

BJ Cementing Treatment Report

SERVICE SUPERVISOR	Michael Lopez	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 (%)	GRADE	THREAD
Previous Casing	8.92	9.63	36.00	1,553.00	1,553.00			
Casing	4.78	5.50	20.00	18,247.00	7,286.00		P-110	BTC
Open Hole	8.50	0.00	0.00	18,266.00	7,286.00	5.00		

HARDWARE

Bottom Plug Used?	No	Tool Type	Float Collar
Top Plug Used?	Yes	Tool Depth (ft)	18,220.00
Top Plug Provided By	Non BJ	Max Casing Pressure - Rated (psi)	10112.00
Top Plug Size	5.500	Max Casing Pressure - Operated (psi)	3000.00
Centralizers Used	Yes	Pipe Movement	None
Centralizers Quantity	219.00	Job Pumped Through	Manifold
Centralizers Type	Bow	Top Connection Thread	BTC
Landing Collar Depth (ft)	18,220	Top Connection Size	5.5

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	PV Mud Out	17
Circulation Prior to Job	Yes	YP Mud In	9
Circulation Time (min)	180.00	YP Mud Out	9
Circulation Rate (bpm)	12.00	Solids Present at End of Circulation	No
Circulation Volume (bbls)	2160.00	10 sec SGS	8
Lost Circulation Prior to Cement Job	No	10 min SGS	17
Mud Density In (ppg)	10.30	30 min SGS	21
Mud Density Out (ppg)	10.30	Flare Prior to / during the Cement Job	No
PV Mud In	17	Gas Present	No

Client: Bayswater Exploration & Production, LLC

Well: LEFFLER #J-26-28HN

Well API: 05-123-49488

Start Date: 8/4/2019

End Date: 8/4/2019

Field Ticket #: FT-20029-M2Z1Z10201-2043500911



TEMPERATURE

Ambient Temperature (°F)	87.00
Mix Water Temperature (°F)	65.00

Slurry Cement Temperature (°F)	67.00
Flow Line Temperature (°F)	130.00

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	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	6,667.00	905	1656.0000	294.9000
Tail Slurry	BJCem P50.6.02C	13.5000	1.4772	7.45	6,667.00	12,286.00	2010	2970.0000	528.8000
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	409.4000

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FLUID TYPE	FLUID NAME	COMPONENT	CONCENTRATION	UOM
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	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	IntegraGuard GW-86	1.2000	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	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
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
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
Lead Slurry	BJCem P100.3.01C	RETARDER, SR-20	0.7000	BWOB
Lead Slurry	BJCem P100.3.01C	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	EXTENDER, BENTONITE	2.0000	BWOB
Tail Slurry	BJCem P50.6.02C	Flyash (Rockies)	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	RETARDER, SR-20	0.0700	BWOB
Tail Slurry	BJCem P50.6.02C	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	FLUID LOSS, FL-66	0.2000	BWOB
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	64.00
Calculated Displacement Vol (bbls)	404.00	Method Used to Verify Returns	Visual
Actual Displacement Vol (bbls)	394.00	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	4.50
Bump Plug Pressure (psi)	3400.00	Total Volume Pumped (bbls)	1253.00
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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BJ Cementing Event Log

Long String - Cheyenne, WY - Michael Lopez

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	08/04/2019 03:30	Callout					Customer calls with and RTS of 8:30 on 8/4/19
2	08/04/2019 03:30	Other (See comment)					Crew gets equipment, and materials ready to go to location
3	08/04/2019 06:30	Depart for Location					Leave yard to travel to location
4	08/04/2019 07:50	Arrive on Location					Arrive on location, Rig is rigging down the casing crew, cement head is rigged up and rig is starting to circulate
5	08/04/2019 07:50	STEACS Briefing					Pre-rig up safety meeting with BJ crew
6	08/04/2019 08:00	Spot Units					Spot trucks on location
7	08/04/2019 08:05	Rig Up					Rig up water, bulk, high pressure treating line, and stand pipe
8	08/04/2019 09:15	Rig					Waiting on the rig to finish circulating
9	08/04/2019 11:30	STEACS Briefing					Pre-job safety meeting with BJ crew, rig crew, and company man
10	08/04/2019 11:45	Rig Up					Rig up high pressure hose from stand pipe to the cement head
11	08/04/2019 11:58	Other (See comment)	8.3400	3.00	2.00	800.00	Load line with 2 bbls of fresh water
12	08/04/2019 12:01	Pressure Test	8.3400	0.00	0.00	5900.00	Pressure test pumps and lines
13	08/04/2019 12:05	Pump Spacer	12.0000	3.00	28.00	900.00	Batch, and pump 28 bbls of spacer @12 ppg
14	08/04/2019 12:16	Pump Spacer	11.5000	4.00	26.00	800.00	Pump 26 bbls of spacer @11.5 ppg
15	08/04/2019 12:23	Pump Spacer	11.0000	4.00	26.00	750.00	Pump 26 bbls of spacer @11 ppg
16	08/04/2019 12:37	Pump Lead Cement	13.2000	7.00	294.00	1000.00	Pump 905 sks of lead cement @13.2 ppg (Yield: 1.82 Mix water: 9.87)
17	08/04/2019 13:21	Pump Tail Cement	13.5000	7.00	528.00	100.00	Pump 2010 sks of tail cement @13.5 ppg (Yield: 1.47 Mix water: 7.45)
18	08/04/2019 14:39	Wash Pumps and Lines					Shut down and wash pumps and lines, and drop plug
19	08/04/2019 14:50	Pump Displacement	8.3400	9.00	0.00	600.00	Send plug and start fresh water displacement + Biocide + ResCare + Retarder
20	08/04/2019 14:52	Pump Displacement	8.3400	9.50	10.00	1200.00	Fresh water displacement + Biocide + ResCare
21	08/04/2019 14:56	Pump Displacement	8.3400	9.50	50.00	1400.00	Fresh water displacement + Biocide + ResCare

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Client: Bayswater Exploration & Production, LLC

Well: LEFFLER #J-26-28HN

Well 05-123-49488

API:



Plan #: ORD-20029-M2Z1Z1

Execution #: EXC-20029-M2Z1Z102

Quote #: QUO-34751-C1Z2G7

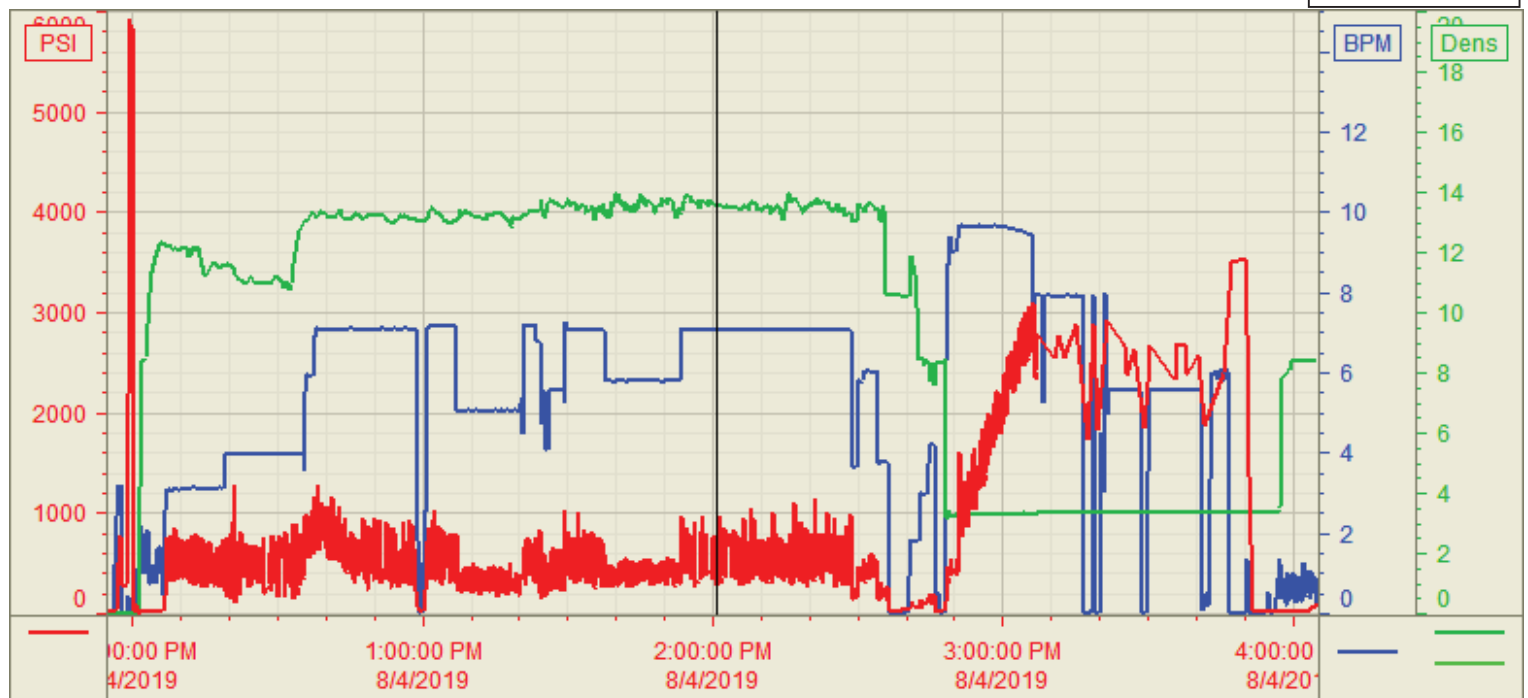
22	08/04/2019 15:01	Pump Displacement	8.3400	9.50	100.00	2000.00	Fresh water displacement + Biocide + ResCare
23	08/04/2019 15:06	Pump Displacement	8.3400	9.50	150.00	2600.00	Fresh water displacement + Biocide + ResCare
24	08/04/2019 15:09	Other (See comment)	8.3400	8.00	170.00	2500.00	Drop rate to 8 bls/min
25	08/04/2019 15:18	Pump Displacement	8.3400	8.00	250.00	2800.00	Fresh water displacement + Biocide + ResCare
26	08/04/2019 15:19	Spacer Back-to-Surface	8.3400	0.00	257.00	2800.00	Start getting spacer back to surface, shut down so the rig could swap lines
27	08/04/2019 15:21	Other (See comment)	8.3400	8.00	260.00	3500.00	After we started pumping we got 3 bbls away and the pumps over pressured (kick outs set @3500 psi)
28	08/04/2019 15:22	Pump Displacement	8.3400	5.50		2900.00	Start pumping again @5.5 bbls/min
29	08/04/2019 15:31	Other (See comment)	8.3400	0.00	308.00	1800.00	Shut down for rig to swap return line another catch tank
30	08/04/2019 15:32	Pump Displacement	8.3400	5.50	308.00	2700.00	Start pumping again
31	08/04/2019 15:36	Cement Back-to-Surface	8.3400	5.50	330.00	2800.00	Start getting good cement to surface
32	08/04/2019 15:44	Other (See comment)	8.3400	0.00	373.00	1800.00	Shut down again, for the rig to swap the return line to another catch tank
33	08/04/2019 15:45	Pump Displacement	8.3400	5.00		2900.00	Start pumping again
34	08/04/2019 15:49	Land Plug	8.3400	5.00	394.00	3400.00	Land plug with 2800 psi, bumped up to 3400 psi (64 bbls of cement to surface)
35	08/04/2019 15:52	Check Floats	8.3400	0.00	0.00	0.00	Check floats, floats held (4.5 bbls back to the truck when checking floats)
36	08/04/2019 15:54	STEACS Briefing					Pre-rig down safety meeting
37	08/04/2019 16:00	Rig Down					Rig everything down
38	08/04/2019 17:15	Leave Location					Leave location and travel back to the yard

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



Print Date/Time

8/5/2019 4:11:02 PM



	Name	Y value	X value/time stamp	Tag name Y
1	DS - Press (PSI)	687.9	8/4/2019 2:00:50 PM	Cementer\DS_DISCHARGE_PRESS_DIAL
2	Den - Density (PPG)	13.56	8/4/2019 2:00:48 PM	Cementer\DENSITY_ACTUAL_RATE
3	Den2 - Discharge Density (PPG)	28.12	8/4/2019 2:00:53 PM	Cementer\DENSITY2_ACTUAL_RATE
4	Flow Rate (BBLs)	7.09 i.	8/4/2019 2:00:53 PM i.	Cementer\Flow_Combined
5				

Source: Control1 4:10:57 PM