

# Cementing Treatment



<b>Start Date</b>	6-22-2018	<b>Execution ID</b>	EXC-07877-W5F7J302
<b>End Date</b>	6-23-2018	<b>Project ID</b>	PRJ1007847
<b>Client</b>	BAYSWATER EXPLORATION & PRODUCTION, LLC	<b>Field Ticket#</b>	FT-07877-W5F7J30202-74460
<b>Client Field Rep.</b>	GARY	<b>Well</b>	Thornton C-29-30HN
<b>Service Sup.</b>	ALBERT SNYDER	<b>API#</b>	05-123-43610
<b>District</b>	Cheyenne, WY	<b>County</b>	WELD
<b>Type of Job</b>	Long String	<b>State/Province</b>	CO

## WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	TVD (ft)	Excess(%)
Previous Casing	8.92	9.63	36.00	1,553.00	1,553.00	
Open Hole	8.50			17,786.00	7,292.00	7.00
Casing	4.78	5.50	20.00	17,767.00	7,292.00	

**Shoe Length (ft):** 24

## HARDWARE

<b>Bottom Plug Used?</b>	No	<b>Tool Depth (ft)</b>	17746
<b>Top Plug Used?</b>	Yes	<b>Max Casing Pressure - Rated (psi)</b>	8610
<b>Top Plug Provided By</b>	Bayswater	<b>Max Casing Pressure - Operated (psi)</b>	3500
<b>Top Plug Size</b>	5.5	<b>Pipe Movement</b>	None
<b>Centralizers Used</b>	Yes	<b>Job Pumped Through</b>	Cement head
<b>Landing Collar Depth (ft)</b>	17,746	<b>Top Connection Thread</b>	Buttress
<b>Tool Type</b>	Float collar	<b>Top Connection Size</b>	5.5

## CIRCULATION PRIOR TO JOB

<b>Well Circulated By</b>	Yes	<b>PV Mud In/Out</b>	17
<b>Circulation Prior to Job</b>	No	<b>YP Mud In/Out</b>	9
<b>Circulation Time (min)</b>	360	<b>Solids Present at End of Circulation</b>	No
<b>Circulation Rate (bpm)</b>	12	<b>10 sec SGS</b>	3
<b>Circulation Volume (bbls)</b>	4320 bbls	<b>10 min SGS</b>	18
<b>Lost Circulation Prior to Cement Job</b>	No	<b>30 min SGS</b>	15
<b>Mud Density In (ppg)</b>	9.7	<b>Flare Prior to/during the Cement Job</b>	No
<b>Mud Density Out (ppg)</b>	9.7	<b>Gas Present</b>	No

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## TEMPERATURE

Ambient Temperature (°F)	70	Slurry Cement Temperature (°F)	75
Mix Water Temperature (°F)	75		

## BJ FLUID DETAILS

Fluid Type	Fluid Name	Density (ppg)	Yield (Cu Ft/sk)	H2O Req. (gals/sk)	Planned Top of Fluid (Ft)	Length (Ft)	Vol (sk)	Vol (Cu Ft)	Vol (bbls)
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	11.5000			0.00				80.0000
Lead Slurry	BJCem P100.3.01C	13.2000	1.8254	9.88	0.00	6,850.00	940	1,717.0000	305.6000
Tail Slurry	BJCem P50.6.02C	13.5000	1.4777	7.45	6,850.00	10,909.00	1,820	2,680.0000	477.1000
Displacement 2	Retarded Water w/ Clay Protection & Biocide	8.3331							20.0000
Displacement Final	Water w/ Clay Protection & Biocide	8.3331							373.0000

Fluid Type	Fluid Name	Component	Concentration	UOM
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	GELLANT WATER, GW-86	0.9000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	SPACER SURFACTANT, SS-6	1.4000	GPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	SAND, S-8, Silica Flour, 200 Mesh	215.0000	PPB
Lead Slurry	BJCem P100.3.01C	BONDING AGENT, EC-2	3.0000	BWOB
Lead Slurry	BJCem P100.3.01C	RETARDER, R-31	0.1700	BWOB
Lead Slurry	BJCem P100.3.01C	CEMENT, ASTM TYPE III	100.0000	PCT
Lead Slurry	BJCem P100.3.01C	GELLANT WATER, GW-86	0.0500	BWOB
Lead Slurry	BJCem P100.3.01C	FLUID LOSS, FL-66	0.5000	BWOB
Lead Slurry	BJCem P100.3.01C	FOAM PREVENTER, FP-25	0.3000	BWOB
Tail Slurry	BJCem P50.6.02C	FLUID LOSS, FL-66	0.2000	BWOB
Tail Slurry	BJCem P50.6.02C	EXTENDER, BENTONITE	2.0000	BWOB
Tail Slurry	BJCem P50.6.02C	Flyash (Rockies)	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	FOAM PREVENTER, FP-25	0.3000	BWOB
Tail Slurry	BJCem P50.6.02C	CEMENT, CLASS G	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	GELLANT WATER, GW-86	0.1000	BWOB

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Fluid Type	Fluid Name	Component	Concentration	UOM
Tail Slurry	BJCem P50.6.02C	RETARDER, SR-20	0.1500	BWOB
Displacement 2	Retarded Water w/ Clay Protection & Biocide	CLAY STABILIZER ResCare CS	0.0800	GPB
Displacement 2	Retarded Water w/ Clay Protection & Biocide	RETARDER, R-8L	0.5000	GPB
Displacement 2	Retarded Water w/ Clay Protection & Biocide	BIOCIDE, BIOC11139W	0.0100	GPB
Displacement Final	Water w/ Clay Protection & Biocide	BIOCIDE, BIOC11139W	0.0100	GPB
Displacement Final	Water w/ Clay Protection & Biocide	CLAY STABILIZER ResCare CS	0.0800	GPB

## TREATMENT SUMMARY

Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)
20:41	IntegraGuard EZ Spacer	5.00	80.00	300
20:48	BJCem P100.3.01C	6.00	305.60	700
21:26	BJCem P50.6.02C	6.00	477.10	400
22:47	Retarded Water w/ Clay Protection & Biocide	8.00	20.00	1000
22:53	Water w/ Clay Protection & Biocide	8.00	373.00	3500

## DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ Services	Amount of Cement Returned/Reversed	24
Calculated Displacement Volume (bbls)	392	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	392	Amount of Spacer to Surface	80 bbls
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0
Bump Plug	Yes	Amount Bled Back After Job	4.5 bbls
Bump Plug Pressure (psi)	3500	Total Volume Pumped (bbls)	1256
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement returns During Job	Yes	Lost Circulation During Cement Job	No



## Event Log

**Customer Name:** BAYSWATER EXPLORATION & PRODUCTION, LLC

**Well Name:** Thornton C-29-30HN

**Job Type:** Long String

**TMD (ft):** 17770

**District:** Cheyenne, WY

**Field Leader:** Albert Snyder

**Quote ID:** QUO-13903-R1S6N7

**Plan ID:** ORD-07877-W5F7J3

**Execution ID:** EXC-07877-W5F7J302

Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
	06/22/2018 11:30	Callout					Called out at 11:30 requested on location at 16:00
2	06/22/2018 12:20	Safety Meeting					Discussed journey to location
3	06/22/2018 13:20	Leave Location					Left the yard traveling in convoy
4	06/22/2018 15:30	Arrive on Location					arrived on location at 15:30 30 minutes early rig was circulating the well
5	06/22/2018 16:10	Safety Meeting					Steacs Briefing rig up
6	06/22/2018 16:30	Rig Up					Rigged up using caution and safety
7	06/22/2018 18:00	Safety Meeting					Safety meeting with rig crew discussed the job procedure
8	06/22/2018 18:30	Other (See comment)	8.3300	3.00	5.00	300.00	Filled lines with 5 bbls of fresh water
9	06/22/2018 18:35	Pressure Test	8.3300	1.00	1.00	6,000.00	Lines tested to 6000 was good
10	06/22/2018 18:40	Other (See comment)					Shut down had to wait for spacer
11	06/22/2018 18:50	Other (See comment)					rig hooked back up and began to circulate and wait for us
12	06/22/2018 20:41	Pump Spacer	11.5000	6.00	80.00	300.00	Mix and pump 80 bbls of spacer at 11.5#
13	06/22/2018 20:48	Pump Lead Cement	13.2000	8.00	305.00	700.00	mixed and pump 940 sks of P100 at 13.2 # with 1.82 yield and 9.88 water requirement
14	06/22/2018 21:26	Pump Tail Cement	13.5000	7.00	476.00	400.00	Mixed and pumped 1820 sks of P50 at 13.5# with 1.4 yield and 7.45 water requirement
15	06/22/2018 22:35	Drop Top Plug					washed to the pit and dropped their plug
16	06/22/2018 22:44	Pump Displacement	8.3300	8.00	20.00	1,000.00	Displace with 20 bbls of R8L water
17	06/22/2018 22:47	Pump Displacement	8.3300	8.00	50.00	1,200.00	Fresh H2O with rescare
18	06/22/2018 22:53	Pump Displacement	8.3300	8.00	100.00	1,500.00	Fresh H2O with rescare
19	06/22/2018 22:58	Pump Displacement	8.3300	8.00	150.00	2,200.00	good circulation
20	06/22/2018 23:02	Pump Displacement	8.3300	8.00	200.00	2,500.00	fresh H2O with rescare /biocide
21	06/22/2018 23:10	Pump Displacement	8.3300	8.00	250.00	2,300.00	good circulation
22	06/22/2018 23:18	Pump Displacement	8.3300	8.00	290.00	3,000.00	got back spacer to the surface 80 bbls
23	06/22/2018 23:28	Pump Displacement	8.3300	6.00	370.00	2,600.00	got back cement to the surface 24 bbls
24	06/22/2018 23:40	Land Plug	8.3300	5.00	392.00	3,500.00	Plug landed on calculated
25	06/22/2018 23:45	Check Floats					float is holding flowed back 4.5 bbls



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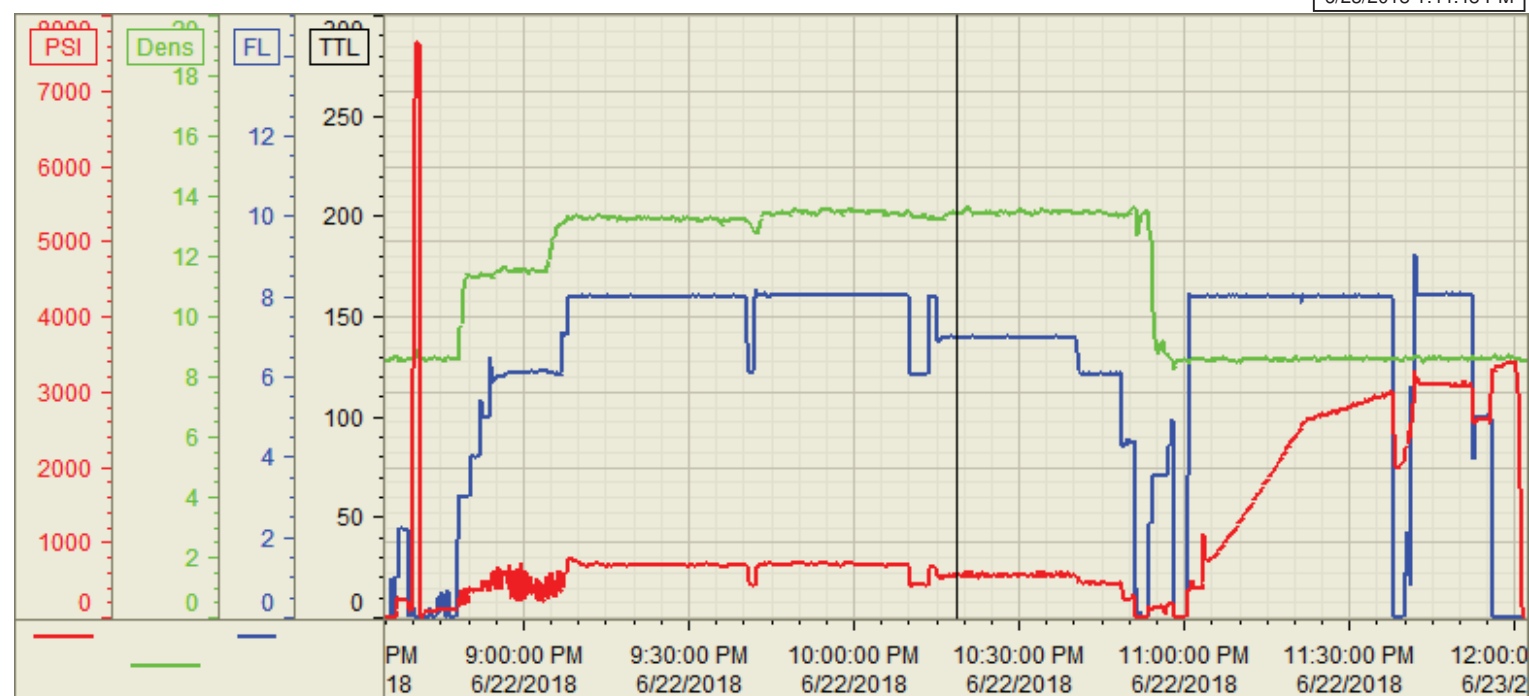
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Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
26	06/23/2018 0:10	Safety Meeting					Steacs briefing rig down
27	06/23/2018 0:20	Rig Down					rigged down using teamwork and safety
28	06/23/2018 2:10	Safety Meeting					after action review steacs journey return back to the yard
29	06/23/2018 2:40	Leave Location					Leave location in convoy

Customer: Bayswater  
Well Number: C-29-30HN  
Lease Info: THORNTON

Print Date/Time

6/23/2018 1:44:48 PM



	Name	Y value	X value/time stamp	Tag name Y
1	DS - Press (PSI)	542.3	6/22/2018 10:18:37 PM	Cementer\DS_DISCHARGE_PRESS_DIAL
2	DH Density (PPG)	13.46	6/22/2018 10:18:39 PM	Cementer\DENSITY2_ACTUAL_RATE
3	Combined pump rate	6.97	6/22/2018 10:18:33 PM	Cementer\Flow_Combined
4				
5				

Source: Control1 1:44:47 PM