC](#) | [1801 Broadway, Suite 500](#) | [Denver, CO 80202](#)

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,
Karl Griesser
Field Engineer I | (713) 829-7498 | karl.griesser@bjsservices.com

Field Office 1716 East Allison Rd., Cheyenne WY, 82007
Phone: (307) 638-5585

Sales Office 999 18th St. Suite 1200 Denver, CO 80202
Phone: (281) 408-2361

Cementing Treatment



Start Date	11-5-2017	Well	Marcus LD 11-378HNX
End Date	11-5-2017	County	WELD
Client	GREAT WESTERN OPERATING COMPANY, LLC	State/Province	CO
Service Supervisor	ALBERT SNYDER	API	05-123-45387
District	Cheyenne, WY	Type of Job	Long String

WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	TVD (ft)	Excess(%)
Previous Casing	8.92	9.63	36.00	1,735.00	1,735.00	
Open Hole	8.50			7,000.00	7,000.00	10.00
Open Hole	8.50			16,242.00	7,367.00	5.00
Casing	4.89	5.50	17.00	16,242.00	7,367.00	

Shoe Length (ft): 42

HARDWARE

Bottom Plug Used?	No	Max Casing Pressure - Rated (psi)	5320
Top Plug Used?	YES	Max Casing Pressure - Operated	4000
Top Plug Provided By	Yes	Pipe Movement	no
Top Plug Size	5.5	Top Connection Thread	buttress
Centralizers Used	No	Top Connection Size	5.5
Landing Collar Depth (ft)	16234		

CIRCULATION PRIOR TO JOB yes 2 hours with gas flairs

Well Circulated By	Rig	Solids Present at End of Circulation	No
Circulation Prior to Job	No	10 sec SGS	8
Circulation Time (min)	120	10 min SGS	10
Circulation Rate (bpm)	8	30 min SGS	11

Cementing Treatment



Circulation Volume (bbls)	140	Flare Prior to/during the Cement Job	Yes
Lost Circulation Prior to Cement Job	No	Gas Present	Yes
Mud Density In (ppg)	10#	Gas Units	2463
Mud Density Out (ppg)	10#		
PV Mud In	24		
PV Mud Out	24		
YP Mud In	12		
YP Mud Out	12		

TEMPERATURE 135

Ambient Temperature (°F)	45	Slurry Cement Temperature (°F)	55
Mix Water Temperature (°F)	55	Flow Line Temperature (°F)	135

BJ FLUID DETAILS

Fluid Type	Fluid Name	Density (ppg)	Yield (Cu Ft/sk)	H2O Req. (gals/sk)	Vol (sk)	Vol (Cu Ft)	Vol (bbls)
Spacer / Pre Flush / Flush	CD Spacer	11.5000					50.0000
Lead Slurry	P100-X2	14.0000	1.5272	7.74	1,175	1,794.0000	319.4000
Tail Slurry	P50-X1	14.0000	1.3344	6.42	1,663	2,219.0000	395.1000
Displacement 1	MMCR Water	8.3337				0.0000	20.0000
Displacement 2	3% KCL Water	8.3300				0.0000	260.0000
Displacement Final	Water	8.3300				0.0000	97.7000

Cementing Treatment



Fluid Type	Fluid Name	Component	Concentration	UOM
Spacer / Pre Flush / Flush	CD Sapcer	ASF-20	0.50	GPB
Spacer / Pre Flush / Flush	CD Sapcer	AR-31	0.58	PPB
Spacer / Pre Flush / Flush	CD Sapcer	ASF-80	0.50	GPB
Spacer / Pre Flush / Flush	CD Sapcer	SAND, S-8, Silica Flour, 200 Mesh	213.49	PPB
Spacer / Pre Flush / Flush	CD Sapcer	AVS-10	0.90	PPB
Lead Slurry	P100-X2	CEMENT, ASTM TYPE III	100.00	PCT
Lead Slurry	P100-X2	FLUID LOSS, FL-66	0.50	BWOB
Lead Slurry	P100-X2	BONDING AGENT, BA-59	0.40	BWOB
Lead Slurry	P100-X2	SPECIAL ADDITIVE, MPA-300	0.10	BWOB
Lead Slurry	P100-X2	FP-25, Dry Foam Preventer (BJS Only)	0.30	BWOB
Lead Slurry	P100-X2	RETARDER, HIGH TEMP, R-31 (BJS Only)	0.17	BWOB
Tail Slurry	P50-X1	EXTENDER, BENTONITE	1.00	BWOB
Tail Slurry	P50-X1	Flyash (Rockies)	50.00	PCT
Tail Slurry	P50-X1	CEMENT, CLASS G	50.00	PCT
Tail Slurry	P50-X1	GELLANT WATER, GW-86	0.10	BWOB
Tail Slurry	P50-X1	FLUID LOSS, FL-66	0.20	BWOB
Tail Slurry	P50-X1	FP-25, Dry Foam Preventer (BJS Only)	0.30	BWOB
Tail Slurry	P50-X1	AR-20	0.12	BWOB
Displacement 1	MMCR Water	AR-61	0.10	GPB

Cementing Treatment



TREATMENT SUMMARY

Fluid	Rate (bpm)	Fluid Vol. (bbls)
CD Sapper	0.00	50.00
P100-X2	0.00	319.40
P50-X1	0.00	395.10
MMCR Water	0.00	20.00
3% KCL Water	0.00	260.00
Water	0.00	95.70

DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ Services	Amount of Cement Returned/Reversed	27 bbls
Calculated Displacement Volume (bbls)	377	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	374	Amount of Spacer to Surface	50 bbls
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0
Bump Plug	No	Top Out Cement Spotted	No
Were Returned Planned at Surface	No	Lost Circulation During Cement Job	No
Cement returns During Job	Yes		

CEMENT PLUG

Bottom of Cement Plug?	No	Wiper Balls Used?	No
Plug Catcher	No		



Customer Name Great western
Well Name Marcus Id 11-378HNX
Job Type Long String

District Cheyenne
Supervisor Albert Snyder
Engineer

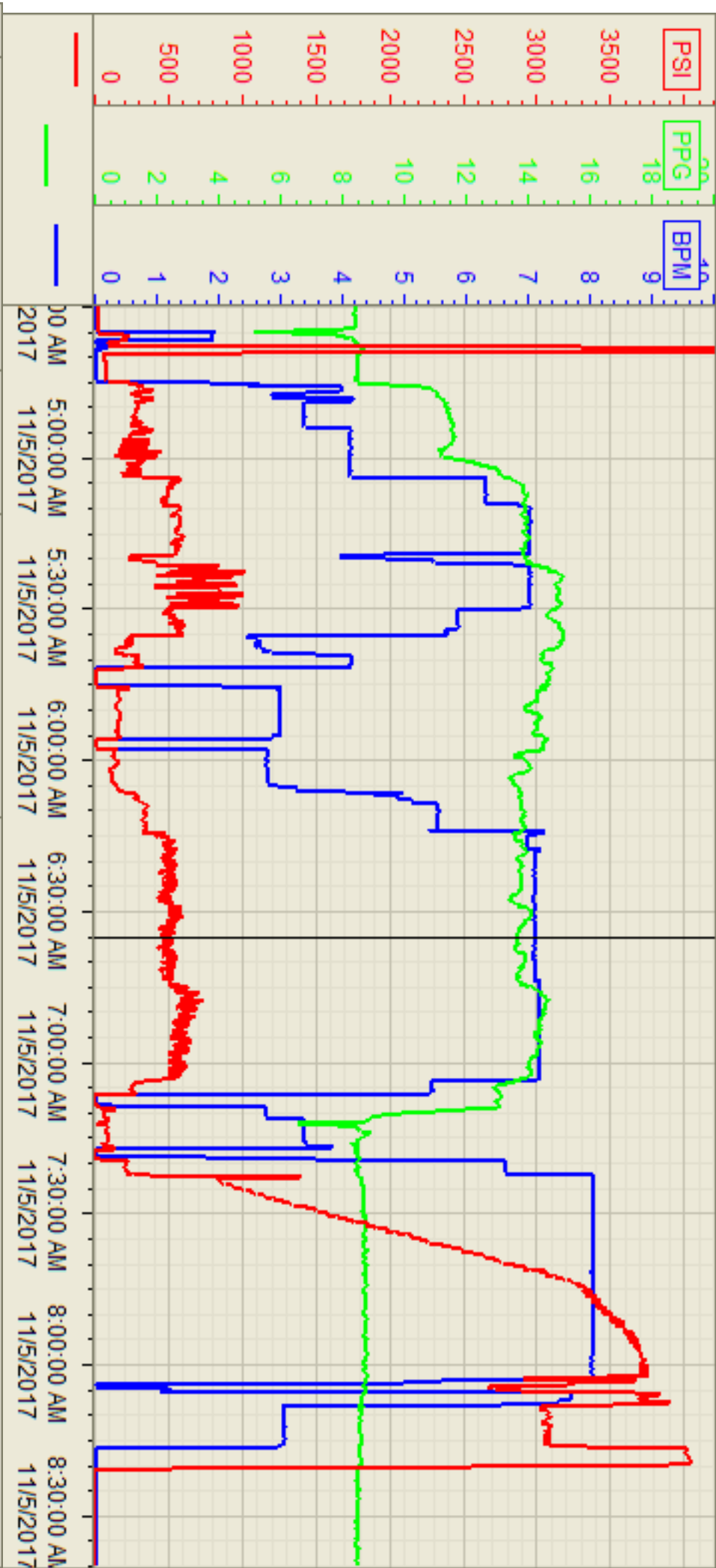
Start Date/Time	Category	Event	Event ID	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
11/4/2017 19:00	Mobilization	Called out						CALLED OUT FOR JOB
11/4/2017 0:00	Mobilization	Requested on Location						REQUESTED AT 12:00 AM
11/4/2017 19:30	Mobilization	Steacs Journey						DISCUSSED JOURNEY TO THE LOCATION
11-4-2017 19:35	Mobilization	Depart yard						0.8125
11/4/2017 22:00	Mobilization	Arrive on location	48					ARRIVED 22:00 2 HOURS EARLY
11/4/2017 22:30	Operational	Steacs Briefing						DISCUSSED JOB RIG UP WITH CREW
11/4/2017 22:45	Operational	Rig up iron						RIGGED UP ALL IRON FOR THE JOB
11/5/2017 1:00	StandBy	wait for casing						WAITED FOR CASING TO BE RAN 1:00 AM
11/5/2017 3:30	Operational	Steacs Briefing						DISCUSSED ENTIRE JOB PRCEEDURE
11-5-2017 4:45	Operational	Fill lines		8.33	3	5	200	FILL LINES PRIOR TO TESTING LINES
11/5/2017 4:50	Operational	Test lines		8.33	1	1	6000	LINES TESTED GOOD NO LEAKS
11/5/2017 5:00	Operational	Pump Spacer	56	11.5	4	50	400	MIX AND PUMP CD SPACER AT 11.5#
11/5/2107 5:15	Operational	Pump lead		14	5	260	1507	MIX AND PUMP 1175 SKS OF P100X2 WITH 1.53 YIELD AND 7.72 WATER REQ.
11-5-20175:54	Operational	shut down mixing problems		14.5	0	0	0	HAD PROBLEMS PACKING OFF THE CEMENT IN MIXING TUB
11/5/2017 6:08	Operational	shut down mixing problems		14.5	0	0	0	HAD PROBLEMS PACKING OFF THE CEMENT IN MIXING TUB
11/5/2017 6:10	Operational	Resume pumping lead		14	3	60	300	RESUME PUMPING THE REST OF LEAD CEMENT LAST 80 BBLs
11/5/2017 6:18	Operational	Pump Tail cement	60	14	7	409	700	MIX AND PUMP 1663 SKS OF P50-X1 CEMENT AT 14# WITH 1.38 YIELD AND 8.4 WATER REQ
11/5/2017 7:15	Operational	shut down wash to pit		8.33				WASHED TO THE 3 SIDED TANK
11-5 2017 7:19	Operational	Drop the plug		8.33				USED THEIR PLUG
11/5/2017 7:24	Operational	Displace		8.4	8	20	1375	PUMP MMCR WATER
11/5/2017 7:39	Operational	Displace		8.4	8	50	1106	PUMP KCL WATER
11/5/2017 7:45	Operational	Displace		8.4	8	100	2900	PUMP KCL WATER
11/5/2017 7:52	Operational	Displace		8.4	8	150	2800	PUMP KCL WATER
11/5/2017 7:59	Operational	Displace		8.4	8	200	3400	PUMP KCL WATER
11/5/2017 8:05	Operational	Displace		8.4	8	250	3700	PUMP KCL WATER
11/5/2017 8:12	Operational	displace		8.3	8	310	3500	GOT SPACER BACK TO SURFACE ALL 50 BBLs
11/5/2017 8:15	Operational	Displace		8.33	8	350	3500	GOT CEMENT BACK TO THE SURFACE 26 BBLs TO SURFACE
11/5/2017 8:20	Operational	low rate		8.33	3	370	3100	PUMP FRESH WATER
11/5/2017 8:29	Operational	Land the plug		8.33	3	374	3100/4000	PLUG LANDED 3 BARRELS EARLY ON CALCULATED
11/5/2017 8:35	Operational	Check the float						FLOAT IS HOLDING. FLOWED BACK 5 BBLs
11/5/2017 9:00	Operational	Steacs briefing						DISCUSS RIG DOWN PROCEDURE
11/5/2017 9:20	Operational	Rig down equipment						USED TEAMWORK TO RIG DOWN
11/5/2017 12:00	Operational	move off location						MOVE OFF LOCATION OUT OF RIG CREWS WAY
11/5/2017 13:00	Operational	discus AAR						DISCUSSED WHAT HAPPENED ON THE JOB
11/5/2017 13:30	Mobilization	Steacsjourney hom						DISCUSS JOURNEY HOME
11/5/2017 13:45	Mobilization	Depart locarion						STAY IN CONVOY HOME

Customer: GREAT WESTERN
Well Number: 11-378 HNX
Lease Info: MARCUSLD



Print Date/Time

11/5/2017 9:26:48 AM



	Name	Y value	X value/time stamp	Tag name Y
1	DS - Press (PSI)	448.7	11/5/2017 6:35:01 AM	CementenrDS_DISCHARGE_PRESS_DIAL
2	DH - Density (PPG)	13.60	11/5/2017 6:35:09 AM	CementenrDENSITY2_ACTUAL_RATE
3	Combined Rate	7.08	11/5/2017 6:35:07 AM	CementenrFlow_Combined
4				
5				