

# Cementing Treatment



<b>Start Date</b>	4/8/18	<b>Well</b>	G & D HANKS S-27-28HN
<b>End Date</b>	4/8/18	<b>County</b>	WELD
<b>Client</b>	BAYSWATER EXPLORATION & PRODUCTION, LLC	<b>State/Province</b>	CO
<b>Service Supervisor</b>	Zach Hyde	<b>API</b>	05-123-46036
<b>District</b>	Cheyenne, WY	<b>Type of Job</b>	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	1,556.00	1,556.00	
Open Hole	8.50			18,123.00	7,901.00	10.00
Casing	4.78	5.50	20.00	18,116.66	7,901.00	

**Shoe Length (ft):** 42

## HARDWARE

<b>Bottom Plug Used?</b>	No	<b>Max Casing Pressure - Rated (psi)</b>	9,888
<b>Top Plug Used?</b>	Yes	<b>Max Casing Pressure - Operated (psi)</b>	3,300
<b>Top Plug Provided By</b>	Customer	<b>Pipe Movement</b>	No
<b>Top Plug Size</b>	5.5	<b>Job Pumped Through</b>	Iron
<b>Centralizers Used</b>	Yes	<b>Top Connection Thread</b>	BTC
<b>Centralizers Quantity</b>	204	<b>Top Connection Size</b>	5.5
<b>Centralizers Type</b>	Matrix		
<b>Landing Collar Depth (ft)</b>	18,116.66		

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## CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	PV Mud Out	20
Circulation Prior to Job	Yes	YP Mud In	10
Circulation Time (min)	180	YP Mud Out	10
Circulation Rate (bpm)	8	Solids Present at End of Circulation	No
Circulation Volume (bbls)	1,440	10 sec SGS	11
Lost Circulation Prior to Cement Job	No	10 min SGS	16
Mud Density In (ppg)	10	30 min SGS	18
Mud Density Out (ppg)	10	Flare Prior to/during the Cement Job	No
PV Mud In	20	Gas Present	No

## TEMPERATURE

Ambient Temperature (°F)	50	Slurry Cement Temperature (°F)	60
Mix Water Temperature (°F)	60	Flow Line Temperature (°F)	110

## 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	6,900.00	970	1,766.0000	314.4000
Tail Slurry	BJCem P50.6.02C	13.5000	1.4777	7.45	6,900.00	11,290.00	1,935	2,851.0000	507.6000
Displacement 1	Retarded Water w/ Clay Protection & Biocide	8.3331			17,247.00			0.0000	20.0000
Displacement Final	Water w/ Clay Protection & Biocide	8.3331			0.00			0.0000	382.5000

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Fluid Type	Fluid Name	Component	Concentration	UOM
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	SAND, S-8, Silica Flour, 200 Mesh	215.0000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	SPACER SURFACTANT, SS-267	0.7000	GPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	GELLANT WATER, GW-86	0.9000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer	Spacer Surfactant, SS-247	0.7000	GPB
Lead Slurry	BJCem P100.3.01C	FLUID LOSS, FL-66	0.5000	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	Foam Preventer, FP-25	0.3000	BWOB
Lead Slurry	BJCem P100.3.01C	BONDING AGENT, EC-2	3.0000	BWOB
Lead Slurry	BJCem P100.3.01C	GELLANT WATER, GW-86	0.0500	BWOB
Tail Slurry	BJCem P50.6.02C	FLUID LOSS, FL-66	0.2000	BWOB
Tail Slurry	BJCem P50.6.02C	RETARDER, SR-20	0.1500	BWOB
Tail Slurry	BJCem P50.6.02C	GELLANT WATER, GW-86	0.1000	BWOB
Tail Slurry	BJCem P50.6.02C	Flyash (Rockies)	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	CEMENT, CLASS G	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	EXTENDER, BENTONITE	2.0000	BWOB
Tail Slurry	BJCem P50.6.02C	Foam Preventer, FP-25	0.3000	BWOB
Displacement 1	Retarded Water w/ Clay Protection & Biocide	BIOCIDE, BIOC11139W	0.0100	GPB
Displacement 1	Retarded Water w/ Clay Protection & Biocide	RETARDER, R-8L	0.5000	GPB
Displacement 1	Retarded Water w/ Clay Protection & Biocide	CLAY STABILIZER ResCare CS	0.0800	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

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## DISPLACEMENT AND END OF JOB SUMMARY

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Displaced By	BJ	Amount of Cement Returned/Reversed	80
Calculated Displacement Volume (bbls)	401	Amount of Spacer to Surface	80
Actual Displacement Volume (bbls)	396	Pressure Left on Casing (psi)	0
Did Float Hold?	Yes	Amount Bled Back After Job	3,300
Bump Plug	Yes	Total Volume Pumped (bbls)	1,300
Bump Plug Pressure (psi)	2,600	Top Out Cement Spotted	No
Were Returns Planned at Surface	Yes	Lost Circulation During Cement Job	No
Cement returns During Job	Yes		

Customer Name Bayswater  
 Well Name G&D Hanks S-27-28HN  
 Job Type Long String

District Cheyenne  
 Supervisor Zach Hyde  
 Engineer \_\_\_\_\_



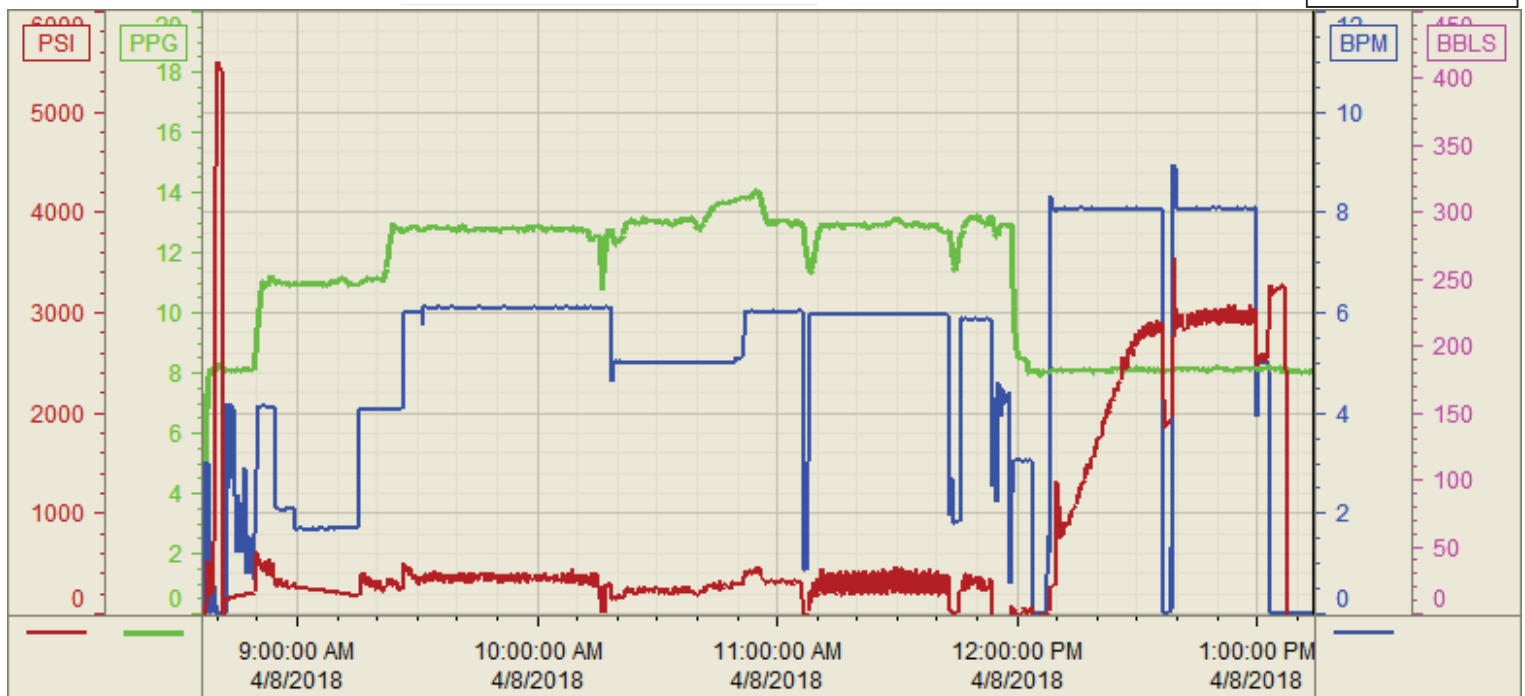
Seq No.	Start Date/Time	Category	Event	Equipment	Event ID	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	4/8/2018 2:30		Call Out							Crew gets called out. Requested time 5:30
2	4:00		Depart Facility							Crew departs facility
3	5:00		On Location							Crew arrives on location
4	5:30		Rig Up		50					Crew rigs up iron and hoses needed for the job
5	6:00		Wait							Crew waits for rig to finish circulating
6	8:00		Safety Meeting							Crew has a safety meeting with the rig crew and company man discussing the job
7	8:44		Fill Lines			8.33	3	3	500	Filled lines with 3 bbls with 500 psi
8	8:46		Pressure Test		54					Pressure tested to 5000 psi
9	8:56		EZ Spacer			11.5	2	80	400	Pumped 80 bbls of EZ Spacer at 11.5 ppg at 2 bpm
10	9:31		Lead			13.2	6	314	300	Pumped 314 bbls of Lead at 13.2 ppg (970sk, 1.825 yld, 9.88 gal/sk) at 6 bpm with 300 psi
11	10:26		Tail			13.5	6	507	300	Pump 507 bbls of Tail at 13.5 ppg (1935 sks, 1.47 yld, 7.45 gal/sk) at 6 bpm with 300 psi
12	12:01		Shutdown							Shutdown wash pump and lines to pit
13	12:14		Displacement			8.33	8	215	2300	215 bbls away of displacement at 8 bpm with 2300 psi
14	12:44		Shutdown							Had to shutdown so the rig could sawp there lines to the cement tanks
15	12:46		Displacement			8.33	8	165	2600	380 bbls away of displacement at 8 bpm with 2600 psi
16	12:52		Spacer to Surface							Got spacer to surface at 240 bbls away
17	13:02		Cement to Surface							Got cement to surface at 320 bbls away
19	13:07		Slow Rate							Slowed rate the last 20 bbls to land the plug at 5bpm
20	13:07		Displacement			8.33	5	16	2600	396 bbls way at 5 bpm with 2600 psi
21	13:10		Land Plug							Landed the plug at 396 bbls at 5 bpm FCP was 2700 psi brought it up to 3300 psi for 3 minutes
22	13:14		Check Floats							Checked floats got 4.5 bbls back
23	13:14		Job Complete							Job complete.
24	14:00		Rig Down							Crew rigs down iron and hoses
25	15:00		Depart Location							Crew departs location

Customer: Bayswater  
Well Number: S-27-28HN G&D  
Lease Info: HANKS S-27-28HN



Print Date/Time

4/8/2018 1:38:02 PM



	Name	Y value	X value/time stamp	Tag name Y
1	PS - Press (PSI)	-43.4	4/8/2018 1:14:05 PM	Cementer\PS_DISCHARGE_PRESS_DIAL
2	DH - Density (PPG)	8.09	4/8/2018 1:14:03 PM	Cementer\DENSITY2_ACTUAL_RATE
3	Combined Rate (BPM)	0.00	4/8/2018 1:14:03 PM	Cementer\Flow_Combined
4				
5				

Source: Control1 1:37:56 PM