

# BJ Cementing Treatment Report

SERVICE SUPERVISOR	Gregory Black	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 (%)
Casing	4.78	5.50	20.00	15,956.00	7,000.00	
Open Hole	8.50	0.00	0.00	15,966.00	7,000.00	5.00
Previous Casing	8.92	9.63	36.00	1,574.00	1,574.00	

## HARDWARE

Bottom Plug Used?	No	Landing Collar Depth (ft)	15,933.00
Top Plug Used?	Yes	Tool Type	Float Collar
Top Plug Provided By	Non BJ	Tool Depth (ft)	15,933.00
Top Plug Size	5.500	Pipe Movement	None
Centralizers Used	Yes	Job Pumped Through	Manifold
Centralizers Quantity	184.00	Top Connection Thread	BTC
Centralizers Type	Bow	Top Connection Size	5.5

## CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	PV Mud Out	18
Circulation Prior to Job	Yes	YP Mud In	9
Circulation Time (min)	2.00	YP Mud Out	9
Circulation Rate (bpm)	8.00	Solids Present at End of Circulation	No
Circulation Volume (bbls)	960.00	10 sec SGS	9
Lost Circulation Prior to Cement Job	No	10 min SGS	15
Mud Density In (ppg)	10.40	30 min SGS	18
Mud Density Out (ppg)	9.80	Flare Prior to / during the Cement Job	No
PV Mud In	19	Gas Present	No

## TEMPERATURE

Ambient Temperature (°F)	30.00	Slurry Cement Temperature (°F)	45.00
Mix Water Temperature (°F)	45.00		

Client: Bayswater Exploration & Production, LLC

Well: COT WEST #S-30-25HN

Well API: 05-123-50421

Start Date: 3/14/2020

End Date: 3/15/2020



## FLUID DETAILS

FLUID TYPE	FLUID NAME	DENSITY (ppg)	YIELD (Cu Ft/sk)	H <sub>2</sub> 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	7,050.00	985	1803.0000	320.9000
Tail Slurry	BJCem P50.6.02C	13.5000	1.4774	7.45	7,050.00	8,919.00	1450	2143.0000	381.5000
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	343.3000

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	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	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	WEIGHTING ADDITIVE, W-11	243.3100	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	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	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
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
Lead Slurry	BJCem P100.3.01C	IntegraGuard GW-86	0.1000	BWOB

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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	FOAM PREVENTER, FP-25	0.3000	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
Tail Slurry	BJCem P50.6.02C	FLUID LOSS, FL-66	0.2000	BWOB
Tail Slurry	BJCem P50.6.02C	CEMENT, FLY ASH (ROCKIES)	50.0000	PCT
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	RETARDER, SR-20	0.1000	BWOB
Tail Slurry	BJCem P50.6.02C	EXTENDER, BENTONITE	2.0000	BWOB
Tail Slurry	BJCem P50.6.02C	CEMENT, CLASS G	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	BIOCIDES, 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	BIOCIDES, BIOC11139W	0.0100	GPB

### DISPLACEMENT AND END OF JOB SUMMARY

<b>Displaced By</b>	BJ	<b>Amt of Cement Returned / Reversed</b>	0.00
<b>Calculated Displacement Vol (bbls)</b>	353.00	<b>Method Used to Verify Returns</b>	Visual
<b>Actual Displacement Vol (bbls)</b>	343.00	<b>Amt of Spacer to Surface</b>	73.00
<b>Did Float Hold?</b>	Yes	<b>Pressure Left on Casing (psi)</b>	0.00
<b>Bump Plug</b>	Yes	<b>Amt Bled Back After Job</b>	3.50
<b>Bump Plug Pressure (psi)</b>	2,700.00	<b>Total Volume Pumped (bbls)</b>	1,126.00
<b>Were Returns Planned at Surface</b>	Yes	<b>Top Out Cement Spotted</b>	No
<b>Cement Returns During Job</b>	Full	<b>Lost Circulation During Cement Job</b>	No

# BJ Cementing Event Log

Long String - Cheyenne, WY - Gregory Black

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	03/14/2020 17:30	Callout					called out with a RTS of 00:00.
2	03/14/2020 23:00	Arrive on Location					Arrived on location.
3	03/14/2020 23:00	STEACS Briefing					Pre rig up safety meeting.
4	03/14/2020 23:10	Rig Up					Rigged up.
5	03/15/2020 00:30	Rig					Waited on rig to finish circulating.
6	03/15/2020 02:15	STEACS Briefing					Pre job safety meeting with rig crew and company man.
7	03/15/2020 02:36	Prime Up	8.3400	2.00	2.00	550.00	Primed up treating lines with blue dye.
8	03/15/2020 02:43	Pressure Test	8.3400				Pressure tested.
9	03/15/2020 02:50	Pump Spacer	12.0000	5.00	28.00	600.00	Pumped spacer from pod1 bulk truck 210.
10	03/15/2020 02:56	Pump Spacer	11.5000	5.00	26.00	1200.00	pumped spacer from pod 1 bulk truck 210.
11	03/15/2020 03:01	Pump Spacer	11.0000	5.00	26.00	700.00	pumped spacer from pod 1 bulk truck 210.
12	03/15/2020 03:08	Pump Lead Cement	13.2000	5.00	320.00	700.00	Pumped 985 sks; Yield: 1.82; GPS:9.87, From field bin CTF-014 And rear pod of CTF-210
13	03/15/2020 04:18	Pump Tail Cement	13.5000	6.00	381.00	500.00	Pumped 1450 sks;Yield:1.47;GPS:7.45, From field bin CTF-012
14	03/15/2020 05:18	Drop Top Plug					Dropped top plug while pumper washed up to the pit.
15	03/15/2020 05:31	Pump Displacement	8.3400	8.00	10.00	400.00	Displaced with biocide, clay protection and retarded water.
16	03/15/2020 05:33	Pump Displacement	8.3400	8.00	353.00	1200.00	Displaced with clay protection and biocide. 185 bbls away MWD measured viscosity for diesel spacer. Diesel had appeared then went away. 220 bbls away Diesel spacer appeared again but viscosity change to OBM again. 250 bbls away got diesel to surface, 270 bbls away got spacer to surface for total of 73 bbls. When interguard spacer was coming to surface took samples and cupped multiple times and all read 11.5 PPG.
17	03/15/2020 06:16	Pump Displacement	8.3400	2.00	20.00	1800.00	Slowed rate to land plug.
18	03/15/2020 06:21	Land Plug					Plug landed with 343 bbls pumped fcp was 2100 took to 2700 psi.
19	03/15/2020 06:26	Check Floats					Floats held with 4 bbls back.
20	03/15/2020 06:27	STEACS Briefing					Rig down safety meeting.

Client: Bayswater Exploration & Production, LLC

Well Name / API: COT WEST #S-30-25HN / 05-123-50421

Well MD: 15966



Quote #: QUO-43618-V2J1K5

Plan #: ORD-25216-T1B2S2

Execution #: EXC-25216-T1B2S202

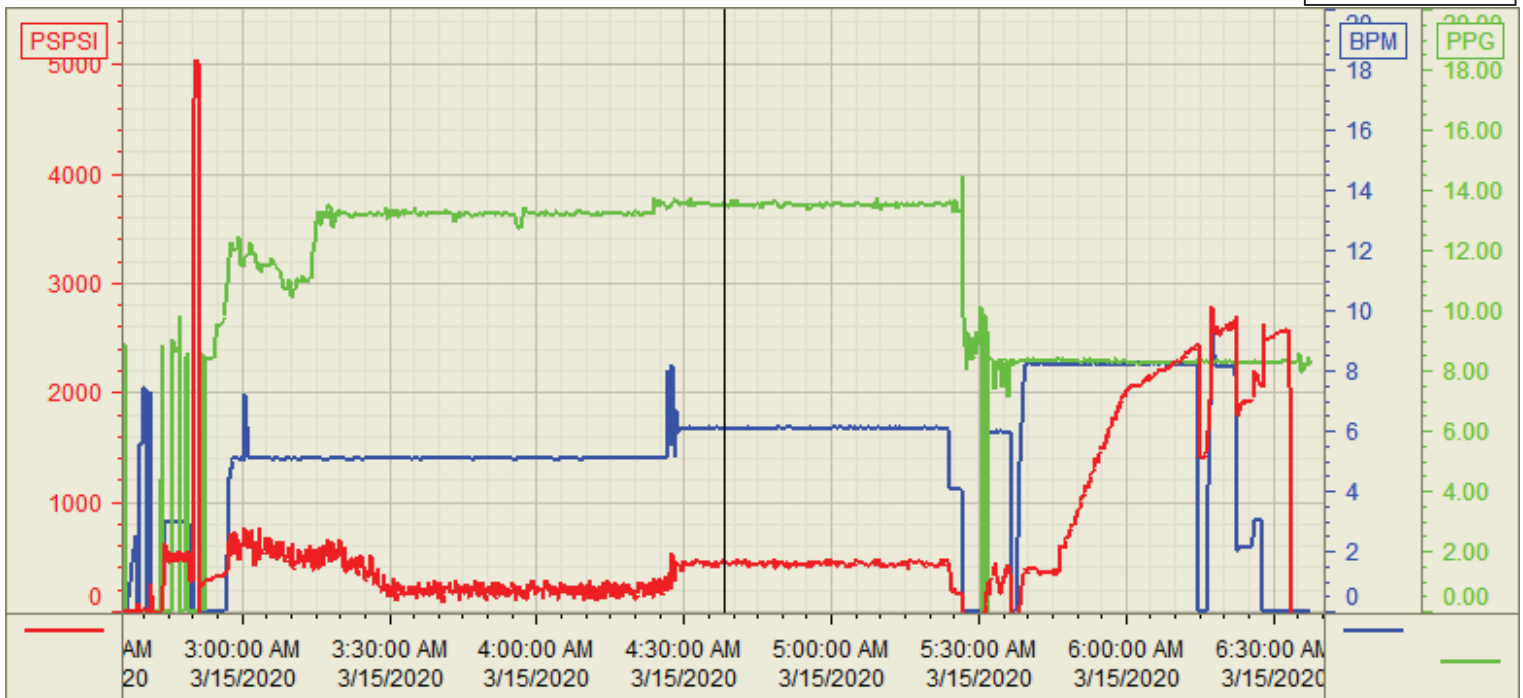
21	03/15/2020 06:35	Rig Down					Rigged down.
22	03/15/2020 07:15	STEACS Briefing					Return journey safety meeting.
23	03/15/2020 07:20	Leave Location					Left location.



Customer: Bayswater  
 Well Number: #S-30-25HN  
 Lease Info: COT WEST



Print Date/Time  
 3/15/2020 6:37:34 AM



	Name	Y value	X value/time stamp	Tag name Y
1	PS - Press(PSI)	476.0	3/15/2020 4:38:06 AM	Cementer\PS_DISCHARGE_PRESS_DIAL
2	Recirc - Density (PPG)	13.61	3/15/2020 4:38:04 AM	Cementer\DENSITY_ACTUAL_RATE
3	Combined rate (BPM)	6.07	3/15/2020 4:38:02 AM	Cementer\Flow_Combined
4				
5				

Source: Control1 6:37:29 AM



# Field Leader Bulk Summary – Bayswater - COT West S-30-25HN - Production

RIG: True 38 - API #: 05-123-50421 - 3/13/2020 9:45 AM

<b>Load Name:</b>	Bayswater - COT West S-30-25HN - Production
<b>Customer:</b>	Bayswater Exploration & Production

<b>Job Type:</b>	Production
<b>Well Name:</b>	COT West S-30-25HN

## Loading Summary

Bulk Trailer CTF210 : 263.18 cu. ft. : 19711.19 lbs : 80.00 sacks							
Pod/Tier/Unit #	Plant	Blend Method	Fluid Name	Type	Batch	Sacks/bbls	Transport
1	CWY	Layering	EZ II	Spacer	1-1	80.0	

Bulk Trailer CTF-210 : 32.94 cu. ft. : 2949.72 lbs : 30.00 sacks							
Pod/Tier/Unit #	Plant	Blend Method	Fluid Name	Type	Batch	Sacks/bbls	Transport
2	CWY	Layering	Extra Cement	Lead	1-1	30.0	

Field Bin CTF-012 : 1516.82 cu. ft. : 126183.13 lbs : 1450.00 sacks							
Pod/Tier/Unit #	Plant	Blend Method	Fluid Name	Type	Batch	Sacks/bbls	Transport
1	CWY	Layering	Tail	Tail	1-1	200.0	CTF-193 Pod 1
1	CWY	Layering	Tail - Preloads	Tail	1-1	262.5	CTF-021 Unit 1
2	CWY	Layering	Tail - Preloads	Tail	2-1	262.5	CTF-021 Unit 1
3	CWY	Layering	Tail	Tail	2-1	200.0	CTF-193 Pod 2
3	CWY	Layering	Tail - Preloads	Tail	3-1	262.5	FTF-152 Unit 1
4	CWY	Layering	Tail - Preloads	Tail	4-1	262.5	FTF-152 Unit 1

Field Bin CTF-014 : 1048.43 cu. ft. : 93899.42 lbs : 955.00 sacks							
Pod/Tier/Unit #	Plant	Blend Method	Fluid Name	Type	Batch	Sacks/bbls	Transport
1	CWY	Layering	BJCem P100.3.01C	Lead	1-1	238.8	CTF-018 Unit 1
2	CWY	Layering	BJCem P100.3.01C	Lead	2-1	238.8	CTF-018 Unit 1
3	CWY	Layering	BJCem P100.3.01C	Lead	3-1	238.8	FTF-150 Unit 1
4	CWY	Layering	BJCem P100.3.01C	Lead	4-1	238.8	FTF-150 Unit 1

## Liquid Additive Material Summary

Spacer : 12.00 ppg - EZ II - 80.00 bbls			
Material	Concentration	UoM	QTY (gals)
SS-267	1.00	gal/bbl	80.00

## Job Material Totals

Material	Quantity	UoM
Bentonite	2,457.32	lb
Class G	68,150.00	lb
EC-2	2,777.70	lb
FL-66	708.68	lb
Flyash (Rockies)	54,715.75	lb
FP-25	646.37	lb
GW-86	311.46	lb
R-31	40.00	lb
R-7C	160.00	lb
SR-20	771.00	lb
Type III	92,590.00	lb
W-11	19,415.19	lb
SS-267	80.00	gal



# Cement Pump Schedule

**Client** Bayswater  
**Well Name** COT West S-30-25HN  
**Job Type** Production  
**Field Leader** Brian Boyd  
**Job Number** 26807  
**Date** 3/14/2020

	<b>Pump Order</b>	<b>Volume</b>		<b>Density and Rate</b>	
Fill Pumps and Lines	5	bbls at	8.3	ppg	
Pressure Test Lines	<b>5000</b>	<b>psi</b>			
Spacer-1	28	bbls at	12.0	ppg and 6 bpm	
Spacer-2	26	bbls at	11.5	ppg and 6 bpm	
Spacer-3	26	bbls at	11.0	ppg and 6 bpm	
Lead (985 sks / Yield 1.83 / MW 9.87)	321.0	bbls at	13.2	ppg and 5 bpm	
Tail (1450 sks / Yield 1.48 / MW 7.45)	382.2	bbls at	13.5	ppg and 5 bpm	
Shutdown, Wash Lines, and Drop Top Plug					
Total Displacement	353.3	bbls at	8.3	ppg, at 8 bpm	
Slow Rate to 2 bpm the last	20	bbls of displacement			

Estimated FCP **1780 psi**  
 Bump plug 500 psi over FCP  
 Hold pressure 5 mins

Check Floats

### Job Summary

Total Fluid Pumped 1141.6 bbls  
 Total Water Required 918.0 bbls  
 Calc Cement to Surface 41.0 bbls  
 Calc Top of Cement 0 ft  
 Calc Top of Tail 6616 ft

### Notes

Surfactant in all weighted spacer  
 SR-61L in first 10 bbls displacement  
 Rescare and biocide throughout all displacement  
 Spacer Front Pod CTF-210  
 Lead Cement Rear Pod CTF-210 and CTF-014 All Tiers  
 Tail Cement CTF-012 All Tiers