

BJ Cementing Treatment Report

SERVICE SUPERVISOR	Zachary Hyde	RIG	True 38
DISTRICT	Cheyenne, WY	COUNTY	WELD
SERVICE	Cementing	STATE / PROVINCE	CO

WELL GEOMETRY

TYPE	ID (in)	OD (in)	WEIGHT (lb/ft)	MD (ft)	TVD (ft)	EXCESS (%)
Previous Casing	8.92	9.63	36.00	1,565.00	1,565.00	
Open Hole	8.50	0.00	0.00	15,431.00	7,352.00	5.00
Casing	4.78	5.50	20.00	15,419.00	7,352.00	

HARDWARE

Bottom Plug Used?	No	Centralizers Type	Rigid
Top Plug Used?	Yes	Landing Collar Depth (ft)	15,394
Top Plug Provided By	Non BJ	Pipe Movement	None
Top Plug Size	5.500	Job Pumped Through	No Manifold
Centralizers Used	Yes	Top Connection Thread	BTC
Centralizers Quantity	181.00	Top Connection Size	5.5

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	PV Mud Out	4
Circulation Prior to Job	No	YP Mud In	7
Circulation Time (min)	180.00	YP Mud Out	7
Circulation Rate (bpm)	12.00	Solids Present at End of Circulation	No
Circulation Volume (bbls)	2160.00	10 sec SGS	6
Lost Circulation Prior to Cement Job	No	10 min SGS	7
Mud Density In (ppg)	9.80	30 min SGS	9
Mud Density Out (ppg)	9.80	Flare Prior to / during the Cement Job	No
PV Mud In	4	Gas Present	No

TEMPERATURE

Ambient Temperature (°F)	30.00	Slurry Cement Temperature (°F)	80.00
Mix Water Temperature (°F)	80.00	Flow Line Temperature (°F)	150.00

FLUID DETAILS

FLUID TYPE	FLUID NAME	DENSITY (ppg)	YIELD (Cu Ft/sk)	H ₂ O REQ (gals/sk)	PLN TOP FLD (ft)	LENGTH (ft)	VOL (sk)	VOL (Cu Ft)	VOL (bbls)
Spacer / Pre Flush / Flush	Dye Flush	8.3300			0.00				2.0000
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	12.0000			0.00				28.0000
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	11.5000			0.00				26.0000
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	11.0000			0.00				26.0000
Lead Slurry	BJCem P100.3.01C	13.2000	1.8295	9.87	0.00	6,878.00	930	1702.0000	303.0000
Tail Slurry	BJCem P50.6.02C	13.5000	1.4774	7.45	6,878.00	8,562.00	1395	2061.0000	367.1000
Displacement 2	Retarded Water w/ Clay Protection & Biocide	8.3331				0.00	0	0.0000	10.0000
Displacement Final	Water w/ Clay Protection & Biocide	8.3331			0.00			0.0000	331.5000

FLUID TYPE	FLUID NAME	COMPONENT	CONCENTRATION	UOM
Spacer / Pre Flush / Flush	Dye Flush	DYE,LIQUID,BLUE	1.0000	GPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	WEIGHTING ADDITIVE, W-11	243.3100	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	SPACER SURFACTANT, SS-267	1.0000	GPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	IntegraGuard GW-86	1.2000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	RETARDER, R-31	0.5000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	RETARDER, R-7C	2.0000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	IntegraGuard GW-86	1.2000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	WEIGHTING ADDITIVE, W-11	243.3100	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	SPACER SURFACTANT, SS-267	1.0000	GPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	RETARDER, R-31	0.5000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	RETARDER, R-7C	2.0000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	IntegraGuard GW-86	1.2000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	WEIGHTING ADDITIVE, W-11	243.3100	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	SPACER SURFACTANT, SS-267	1.0000	GPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	RETARDER, R-7C	2.0000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	RETARDER, R-31	0.5000	PPB
Lead Slurry	BJCem P100.3.01C	FOAM PREVENTER, FP-25	0.3000	BWOB
Lead Slurry	BJCem P100.3.01C	RETARDER, SR-20	0.7000	BWOB
Lead Slurry	BJCem P100.3.01C	IntegraGuard GW-86	0.1000	BWOB
Lead Slurry	BJCem P100.3.01C	FLUID LOSS, FL-66	0.5000	BWOB
Lead Slurry	BJCem P100.3.01C	IntegraCare EC-2	3.0000	BWOB
Lead Slurry	BJCem P100.3.01C	CEMENT, ASTM TYPE III	100.0000	PCT
Tail Slurry	BJCem P50.6.02C	CEMENT, CLASS G	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	RETARDER, SR-20	0.1000	BWOB
Tail Slurry	BJCem P50.6.02C	FLUID LOSS, FL-66	0.2000	BWOB
Tail Slurry	BJCem P50.6.02C	IntegraGuard GW-86	0.1000	BWOB
Tail Slurry	BJCem P50.6.02C	Flyash (Rockies)	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 2	Retarded Water w/ Clay Protection & Biocide	BIOCIDE, BIOC11139W	0.0100	GPB
Displacement 2	Retarded Water w/ Clay Protection & Biocide	RETARDER, SR-61L	0.1000	GPB
Displacement 2	Retarded Water w/ Clay Protection & Biocide	ResCare CS-2	0.0800	GPB
Displacement Final	Water w/ Clay Protection & Biocide	BIOCIDE, BIOC11139W	0.0100	GPB
Displacement Final	Water w/ Clay Protection & Biocide	ResCare CS-2	0.0800	GPB

DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amt of Cement Returned / Reversed	27.00
Calculated Displacement Vol (bbls)	341.00	Method Used to Verify Returns	Visual
Actual Displacement Vol (bbls)	337.00	Amt of Spacer to Surface	80.00
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0.00
Bump Plug	Yes	Amt Bled Back After Job	4.00
Bump Plug Pressure (psi)	2500.00	Total Volume Pumped (bbls)	1087.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement Returns During Job	Full	Lost Circulation During Cement Job	No

BJ Cementing Event Log

Long String - Cheyenne, WY

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	12/21/2019 22:41	Callout					Crew gets called out. Requested time 300 12/22/19
2	12/22/2019 01:00	Depart for Location					Crew departs for location
3	12/22/2019 02:00	Arrive on Location					Crew arrives on location
4	12/22/2019 02:00	Spot Units					Crew spots units
5	12/22/2019 02:10	Rig Up					Crew rigs up iron and hoses needed for job
6	12/22/2019 03:00	Rig					Crew waits for rig to finish circulating
7	12/22/2019 03:30	STEACS Briefing					Crew has a briefing with company man and rig crew
8	12/22/2019 03:42	Prime Up	8.3300	3.00	3.00	700.00	Filled lines 3bbls of dye
9	12/22/2019 03:43	Pressure Test					Pressure tested lines to 5500psi
10	12/22/2019 03:47	Pump Spacer	12.0000	7.00	28.00	500.00	Pumped 28 bbls of Spacer at 12ppg with surfactant
11	12/22/2019 03:57	Pump Spacer	11.5000	7.00	26.00	500.00	Pumped 26 bbls of Spacer at 11.5ppg with surfactant
12	12/22/2019 04:00	Pump Spacer	11.0000	7.00	26.00	500.00	Pumped 26 bbls of Spacer at 11ppg with surfactant
13	12/22/2019 04:05	Pump Lead Cement	13.2000	8.00	303.00	1000.00	Pumped 303 bbls of lead at 13.2ppg(930sks,1.89yld,7.45gal/sk)
14	12/22/2019 04:40	Pump Tail Cement	13.5000	8.00	367.00	600.00	Pumped 367 bbls of Tail at 13.5ppg(1395sks,1.47yld,7.45gal/sk)
15	12/22/2019 05:32	End Pumping					Shutdown
16	12/22/2019 05:32	Wash Pumps and Lines					Washed pump and lines to the pit
17	12/22/2019 05:40	Drop Top Plug					Dropped top plug
18	12/22/2019 05:40	Pump Displacement	8.3300	10.00	20.00	600.00	Pumped the first 20 bbls of Displacement with fresh water and retarder
19	12/22/2019 05:41	Pump Displacement	8.4000	10.00	301.00	2400.00	Pumped 301 bbls of Displacement with rez care and biocide
20	12/22/2019 06:23	Spacer Back-to-Surface					At 234 got spacer back to surface
21	12/22/2019 06:23	Cement Back-to-Surface					At 314 got cement back to surface. Had a total of 27 bbls back
22	12/22/2019 06:23	Pump Displacement	8.3300	5.00	20.00	2400.00	Slowed rate last 20 bbls to 5 bpm to land plug
23	12/22/2019 06:27	Land Plug					Landed plug went 500 psi over FCP. FCP was 2500psi brought it up to 3000psi
24	12/22/2019 06:32	Check Floats					Checked floats got 4 bbls back
25	12/22/2019 06:32	Rig Down					Crew rigs down iron and hoses

Client: Bayswater Exploration & Production, LLC

Well Name / API: COT EAST #S-30-29HN / 05-123-50416

Well 15431 MD:



Quote #: QUO-40164-N8T9J8

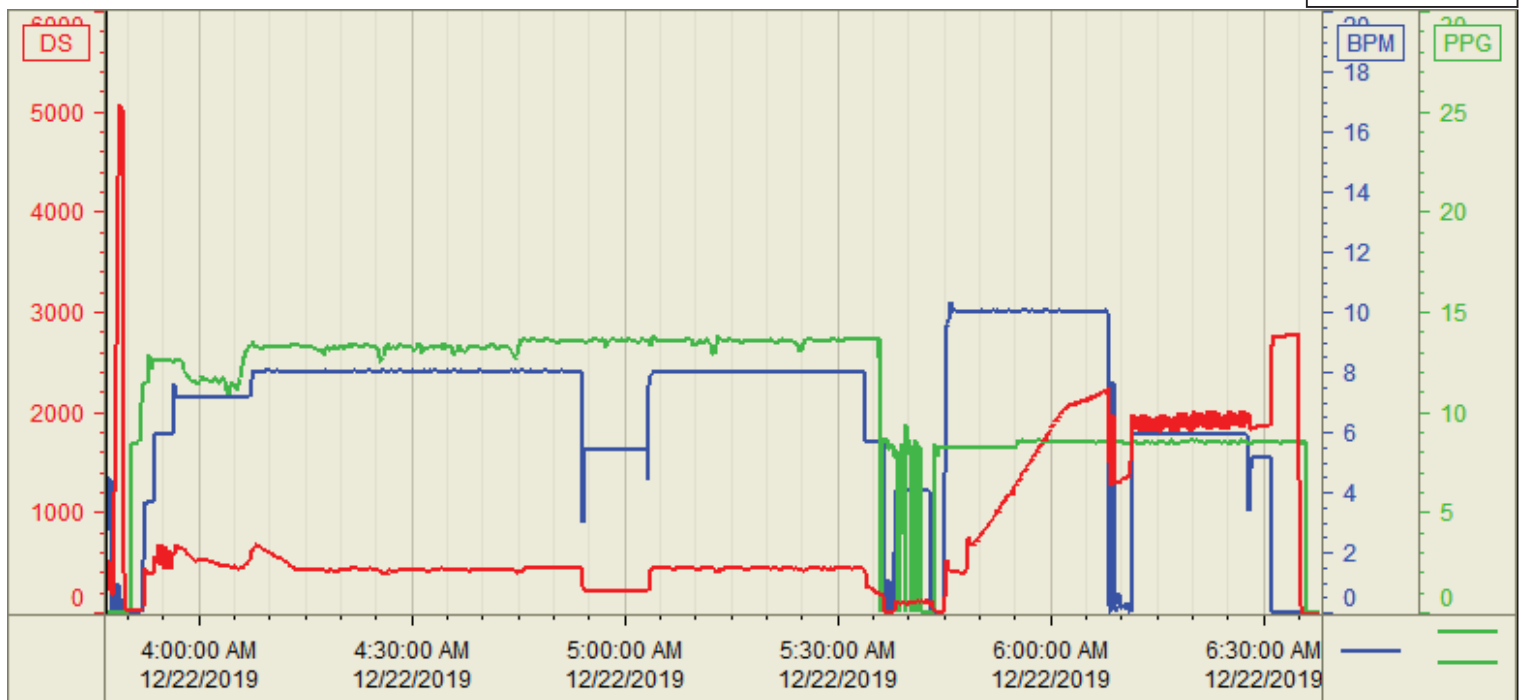
Plan #: ORD-23268-K1B4P1

Execution #: EXC-23268-K1B4P102

Customer: Bayswater
 Well Number: S-30-29HN
 Lease Info: COT EAST



Print Date/Time
 12/22/2019 7:43:02 AM



	Name	Y value	X value/time stamp	Tag name Y
1	DS - Press (PSI)	276	12/22/2019 3:47:03 AM	Cementer\DS_DISCHARGE_PRESS_DIAL
2	Density (PPG)	0.01	12/22/2019 3:46:57 AM	Cementer\DENSITY_ACTUAL_RATE
3	Den2 - Discharge Density (F)	-0.24	12/22/2019 3:46:57 AM	Cementer\DENSITY2_ACTUAL_RATE
4	Combined Rate (BPM)	2.70	12/22/2019 3:46:57 AM	Cementer\Flow_Combined
5				

Source: Control1 7:42:58 AM