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Quote #:

| Execution #:



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# Cementing Treatment



<b>Start Date</b>	1/30/2018	<b>Well</b>	ANSCHUTZ EQUUS FARMS 4-62-28-1609C
<b>End Date</b>	1/31/2018	<b>County</b>	WELD
<b>Client</b>	BILL BARRETT CORPORATION	<b>State/Province</b>	CO
<b>Client Field Rep</b>	Robert	<b>API</b>	05-123-42740
<b>Service Supervisor</b>	C. Johnson	<b>Type of Job</b>	Intermediate
<b>District</b>	Cheyenne, WY		

## WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	TVD (ft)	Excess(%)	Grade
Open Hole	8.75			6,633.00	6,600.00	18.00	
Casing	6.37	7.00	23.00	6,613.00	6,600.00		J-55
Previous Casing	8.92	9.63	36.00	878.00	878.00		

**Shoe Length (ft):** 49

## HARDWARE

<b>Bottom Plug Used?</b>	No	<b>Top Plug Size</b>	7.0
<b>Top Plug Used?</b>	Yes	<b>Centralizers Used</b>	No
<b>Top Plug Provided By</b>	BBC	<b>Landing Collar Depth (ft)</b>	6,564

## CIRCULATION PRIOR TO JOB

<b>Well Circulated By</b>	Rig	<b>Mud Density Out (ppg)</b>	10.3
<b>Circulation Prior to Job</b>	Yes	<b>Solids Present at End of Circulation</b>	No
<b>Lost Circulation Prior to Cement Job</b>	No	<b>Flare Prior to/during the Cement Job</b>	No
<b>Mud Density In (ppg)</b>	10.3	<b>Gas Present</b>	No

## TEMPERATURE

<b>Ambient Temperature (°F)</b>	33	<b>Mix Water Temperature (°F)</b>	75
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## 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					20.0000
Lead Slurry	I100-X2	12.5000	2.0735	11.83	377	778.0000	138.5000
Tail Slurry	I100-X1	15.8000	1.1550	4.98	258	294.0000	52.2000
Displacement Final	Water	8.3300				0.0000	258.2000

# Cementing Treatment



Fluid Type	Fluid Name	Component	Concentration	UOM
Spacer / Pre Flush / Flush	CD Spacer	SAND, S-8, Silica Flour, 200 Mesh	179.6000	PPB
Spacer / Pre Flush / Flush	CD Spacer	AR-20	1.0200	PPB
Spacer / Pre Flush / Flush	CD Spacer	GELLANT WATER, GW-86	0.8000	PPB
Spacer / Pre Flush / Flush	CD Spacer	Spacer Surfactant, SS-247	0.5000	GPB
Lead Slurry	I100-X2	CEMENT, ASTM TYPE III	100.0000	PCT
Lead Slurry	I100-X2	FLUID LOSS, FL-24	0.3000	BWOB
Lead Slurry	I100-X2	BONDING AGENT, BA-60	0.3000	BWOB
Lead Slurry	I100-X2	AR-20	0.4000	BWOB
Lead Slurry	I100-X2	Foam Preventer, FP-25	0.3000	BWOB
Tail Slurry	I100-X1	DISPERSANT, CD-31	0.2000	BWOB
Tail Slurry	I100-X1	CEMENT, CLASS G	100.0000	PCT
Tail Slurry	I100-X1	Foam Preventer, FP-25	0.3000	BWOB
Tail Slurry	I100-X1	BONDING AGENT, BA-60	0.2000	BWOB
Tail Slurry	I100-X1	R-6 LOW TEMP RETARDER 50 LB BAG BJS	0.1000	BWOB
Tail Slurry	I100-X1	FLUID LOSS, FL-24	0.2000	BWOB

## TREATMENT SUMMARY

Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)
CD Spacer	6.00	20.00	400
I100-X2	7.00	138.50	600
I100-X1	7.00	52.20	700
Water	8.00	258.20	1200

	Min	Max	Avg
Pressure (psi)	200	2600	700
Rate (bpm)	2	8	6

# Cementing Treatment



## DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amount of Cement Returned/Reversed	18
Calculated Displacement Volume (bbls)	258	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	258	Amount of Spacer to Surface	20
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0
Bump Plug	No	Amount Bled Back After Job	2.5 bbls
Bump Plug Pressure (psi)	2600	Total Volume Pumped (bbls)	490
Were Returns Planned at Surface	No	Top Out Cement Spotted	No
Cement returns During Job	Yes	Lost Circulation During Cement Job	No



Customer Name BBC  
Well Name Anschutz Equus Farms 4-62-28-1609C  
Job Type Intermediate

District Cheyenne  
Supervisor C. Johnson  
Engineer

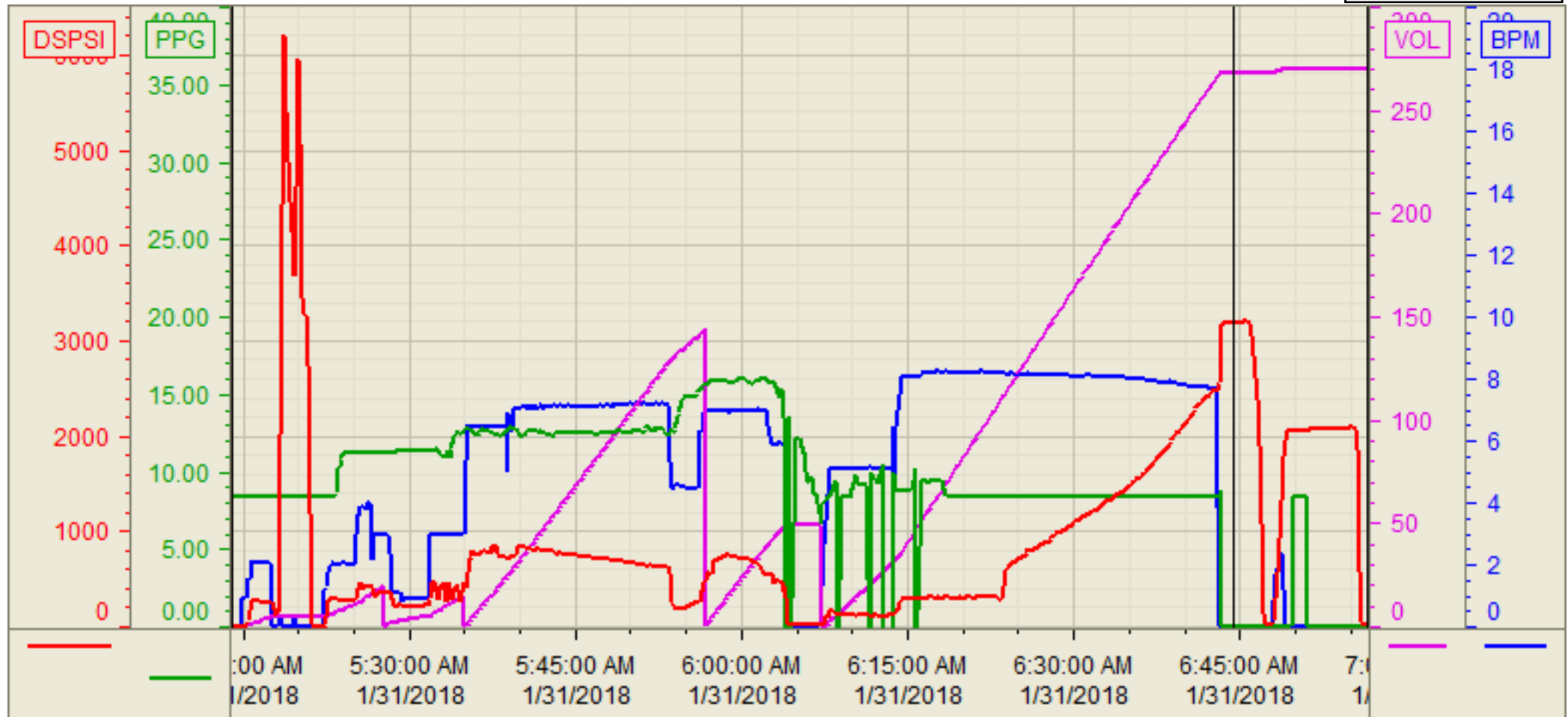
Seq No.	Start Date/Time	Category	Event	Event ID	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	1/30/18 1530	Mobilization	Callout	1					Crew called out requested on ocaion at 2130
2	1/30/18 2000	Mobilization	Arrive on Location	48					Crew arrived on location at 2000
3	1/30/18 2015	Operational	Safety Meeting	53					Safety meeting
4	1/30/18 2030	Operational	Spot Units	49					Spotted all equipment
5	1/30/18 2045	Operational	Rig Up	50					Rigged up all equipment
6	1/30/18 2130	StandBy	Customer	85					Waiting on rig to finish running casingand circulate well
7	1/31/18 0445	Operational	Safety Meeting	53					Safety meeting
8	1/31/18 0514	Operational	Prime Up	52	8.34	2	5	200	Fill lines with 5 bbls fresh water
9	1/31/18 0518	Operational	Pressure Test	54					Pressure test lines to 5000 psi
10	1/31/18 0522	Operational	Pump Spacer	56	8.34	4	15	400	Pump 15 bbls water spacer
11	1/31/18 0527	Operational	Pump Spacer	56	11	6	20	400	Pump 20 bbls spacer @ 11 ppg
12	1/31/18 0538	Operational	Pump Lead Cement	58	12.5	7	139	700	Pump 139bblss lead cement @ 12.5 ppg (377sks, 2.07 Y, 11.83 gal/sk)
13	1/31/18 0556	Operational	Pump Tail Cement	60	15.8	7	54	600	Pump 54 bbls tail cement @15.8 ppg (258 sks, 1.16 Y, 4.98 gal/sk)
14	1/31/18 0604	Operational	Other (See comments)	76					Shutdown
15	1/31/18 0606	Operational	Drop Top Plug	63					Drop top plug
16	1/31/18 0607	Operational	Pump Displacement	64	8.34	8	240	1500	Pump 258 bbls water displacement
17	1/31/18 0638	Operational	Spacer Back to Surface	65					Spacer back to surface at 220 bbls away, 20 bbls spacer back to surface
18	1/31/18 0640	Operational	Other (See comments)	76	8.34	2	18	2300	Slow rate to 2 bpm at 240 bbls away
19	1/31/18 0642	Operational	Cement Back to Surface	66					Cement back to surface at 240 bbls away, 18 bbls cement to surface
20	1/31/18 0644	Operational	Land Plug	67				2600	Land plug at 2600 psi took to 3200 psi
21	1/31/18 0645	Operational	Check Floats	68					Check floats, floats holding, bbls back
22	1/31/18 0646	Operational	Other (See comments)	76	8.34			2000	Casing test 2000 psi for 15 mins
23	1/31/18 0651	Operational	Other (See comments)	76					Release pressure
24	1/31/18 0700	Operational	Safety Meeting	53					Safety meeting
25	1/31/18 0715	Operational	Rig Down	73					rigged down all equipment
26	1/31/18 0800	Mobilization	Leave Location	74					Crew departed location

Customer: BBC  
Well Number: 4-62-28-1609C  
Lease Info: Anschutz Equus Farms



Print Date/Time

1/31/2018 7:08:16 AM



	Name	Y value	X value/time stamp	Tag name Y
1	DS - Press(PSI)	3191.0	1/31/2018 6:44:24 AM	Cementer\DS_DISCHARGE_PRESS_DIAL
2	Recirc - Density (PPG)	0.0	1/31/2018 6:44:22 AM	Cementer\DENSITY_ACTUAL_RATE
3	Down Hole Total (BBLs)	268.3 i.	1/31/2018 6:44:24 AM i.	Cementer\DOWNHOLE_FLOW_TOTAL
4	Combined rate (BPM)	0.00 i.	1/31/2018 6:44:24 AM i.	Cementer\Flow_Combined
5				

Source: Control1 7:08:12 AM