

## Cementing Treatment



<b>Start Date</b>	5/15/18	<b>Field Ticket#</b>	06614-T6H8H90202-65204
<b>End Date</b>	5/15/18	<b>Well</b>	G & D HANKS W-27-28HC
<b>Client</b>	BAYSWATER EXPLORATION & PRODUCTION, LLC	<b>API#</b>	05-123-46276
<b>Client Field Rep.</b>	Scott	<b>County</b>	WELD
<b>Service Sup.</b>	Orlando Fuentes	<b>State/Province</b>	CO
<b>District</b>	Cheyenne, WY	<b>Rig</b>	True 38
<b>Type of Job</b>	Long String	<b>Project ID</b>	PRJ1006694
<b>Execution ID</b>	EXC-06614-T6H8H902		

### 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			18,073.00	7,383.00	5.00
Casing	4.78	5.50	20.00	18,065.50	7,383.00	

Shoe Length (ft): 26.5

### HARDWARE

<b>Top Plug Used?</b>	Yes	<b>Max Casing Pressure - Rated (psi)</b>	12,640
<b>Top Plug Provided By</b>	Customer	<b>Max Casing Pressure - Operated (psi)</b>	3050
<b>Top Plug Size</b>	5.5	<b>Pipe Movement</b>	No
<b>Centralizers Used</b>	Yes	<b>Job Pumped Through</b>	2" iron
<b>Centralizers Quantity</b>	236	<b>Top Connection Thread</b>	BTC
<b>Centralizers Type</b>	Matrix	<b>Top Connection Size</b>	5.5
<b>Landing Collar Depth (ft)</b>	18,039		

### CIRCULATION PRIOR TO JOB

<b>Well Circulated By</b>	True 38	<b>PV Mud Out</b>	13
<b>Circulation Prior to Job</b>	Yes	<b>YP Mud In</b>	9
<b>Circulation Time (min)</b>	240	<b>YP Mud Out</b>	9
<b>Circulation Rate (bpm)</b>	12.5	<b>Solids Present at End of Circulation</b>	No
<b>Circulation Volume (bbls)</b>	3000	<b>10 sec SGS</b>	5
<b>Lost Circulation Prior to Cement Job</b>	No	<b>10 min SGS</b>	9
<b>Mud Density In (ppg)</b>	10	<b>30 min SGS</b>	12
<b>Mud Density Out (ppg)</b>	10	<b>Flare Prior to/during the Cement Job</b>	No
<b>PV Mud In</b>	13	<b>Gas Present</b>	No

### TEMPERATURE

<b>Ambient Temperature (°F)</b>	65	<b>Slurry Cement Temperature (°F)</b>	60
<b>Mix Water Temperature (°F)</b>	65	<b>Flow Line Temperature (°F)</b>	100

## Cementing Treatment



### 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	6,950.00	945	1,716.0000	305.6000
Tail Slurry	BJCem P50.6.02C	13.5000	1.4777	7.45	6,950.00	11,421.00	1,870	2,753.0000	490.2000
Displacement 1	GW-86 Pill	8.3300			17,879.00			0.0000	10.0000
Displacement 2	Retarded Water w/ Clay Protection & Biocide	8.3331				0.00	0	0.0000	20.0000
Displacement Final	Water w/ Clay Protection & Biocide	8.3331			0.00			0.0000	376.5000

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-247	0.7000	GPB
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
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	RETARDER, R-31	0.1700	BWOB
Lead Slurry	BJCem P100.3.01C	FLUID LOSS, FL-66	0.5000	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	Flyash (Rockies)	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	FLUID LOSS, FL-66	0.2000	BWOB
Tail Slurry	BJCem P50.6.02C	CEMENT, CLASS G	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	RETARDER, SR-20	0.1500	BWOB
Tail Slurry	BJCem P50.6.02C	Foam Preventer, FP-25	0.3000	BWOB
Tail Slurry	BJCem P50.6.02C	GELLANT WATER, GW-86	0.1000	BWOB
Tail Slurry	BJCem P50.6.02C	EXTENDER, BENTONITE	2.0000	BWOB
Displacement 1	GW-86 Pill	GELLANT WATER, GW-86	2.5000	PPB
Displacement 1	GW-86 Pill	RETARDER, R-8L	0.5000	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 2	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

## Cementing Treatment



### TREATMENT SUMMARY

Fluid	Rate (bpm)	Fluid Vol. (bbls)
IntegraGuard EZ Spacer	5.00	80.00
BJCem P100.3.01C	6.00	305.60
BJCem P50.6.02C	6.00	490.20
GW-86 Pill	6.00	10.00
Retarded Water w/ Clay Protection & Biocide	8.00	20.00
Water w/ Clay Protection & Biocide	8.00	376.50

### DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ Services	Method Used to Verify Returns	Visual
Calculated Displacement Volume (bbls)	400.46	Amount of Spacer to Surface	80 bbls
Actual Displacement Volume (bbls)	411	Amount Bled Back After Job	3
Did Float Hold?	Yes	Total Volume Pumped (bbls)	1290.36
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement returns During Job	No	Lost Circulation During Cement Job	No

## Service Line

Cementing

## EVENT LOG



## Client

BAYSWATER EXPLORATION &amp; PRODUCTION, LLC

## District

Cheyenne, WY

## Quotes:

QUO-11584-R452H8

## Plans:

ORD-06614-T6H8H9

## Executions:

EXC-06614-T6H8H902

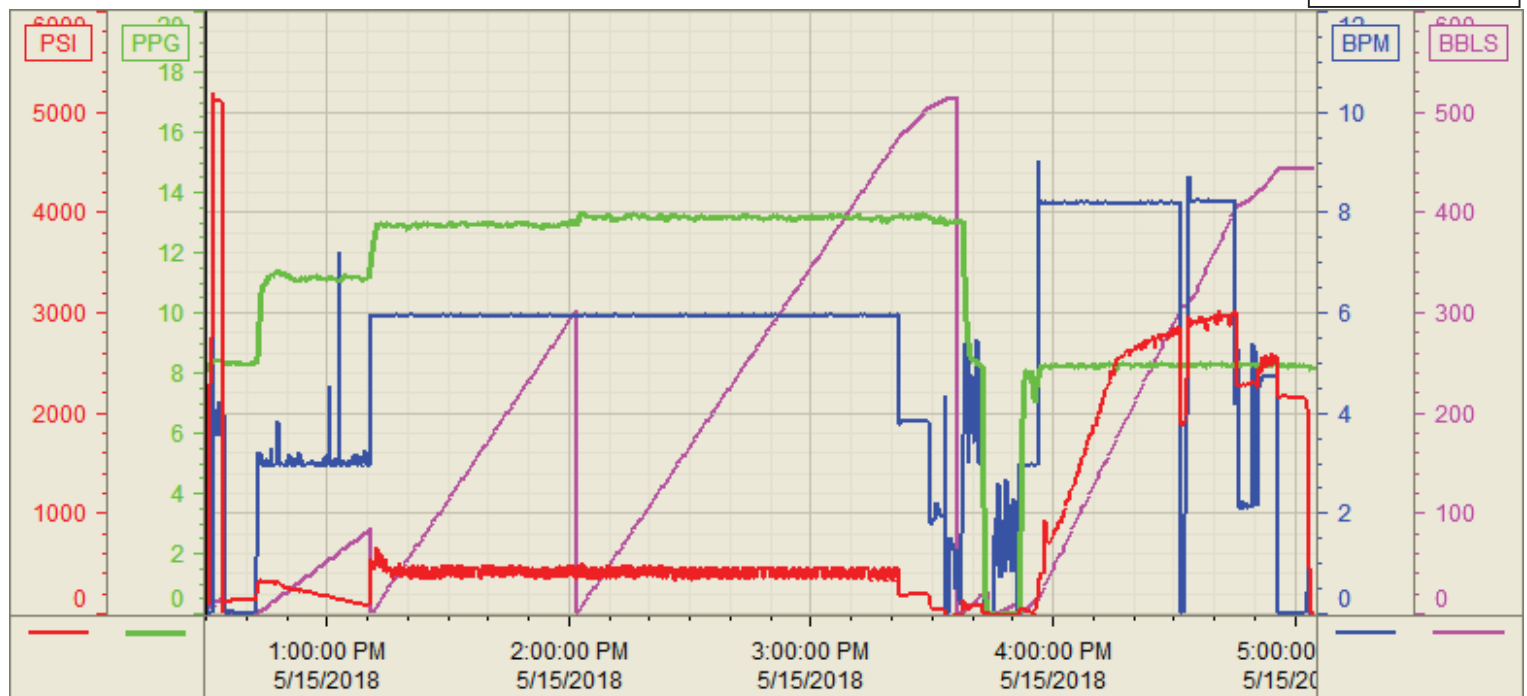
Well	Job Type	BJ Sup.	Start Dt./Time	Category	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol(bbls)	Pipe Pressure(psi)	Comments
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/14/2018 22:41	Mobilization	Callout					BJ services departs facility Requested time on location was 0900 hrs 5/15/18
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 01:00	Mobilization	Arrive on Location					BJ services crew arrives on location
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 2:00	StandBy	Other (See comment)					Waiting on rig to run casing
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 8:00	Operational	Safety Meeting					BJ services crew had a pre rig up meeting
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 10:00	Operational	Rig Up					BJ services crew spots in units and rigs up all equipment and iron
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 12:30	Operational	Safety Meeting					BJ services crew had a safety meeting with rig hands and co man went over pump procedure
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 12:50	Operational	Pump Spacer	11.5000	3.00	80.00	347.00	Pumped 80 bbls of EZ spacer w/chems 3 bpm w/ 347 psi
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 13:17	Operational	Pump Lead Cement	13.2000	6.00	307.22	603.00	Pumped 307.22 bbls of lead cement ( 945 sks 13.2 ppg 1.8254 yld 9.88 g/sk ) at 6 bpm w/ 603 psi
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 13:39	Operational	Pressure Test				5,000.00	Pressure test pumps and lines to 5000 psi
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 14:09	Operational	Pump Tail Cement	13.5000	6.00	492.14	460.00	Pumped 492.14 bbls of tail cement ( 1870 sks 13.5 ppg 1.4770 yld 7.45 g/sk ) at 6 bpm w/ 460
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 15:40	Operational	End Pumping					Shut down pumping cement
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 15:45	Operational	Clean Pumps and Lines					Clean pumps and lines to pit
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 15:50	Operational	Drop Top Plug					Drop top plug
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 15:58	Operational	Pump Displacement	8.3300	8.00		729.00	Start pumping disp ( w/ GW-86 pill on first 10 bbls and R-8L 10 gals on next 20 bbls ) at 8 bpm w/ 729 psi
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 16:39	Operational	Other (See comment)	8.3300	8.00	300.00	2,750.00	At 300 bbls away shut down pumping disp due to rig swaped returns to Cement tanks , Came back on line at 8 bpm w/2750 psi
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 16:43	Operational	Spacer Back to Surface	8.3300	8.00	330.00	2,698.00	At 330 bbls away got spacer back to surface at 8 bpm w/ 2698 psi
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 16:51	Operational	Other (See comment)	8.3300	5.00	380.00	2,584.00	At 380 bbls away into disp slow down rate to 5 bpm w/ 2584 psi
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 17:02	Operational	End Pumping	8.3300	5.00	411.00	2,109.00	Shut down at 411 bbls did not land plug , Pumped 10 bbl over calculated Due to customers request
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 17:10	Operational	Check Floats					Check floats got 3 bbls back
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 17:30	Operational	Safety Meeting					BJ services crew had a pre rig down meeting
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 19:00	Operational	Rig Down					BJ services crew rigs down all equipment and iron
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 19:30	Operational	Leave Location					BJ services crew departs location
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 19:31	Operational	Other (See comment)					Total Spacer to surface - 80 bbls
W-27-28HC G & D HANKS	Long String	Orlando Fuentes	05/15/2018 19:32	Operational	Other (See comment)					Total Cement to surface - 0 bbls

Customer: Bayswater Exp.  
Well Number: W-27-28HC  
Lease Info: G & D Hanks



Print Date/Time

5/15/2018 6:20:14 PM



	Name	Y value	X value/time stamp	Tag name Y
1	DS - Press (PSI)	75.3	5/15/2018 12:30:00 PM	Cementer\DS_DISCHARGE_PRESS_DIAL
2	DH - Density (PPG)	8.09	5/15/2018 12:29:56 PM	Cementer\DENSITY2_ACTUAL_RATE
3	Combined Rate (BPM)	3.90	5/15/2018 12:29:56 PM	Cementer\Flow_Combined
4	Down Hole Total (BBLs)	3.7	5/15/2018 12:29:56 PM	Cementer\DOWNHOLE_FLOW_TOTAL
5				

Source: Control1 6:20:10 PM