

BJ Cementing Treatment Report

SERVICE SUPERVISOR	Zachary Hyde	RIG	True 38
CLIENT FIELD REPRESENTATIVE	Trevor Smith	COUNTY	WELD
DISTRICT	Cheyenne, WY	STATE / PROVINCE	CO
SERVICE	Cementing		

WELL GEOMETRY

TYPE	ID (in)	OD (in)	WEIGHT (lb/ft)	MD (ft)	TVD (ft)	EXCESS (%)
Open Hole	8.50	0.00	0.00	18,523.00	7,244.00	5.00
Casing	4.78	5.50	20.00	18,507.00	7,244.00	
Previous Casing	8.92	9.63	36.00	1,545.00	1,545.00	

HARDWARE

Bottom Plug Used?	No	Centralizers Type	Rigid
Top Plug Used?	Yes	Landing Collar Depth (ft)	18,480
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	225.00	Top Connection Size	5.5

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	PV Mud Out	23
Circulation Prior to Job	No	YP Mud In	11
Circulation Time (min)	180.00	YP Mud Out	11
Circulation Rate (bpm)	10.00	Solids Present at End of Circulation	No
Circulation Volume (bbls)	1800.00	10 sec SGS	10
Lost Circulation Prior to Cement Job	No	10 min SGS	23
Mud Density In (ppg)	10.50	30 min SGS	27
Mud Density Out (ppg)	10.50	Flare Prior to / during the Cement Job	No
PV Mud In	23	Gas Present	No

TEMPERATURE

Ambient Temperature (°F)	75.00	Slurry Cement Temperature (°F)	70.00
Mix Water Temperature (°F)	70.00	Flow Line Temperature (°F)	160.00

Client: Bayswater Exploration & Production, LLC

Well: LEFFLER #HA-26-28HN

Well API: 05-123-49492

Start Date: 8/19/2019

End Date: 8/19/2019



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	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	6,935.00	940	1720.0000	306.3000
Tail Slurry	BJCem P50.6.02C	13.5000	1.4772	7.45	6,935.00	11,573.00	1895	2800.0000	498.6000
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	399.6000

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FLUID TYPE	FLUID NAME	COMPONENT	CONCENTRATION	UOM
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	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	WEIGHTING ADDITIVE, W-11	243.3100	PPB
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
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	WEIGHTING ADDITIVE, W-11	243.3100	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	IntegraGuard GW-86	1.2000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	SPACER SURFACTANT, SS-267	1.0000	GPB
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	WEIGHTING ADDITIVE, W-11	243.3100	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
Lead Slurry	BJCem P100.3.01C	CEMENT, ASTM TYPE III	100.0000	PCT
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	RETARDER, SR-20	0.7000	BWOB
Lead Slurry	BJCem P100.3.01C	IntegraCare EC-2	3.0000	BWOB
Lead Slurry	BJCem P100.3.01C	FOAM PREVENTER, FP-25	0.3000	BWOB
Tail Slurry	BJCem P50.6.02C	IntegraGuard GW-86	0.1000	BWOB
Tail Slurry	BJCem P50.6.02C	FOAM PREVENTER, FP-25	0.3000	BWOB
Tail Slurry	BJCem P50.6.02C	RETARDER, SR-20	0.0700	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	CEMENT, CLASS G	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	Flyash (Rockies)	50.0000	PCT
Displacement 2	Retarded Water w/ Clay Protection & Biocide	RETARDER, SR-61L	0.1000	GPB
Displacement 2	Retarded Water w/ Clay Protection & Biocide	BIOCIDE, BIOC11139W	0.0100	GPB
Displacement 2	Retarded Water w/ Clay Protection & Biocide	ResCare CS-2	0.0800	GPB
Displacement Final	Water w/ Clay Protection & Biocide	ResCare CS-2	0.0800	GPB
Displacement Final	Water w/ Clay Protection & Biocide	BIOCIDE, BIOC11139W	0.0100	GPB

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DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amt of Cement Returned / Reversed	40.00
Calculated Displacement Vol (bbls)	410.00	Method Used to Verify Returns	Visual
Actual Displacement Vol (bbls)	410.00	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	5.00
Bump Plug Pressure (psi)	2200.00	Total Volume Pumped (bbls)	1297.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement Returns During Job	Full	Lost Circulation During Cement Job	No

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Production, LLC

Well: LEFFLER #HA-26-28HN

Well
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Start
Date: 8/19/2019

End
Date: 8/19/2019



BJ Cementing Event Log

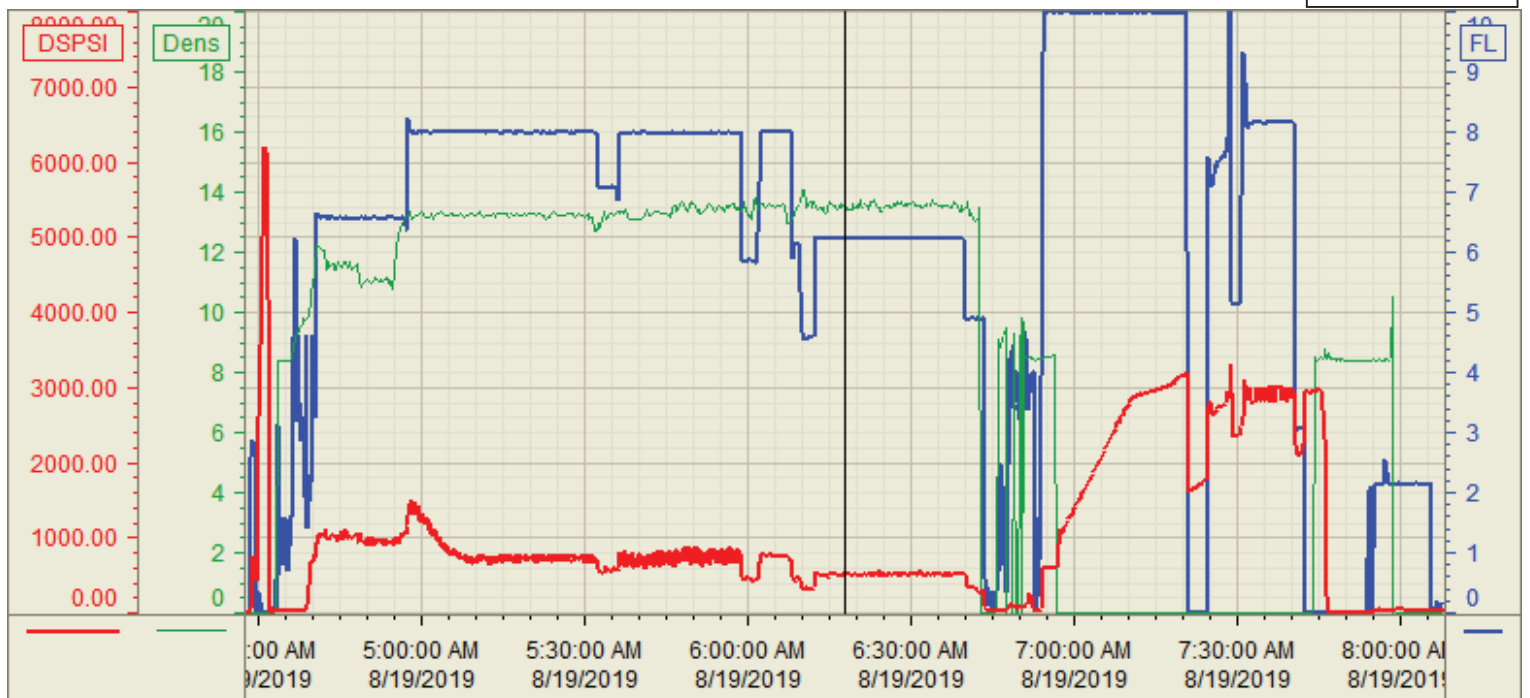
Long String - Cheyenne, WY - Zachary Hyde

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	08/18/2019 22:35	Callout					Crew gets called requested time 8/19/19 300
2	08/18/2019 23:00	Depart for Location					Crew departs for location
3	08/18/2019 23:00	Arrive on Location					Crew departs for location
4	08/19/2019 01:00	Rig Up					Crew rigs up iron and hoses
5	08/19/2019 02:00	Rig					Wait for rig to circulate
6	08/19/2019 04:00	STEACS Briefing					Crew has a briefing with the company man and rig crew
7	08/19/2019 04:28	Prime Up	8.3300	3.00	3.00	500.00	Filled lines 3 bbls
8	08/19/2019 04:30	Pressure Test					Pressure tested pump and lines to 5500 psi
9	08/19/2019 04:35	Pump Spacer	12.0000	6.00	28.00	1200.00	Pumped 28 bbls of Spacer at 12 ppg with surfactant
10	08/19/2019 04:43	Pump Spacer	11.5000	6.00	26.00	1200.00	Pumped 26 bbls of Spacer at 11.5 ppg with surfactant
11	08/19/2019 04:48	Pump Spacer	11.0000	6.00	26.00	1200.00	Pumped 26 bbls of Spacer at 11 ppg with surfactant
12	08/19/2019 04:56	Pump Lead Cement	13.2000	8.00	306.00	1300.00	Pumped 306 bbls of Lead at 13.2 ppg(940sks,1.82yld,9.87gal/sk)
13	08/19/2019 05:36	Pump Tail Cement	13.5000	8.00	498.00	900.00	Pumped 498 bbls of Tail at 13.5 ppg(1895sks,1.47yld,7.45gal/sk)
14	08/19/2019 06:43	End Pumping					Shutdown
15	08/19/2019 06:43	Wash Pumps and Lines					Washed pump and lines
16	08/19/2019 06:53	Drop Top Plug HA-					Dropped top plug
17	08/19/2019 06:53	Pump Displacement	8.3300	10.00	10.00	600.00	Pumped the first 10 bbls of displacement with fresh water and retarder
18	08/19/2019 06:54	Pump Displacement	8.3300	10.00	380.00	3200.00	Pumped 380 of displacement at 10 bpm
19	08/19/2019 07:40	Spacer Back-to-Surface					At 260 away got spacer to surface
20	08/19/2019 07:40	Cement Back-to-Surface					At 380 away got cement to surface. Had a total of 40 bbls of cement
21	08/19/2019 07:40	Pump Displacement	8.3300	3.00	20.00	2200.00	Slowed rate the last 20 bbls to 3 bpm
22	08/19/2019 07:42	Land Plug					Landed plug went 500 psi over FCP. FCP was 2200 psi brought it up to 2700 psi
23	08/19/2019 07:45	Check Floats					Checked floats got 5 bbls back
24	08/19/2019 07:45	Rig Down					Crew rigs down iron and hoses

Customer: Bayswater
Well Number: HA-26-28HN
Lease Info: Leffler



Print Date/Time
8/19/2019 8:29:52 AM



	Name	Y value	X value/time stamp	Tag name Y
1	DS - Press (PSI)	507.6	8/19/2019 6:18:04 AM	Cementer\DS_DISCHARGE_PRESS_DIAL
2	Recirc - Density (PPG)	13.46 i.	8/19/2019 6:18:00 AM i.	Cementer\DENSITY_ACTUAL_RATE
3	BPM	6.23	8/19/2019 6:18:00 AM	Cementer\Flow_Combined
4				
5				

Source: Control1 8:29:45 AM