



Bill Barrett Corporation

Production Liner Post Job Report

Anschutz-Williams 5-61-27-6457BN

S:27 T:5N R:61W Weld CO

Quote #:

| Execution #:



Bill Barrett Corporation

Attention: Mr. Matthew Schwartz | (303) 312-8142 | maschwartz@billbarrettcorp.com

Bill Barrett Corporation | 1099 18th St. | Denver, CO. 80202

Dear Mr. Matthew Schwartz,

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,
Jacob Ojeda
Field Engineer I | (763) 516-3012 | jacob.ojeda@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	12/28/2017	Well	ANSCHUTZ-WILLIAMS 5-61-27-6457BN
End Date	12/28/2018	County	WELD
Client	BILL BARRETT CORPORATION	State/Province	CO
Service Supervisor	Wesley Bell	API	05-123-45727
District	Cheyenne, WY	Type of Job	Liner

WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	TVD (ft)	Excess(%)	Grade	Thread
Previous Casing	6.28	7.00	23.00	6,368.00	6,031.00			
Open Hole	6.13			16,116.00	6,031.00	20.00		
Drill Pipe	2.563	4.00		5,512.00	5,512.00			
Liner	4.00	4.50	11.60	16,112.00	6,031.00			

Shoe Length (ft.): 42

HARDWARE

Bottom Plug Used?	No	Tool Type	Liner
Top Plug Used?	Yes	Tool Depth (ft)	5512
Top Plug Provided By	Weatherford	Max Casing Pressure - Rated (psi)	10690
Top Plug Size	4.5"	Max Casing Pressure - Operated (psi)	4100
Centralizers Used	Yes	Pipe Movement	NO
Landing Collar Depth (ft)	16,053	Job Pumped Through	Casing/Drill Pipe
		Top Connection Size	4"

Cementing Treatment



CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	YP Mud In	2
Circulation Prior to Job	Yes	YP Mud Out	2
Circulation Time (min)	3hrs	Solids Present at End of Circulation	No
Lost Circulation Prior to Cement Job	No	10 sec SGS	1
Mud Density In (ppg)	8.95	10 min SGS	2
Mud Density Out (ppg)	8.95	Flare Prior to/during the Cement Job	No
PV Mud In	4	Gas Present	No
PV Mud Out	4		

TEMPERATURE

Ambient Temperature (°F)	25	Slurry Cement Temperature (°F)	87
Mix Water Temperature (°F)	86	Flow Line Temperature (°F)	112

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	11.0000					30.0000
Tail Slurry	P50-X1	13.5000	1.5930	7.95	751	1,197.0000	213.1000
Displacement 1	Water + MMCR	8.3300				0.0000	20.0000
Displacement 2	Water + MMCR	8.3300				0.0000	20.0000
Displacement 2	Water + Chems	8.3300				0.0000	123.0000
Displacement Final	Water	8.3300				0.0000	35.3.0000

Cementing Treatment



Fluid Type	Fluid Name	Component	Concentration	UOM
Spacer / Pre Flush / Flush	CD Spacer	SAND, S-8, Silica Flour, 200 Mesh	179.40	PPB
Spacer / Pre Flush / Flush	CD Spacer	GELLANT WATER, GW-86	0.80	PPB
Spacer / Pre Flush / Flush	CD Spacer	AR-20	0.60	PPB
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	EXTENDER, BENTONITE	4.00	BWOB
Tail Slurry	P50-X1	FLUID LOSS, FL-24, (BJS Only)	0.40	BWOB
Tail Slurry	P50-X1	Flyash (Rockies)	50.00	PCT
Tail Slurry	P50-X1	FP-25, Dry Foam Preventer (BJS Only)	0.30	BWOB
Tail Slurry	P50-X1	BONDING AGENT, EC-2	3.00	BWOB
Tail Slurry	P50-X1	BONDING AGENT, BA-90	3.00	LBS/SK
Tail Slurry	P50-X1	AR-20	0.20	BWOB
Displacement 1	Water + MMCR	AR-61	0.10	GPB
Displacement 1	Water + MMCR	ASF-50	0.08	GPB
Displacement 1	Water + MMCR	BIOCIDE, AQUICAR DB 20	0.10	GPB
Displacement 2	Water + MMCR	AR-61	0.10	GPB
Displacement 2	Water + Chems	ASF-50	0.08	GPB
Displacement 2	Water + Chems	BIOCIDE, AQUICAR DB 20	0.01	GPB

TREATMENT SUMMARY

Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)	Annulus Pressure (psi)	Comments
	CD Spacer	5.00	30.00			
	P50-X1	5.00	213.10			
	Water + MMCR	5.00	20.00			
	Water + Chems	5.00	123.00			
	Water + MMCR	5.00	20.00			
	Water	5.00	35.00			

Cementing Treatment



	Min	Max	Avg
Pressure (psi)	0	4100	2050
Rate (bpm)	0	8	4

DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ Services	Amount of Cement Returned/Reversed	30
Calculated Displacement Volume (bbls)	198.7	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	198	Amount of Spacer to Surface	30
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0
Bump Plug	Yes	Amount Bled Back After Job	1
Bump Plug Pressure (psi)	2800	Total Volume Pumped (bbls)	603
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement returns During Job	Yes	Lost Circulation During Cement Job	No



Customer Name Bill Barrett

Well Name Anschutz-Williams 5-61-27-64578N

Job Type Liner

District Cheyenne

Supervisor Wesley Bell

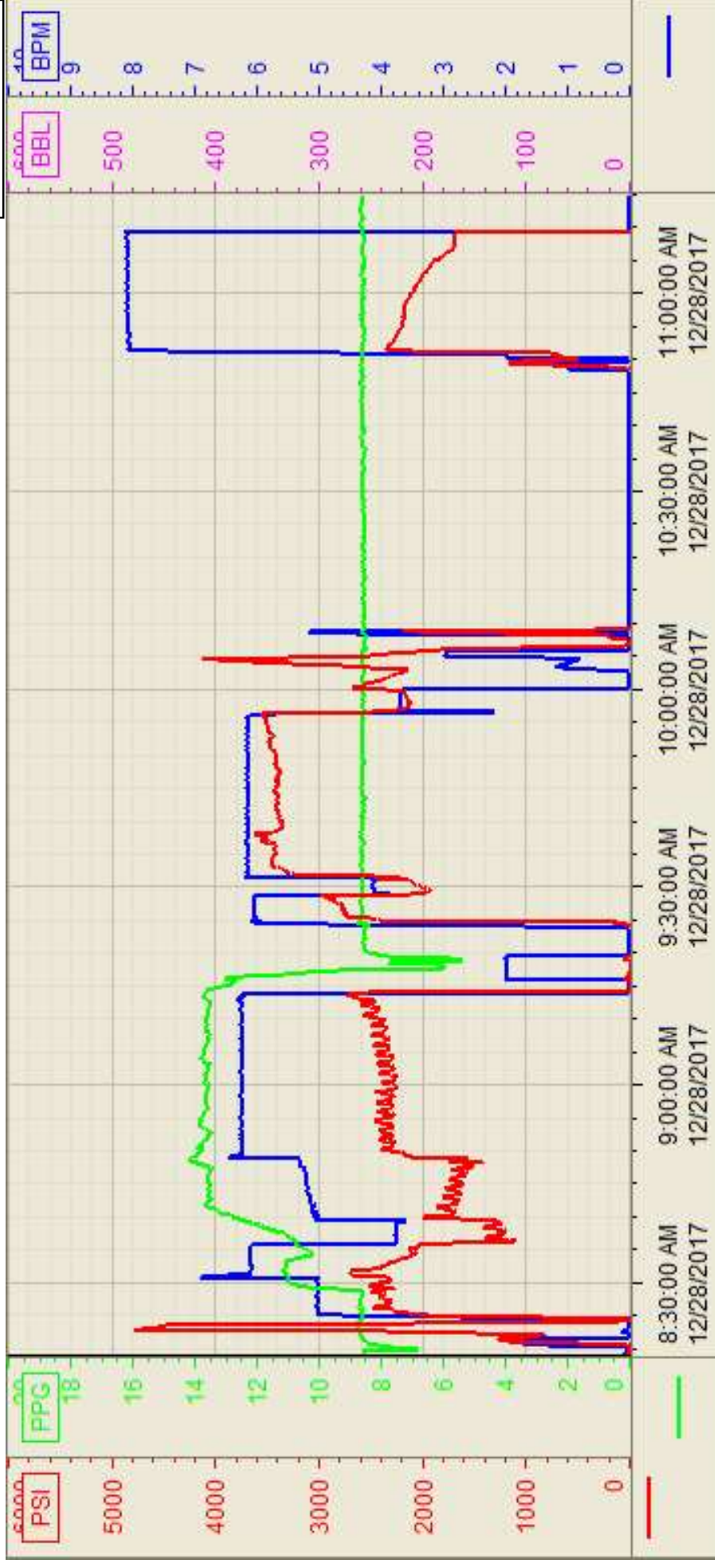
Engineer Jacob Ojeda

Seq No.	Start Date/Time	Category	Event	Equipment	Event ID	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	12/28/2017 3:30	Mobilization	Arrive on Location		48					arrive on location, requested time was 05:00
2	12/28/2017 3:40	Operational	Rig Up		50					spot and rig in all BJ equipment, run all water, bulk, air and water lines
3	12/28/2017 4:20	StandBy	Customer		85					wait for rig to circulate well
4	12/28/2017 8:00	Operational	Safety Meeting		53					Hold STEACS briefing with rig crew and pump crew.
5	12/28/2017 8:33	Operational	Start Pumping	Cement Pump Truck	55	8.34	2	2	1000	Review job procedure and job hazards
6	12/28/2017 8:35	Operational	Pressure Test	Cement Pump Truck	54	8.34			4900	Fill lines with 2bbls fresh water
7	12/28/2017 8:37	Operational	Start Pumping	Cement Pump Truck	55	8.34	5	20	1500	test lines with fresh water, good test, no leaks
8	12/28/2017 8:42	Operational	Pump Spacer	Cement Pump Truck	56	11	5	30	2000	Pump 20bbls fresh water ahead Pump 30bbls of Spacer at 11ppg
9	12/28/2017 8:46	Operational	Pumping Cement	Cement Pump Truck	61		6	213	2000	Pump 213bbls of cement at 13.5ppg, Y: 1.593, WR: 7.95, 7515ks. Cement top at liner top
10	12/28/2017 9:27	Operational	Clean Pumps and Lines	Cement Pump Truck	62	8.34				Finish mixing, clean pumps and lines to rig tank
11	12/28/2017 9:37	Operational	Pump Displacement	Cement Pump Truck	64	8.34	6	25	1900	Start displacement with AR-61 in first 20bbls and biocide and ASF-50. Slow rate at 25 away before plug 1 lands in liner
12	12/28/2017 9:44	Operational	Pump Displacement	Cement Pump Truck	64	8.34	4	10	3400	Plug 1 lands in liner, plug drops at 3400psi, pick rate up to 6bpm
13	12/28/2017 9:56	Operational	Pump Displacement	Cement Pump Truck	64	8.34	6	65	3400	100bbls away on displacement.
14	12/28/2017 10:10	Operational	Pump Displacement	Cement Pump Truck	64	8.34	6	80	3400	180bbls way on displacement, slow rate for last 20bbls
15	12/28/2017 10:13	Operational	Land Plug	Cement Pump Truck	67	8.34	3.5	18	2300	Land plug 2, bump pressure up to 2800psi
16	12/28/2017 10:15	Operational	Other (See comments)	Cement Pump Truck	76	8.34			4100	Burst bottom plug at 4100psi
17	12/28/2017 10:18	Operational	Pump Displacement	Cement Pump Truck	64	8.34	3	5	2300	Pump 5bbls wet shoe
18	12/28/2017 10:19	Operational	Check Floats	Cement Pump Truck	68	8.34				check floats, 1bbl back, floats hold
19	12/28/2017 11:02	Operational	Start Pumping	Cement Pump Truck	55	8.34			1200	put 1200psi on drill pipe before stinging out of liner
20	12/28/2017 11:04	Operational	Circulate Well	Cement Pump Truck	51	8.34	8	140	2000	Pump 140bbls of water, 30bbls of spacer and 30bbls of cement to surface
21	12/28/2017 11:22	Operational	Rig Down		73					Finish job, rig down BJ equipment
22	12/28/2017 13:00	Mobilization	Leave Location		74					



Customer: Bill Barrett
Well Number: 5-61-27-6457BN
Lease Info: Anschutz-Williams

Print Date/Time
12/28/2017 11:43:00 AM



Name		Y value	X value/time stamp	Tag name Y
1	DS - Press (PSI)	-5.6	12/28/2017 8:19:03 AM	CementerDS_DISCHARGE_PRESS_DIAL
2	DH - Density (PPG)	8.44	12/28/2017 8:18:57 AM	CementerDENSITY2_ACTUAL_RATE
3	Combined Rate	0.05	12/28/2017 8:18:57 AM	CementerFlow_Combined
4				
5				
		Source: Control1		
		11:42:56 AM		