



Bill Barrett Corporation

Production Liner Post Job Report

Anschutz Equus Farms 4-62-28-0108CS

S:28 T:4N R:62W 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,
Jason Creel
Field Engineer I | (307)256-0306 | jason.creel@bjservices.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	2/11/2018	Well	ANSCHUTZ EQUUS FARMS 4-62-28-0108CS
End Date	2/11/2018	County	WELD
Client	BILL BARRETT CORPORATION	State/Province	CO
Service Supervisor	Wesley Bell	API	05-123-43686
District	Cheyenne, WY	Type of Job	Liner

WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	TVD (ft)	Excess(%)
Previous Casing	6.37	7.00	23.00	6,627.00	6,150.00	
Open Hole	6.13			16,220.00	6,150.00	10.00
Drill Pipe	3.34	4.00	14.00	5,737.00	5,737.00	
Liner	4.00	4.50	11.60	16,217.00	6,150.00	

Shoe Length (ft): 62

HARDWARE

Bottom Plug Used?	Yes	Tool Type	Liner
Bottom Plug Provided By	Weatherford	Tool Depth (ft)	5737
Bottom Plug Size	4.5"	Max Casing Pressure - Rated (psi)	10500
Top Plug Used?	Yes	Max Casing Pressure - Operated (psi)	3800
Top Plug Provided By	Weatherford	Pipe Movement	No
Top Plug Size	4	Job Pumped Through	Drill Pipe/Casing
Centralizers Used	Yes	Top Connection Thread	1502
Landing Collar Depth (ft)	16,150	Top Connection Size	4"

Cementing Treatment



CIRCULATION PRIOR TO JOB

Well Circulated By	Customer	Solids Present at End of Circulation	No
Circulation Prior to Job	Yes	10 sec SGS	1
Circulation Time (min)	150	10 min SGS	1
Circulation Rate (bpm)	6	Flare Prior to/during the Cement Job	No
Circulation Volume (bbls)	900	Gas Present	No
Lost Circulation Prior to Cement Job	No		
Mud Density In (ppg)	9		
Mud Density Out (ppg)	9		
PV Mud In	2		
PV Mud Out	2		
YP Mud In	1		
YP Mud Out	1		

TEMPERATURE

Ambient Temperature (°F)	30	Slurry Cement Temperature (°F)	76
Mix Water Temperature (°F)	65	Flow Line Temperature (°F)	72

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	693	1,104.0000	196.5000
Displacement 1	Retarded Water	8.3300				0.0000	20.0000
Displacement 2	Water + Chems	8.3300				0.0000	130.0000
Displacement 2	Retarded Water	8.3300				0.0000	11.0000
Displacement Final	Water	8.3300				0.0000	37.0000

Cementing Treatment



Fluid Type	Fluid Name	Component	Concentration	UOM
Spacer / Pre Flush / Flush	CD Spacer	GELLANT WATER, GW-86	0.8000	PPB
Spacer / Pre Flush / Flush	CD Spacer	SAND, S-8, Silica Flour, 200 Mesh	179.4000	PPB
Spacer / Pre Flush / Flush	CD Spacer	AR-20	0.6000	PPB
Tail Slurry	P50-X1	Flyash (Rockies)	50.0000	PCT
Tail Slurry	P50-X1	Foam Preventer, FP-25	0.3000	BWOB
Tail Slurry	P50-X1	CEMENT, CLASS G	50.0000	PCT
Tail Slurry	P50-X1	BONDING AGENT, EC-2	3.0000	BWOB
Tail Slurry	P50-X1	AR-20	0.2000	BWOB
Tail Slurry	P50-X1	FLUID LOSS, FL-24	0.4000	BWOB
Tail Slurry	P50-X1	EXTENDER, BENTONITE	4.0000	BWOB
Tail Slurry	P50-X1	GELLANT WATER, GW-86	0.1000	BWOB
Tail Slurry	P50-X1	BONDING AGENT, BA-90	3.0000	LBS/SK
Displacement 1	Retarded Water	RETARDER, R-8L	0.5000	GPB
Displacement 1	Retarded Water	CLAY STABILIZER ResCare CS	0.0800	GPB
Displacement 1	Retarded Water	BIOCIDE, BIOC11139W	0.0100	GPB
Displacement 2	Water + Chems	CLAY STABILIZER ResCare CS	0.0800	GPB
Displacement 2	Retarded Water	RETARDER, R-8L	0.5000	GPB
Displacement 2	Water + Chems	BIOCIDE, BIOC11139W	0.0100	GPB

TREATMENT SUMMARY

Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)
CD Spacer	5.00	30.00	1300
P50-X1	5.00	196.50	1500
Retarded Water	5.00	20.00	500
Water + Chems	5.00	130.00	2500
Retarded Water	5.00	10.00	2600
Water	5.00	37.00	1200

Cementing Treatment



DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ Services	Amount of Cement Returned/Reversed	15
Calculated Displacement Volume (bbls)	199	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	193	Amount of Spacer to Surface	30
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0
Bump Plug	Yes	Amount Bled Back After Job	2
Bump Plug Pressure (psi)	1800	Total Volume Pumped (bbls)	571
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement returns During Job	Yes	Lost Circulation During Cement Job	No

CEMENT PLUG

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

Customer Name Bill Barrett
 Well Name Anschutz Equus Farms 4-62-28-0108CS
 Job Type Liner

District Cheyenne
 Supervisor Wesley Bell
 Engineer _____



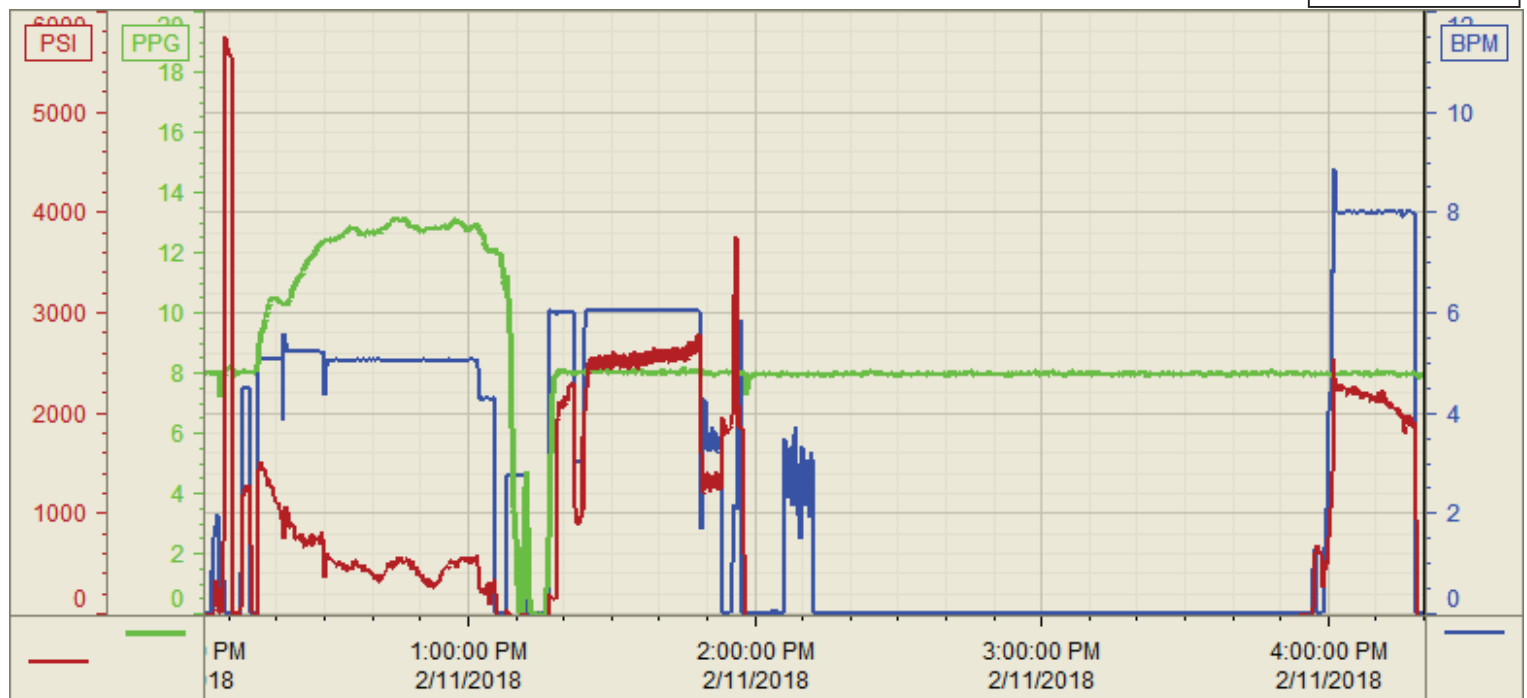
Seq No.	Start Date/Time	Category	Event	Equipment	Event ID	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	2/11/2018 9:50	Mobilization	Arrive on Location	Cement Pump Truck						Arrive on location, Requested time was 09:30
2	2/11/2018 9:55	Operational	Rig Up	Cement Pump Truck	50					Spot and rig in all BJ equipment, rig in all bulk, water, air, and iron
3	2/11/2018 11:30	Operational	Safety Meeting	Cement Pump Truck	53					Hold STEACS briefing with rig crew and pump crew. Review job procedure and job hazards
4	2/11/2018 12:13	Operational	Start Pumping	Cement Pump Truck	55	8.34	2	2	500	Fill lines with 2bbls of water
5	2/11/2018 12:15	Operational	Pressure Test	Cement Pump Truck	54	8.34			5700	Pressure test lines, good test, no leaks
6	2/11/2018 12:19	Operational	Start Pumping	Cement Pump Truck	55	8.34	5	10	1000	Pump 10bbls of fresh water ahead
7	2/11/2018 12:23	Operational	Pump Spacer	Cement Pump Truck	56	11	5	30	1300	Pump 30bbls of Spacer at 11ppg
8	2/11/2018 12:32	Operational	Pumping Cement	Cement Pump Truck	61	13.5	5	196.2	1500	Pump 196.2bbls of cement at 13.5ppg, Y: 1.59, WR: 7.95, 693sks
9	2/11/2018 13:13	Operational	Clean Pumps and Lines	Cement Pump Truck	62	8.34				Finish mixing cement, clean pumps and lines to rig tank, load drill pipe dart
10	2/11/2018 13:23	Operational	Drop Top Plug	Cement Pump Truck	63	8.34	6			Begin Displacement, 199.1bbls calculated volume. Add 5gal/10bbls R-8L first 20 and ASF-50 for first 160bbls
11	2/11/2018 13:31	Operational	Pump Displacement	Cement Pump Truck	64	8.34	3	36	2500	Land drill pipe dart in hanger, drop liner plug
12	2/11/2018 13:42	Operational	Pump Displacement	Cement Pump Truck	64	8.34	6	64	2500	100bbls away on displacement
13	2/11/2018 13:51	Operational	Pump Displacement	Cement Pump Truck	64	8.34	6	50	2600	150bbls away on displacement
14	2/11/2018 14:00	Operational	Land Plug	Cement Pump Truck	67	8.34	3	193	1200	193bbls away on displacement land plug, Bump pressure up to 1800psi
15	2/11/2018 14:03	Operational	Pump Displacement	Cement Pump Truck	64	8.34	2		3800	Burst bottom liner plug at 3800psi
16	2/11/2018 14:04	Operational	Pump Displacement	Cement Pump Truck	64	8.34	4	5	1800	Pump 5bbls wet shoe
17	2/11/2018 14:05	Operational	Check Floats	Cement Pump Truck	68	8.34			0	Check floats, 2bbls back
18	2/11/2018 16:05	Operational	Other (See comments)	Cement Pump Truck	76	8.34	2	2	650	Sting drill pipe out of liner, establish flow
19	2/11/2018 16:06	Operational	Start Pumping	Cement Pump Truck	55	8.34	8	90	2100	Roll hole above liner, spacer to surface at 90bbls away
20	2/11/2018 16:23	Operational	Start Pumping	Cement Pump Truck	55	8.34	8	30	1800	120bbls away, cement to surface
21	2/11/2018 16:25	Operational	Start Pumping	Cement Pump Truck	55	8.34	8	15	2000	135bbls away, water to surface
22	2/11/2018 16:26	Operational	End Pumping	Cement Pump Truck	69	8.34	0	5	0	140bbls away, finish pumping
23	2/11/2018 16:30	Operational	Rig Down	Cement Pump Truck	73					Rig out all cement equipment.

Customer: Bill Barrett
Well Number: 4-62-28-0108CS
Lease Info: Asnchutz Equus Farms



Print Date/Time

2/11/2018 4:37:14 PM



	Name	Y value	X value/time stamp	Tag name Y
1	PS - Press (PSI)	-35.8	2/11/2018 4:20:05 PM	CementarPS_DISCHARGE_PRESS_DIAL
2	DH - Density (PPG)	7.93	2/11/2018 4:20:03 PM	CementarDENSITY2_ACTUAL_RATE
3	Combined Rate (BPM)	0.00	2/11/2018 4:20:03 PM	CementarFlow_Combined
4				
5				

Source: Control1 4:37:08 PM