

BJ Cementing Treatment Report

SERVICE SUPERVISOR	Hector Montoya	RIG	True 38
CLIENT FIELD REPRESENTATIVE	Bayswater	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 (%)
Casing	4.78	5.50	20.00	15,245.00	7,219.00	
Previous Casing	8.92	9.63	36.00	1,539.00	1,540.00	
Open Hole	8.50	0.00	0.00	15,253.00	7,219.00	5.00

HARDWARE

Bottom Plug Used?	No	Landing Collar Depth (ft)	15,245
Top Plug Used?	Yes	Max Casing Pressure - Rated (psi)	11080.00
Top Plug Provided By	Non BJ	Max Casing Pressure - Operated (psi)	8864.00
Top Plug Size	5.500	Job Pumped Through	Manifold
Centralizers Used	Yes	Top Connection Thread	BTC
Centralizers Quantity	191.00	Top Connection Size	5.5
Centralizers Type	Rigid		

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	PV Mud Out	16
Circulation Prior to Job	Yes	YP Mud In	8
Circulation Time (min)	120.00	YP Mud Out	8
Circulation Rate (bpm)	8.00	Solids Present at End of Circulation	No
Circulation Volume (bbls)	960.00	10 sec SGS	6
Lost Circulation Prior to Cement Job	No	10 min SGS	15
Mud Density In (ppg)	10.00	30 min SGS	17
Mud Density Out (ppg)	10.00	Flare Prior to / during the Cement Job	No
PV Mud In	16	Gas Present	No

Client: Bayswater Exploration & Production, LLC

Well: COT EAST #P-30-29HN

Well API: 05-123-50410

Start Date: 12/4/2019

End Date: 12/5/2019



TEMPERATURE

Ambient Temperature (°F)	28.00	Slurry Cement Temperature (°F)	70.00
Mix Water Temperature (°F)	67.00	Flow Line Temperature (°F)	110.00

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	6,797.00	920	1684.0000	299.8000
Tail Slurry	BJCem P50.6.02C	13.5000	1.4774	7.45	6,797.00	8,437.00	1375	2032.0000	361.8000
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	327.0000

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FLUID TYPE	FLUID NAME	COMPONENT	CONCENTRATION	UOM
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
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	RETARDER, R-7C	2.0000	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	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-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
Lead Slurry	BJCem P100.3.01C	IntegraGuard GW-86	0.1000	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	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
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	CEMENT, CLASS G	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	FOAM PREVENTER, FP-25	0.3000	BWOB
Tail Slurry	BJCem P50.6.02C	EXTENDER, BENTONITE	2.0000	BWOB
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
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	BIOCIDE, BIOC11139W	0.0100	GPB
Displacement Final	Water w/ Clay Protection & Biocide	ResCare CS-2	0.0800	GPB

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DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amt of Cement Returned / Reversed	0.00
Calculated Displacement Vol (bbls)	337.00	Method Used to Verify Returns	Visual
Actual Displacement Vol (bbls)	327.00	Amt of Spacer to Surface	37.00
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)	3600.00	Total Volume Pumped (bbls)	1077.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement Returns During Job	None	Lost Circulation During Cement Job	No

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Production, LLC

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Start 12/4/2019
Date:

End 12/5/2019
Date:



BJ Cementing Event Log

Long String - Cheyenne, WY - Hector Montoya

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	12/04/2019 20:00	Callout					BJ Crew gets called out
2	12/04/2019 21:00	Other (See comment)					Load Up for job
3	12/04/2019 23:00	Arrive on Location					BJ Crew arrives on location
4	12/05/2019 01:00	Rig Up					Rig Up
5	12/05/2019 03:30	STEACS Briefing					BJ Crew and Rig Crew discuss hazards of pumping the job and discuss job procedure
6	12/05/2019 04:00	Prime Up					Fill Lines
7	12/05/2019 04:10	Pressure Test					Pressure Test to 5000psi
8	12/05/2019 04:12	Pump Spacer	12.0000	4.00	28.00	400.00	28bbl at 12ppg Spacer w/ surfactant
9	12/05/2019 04:21	Pump Spacer	11.5000	4.00	26.00	420.00	26bbl at 11.5ppg Spacer w/ surfactant
10	12/05/2019 04:38	Pump Spacer	11.0000	4.00	26.00	410.00	26bbl at 11ppg Spacer w/ surfactant
11	12/05/2019 04:45	Pump Lead Cement	13.2000	6.00	299.00	600.00	Lead- 299bbl at 13.2ppg, 920sks BJ Cem P100.3.01C, y-1.89, gps-9.87. Estimated Top of Lead at 960ft
12	12/05/2019 05:27	Pump Tail Cement	13.5000	6.00	361.00	630.00	Tail- 361bbl at 13.5ppg, 1375sks BJ Cem P50.6.02C, y-1.47, gps-7.45. Estimated Height of Tail at 8848ft, Estimated Top of Tail at 6404ft
13	12/05/2019 06:20	Wash Pumps and Lines					Wash lines to the pit
14	12/05/2019 06:30	Drop Top Plug					Customer witnesses top plug leave
15	12/05/2019 06:33	Pump Displacement	8.3300	10.00	290.00	2600.00	Total displacement 337bbl. First 20bbl w/ SR-61L, ResCare throughout
16	12/05/2019 06:58	Pump Displacement	8.3300	5.00	37.00	3600.00	Slow to 5bpm to land plug. Landed at 327bbl. 37bbl of Spacer to surface
17	12/05/2019 07:10	Land Plug				3600.00	Plug Landed, Final Circulating Pressure was 2600psi took to 3600psi
18	12/05/2019 07:11	Check Floats					Floats Held. 4.5bbl back to the truck
19	12/05/2019 07:16	Rig Down					Rig Down
20	12/05/2019 09:00	Leave Location					Depart location

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Well Name / API: COT EAST #P-30-29HN / 05-123-50410

Well 15234
MD:



Quote #: QUO-39529-M2T7K8

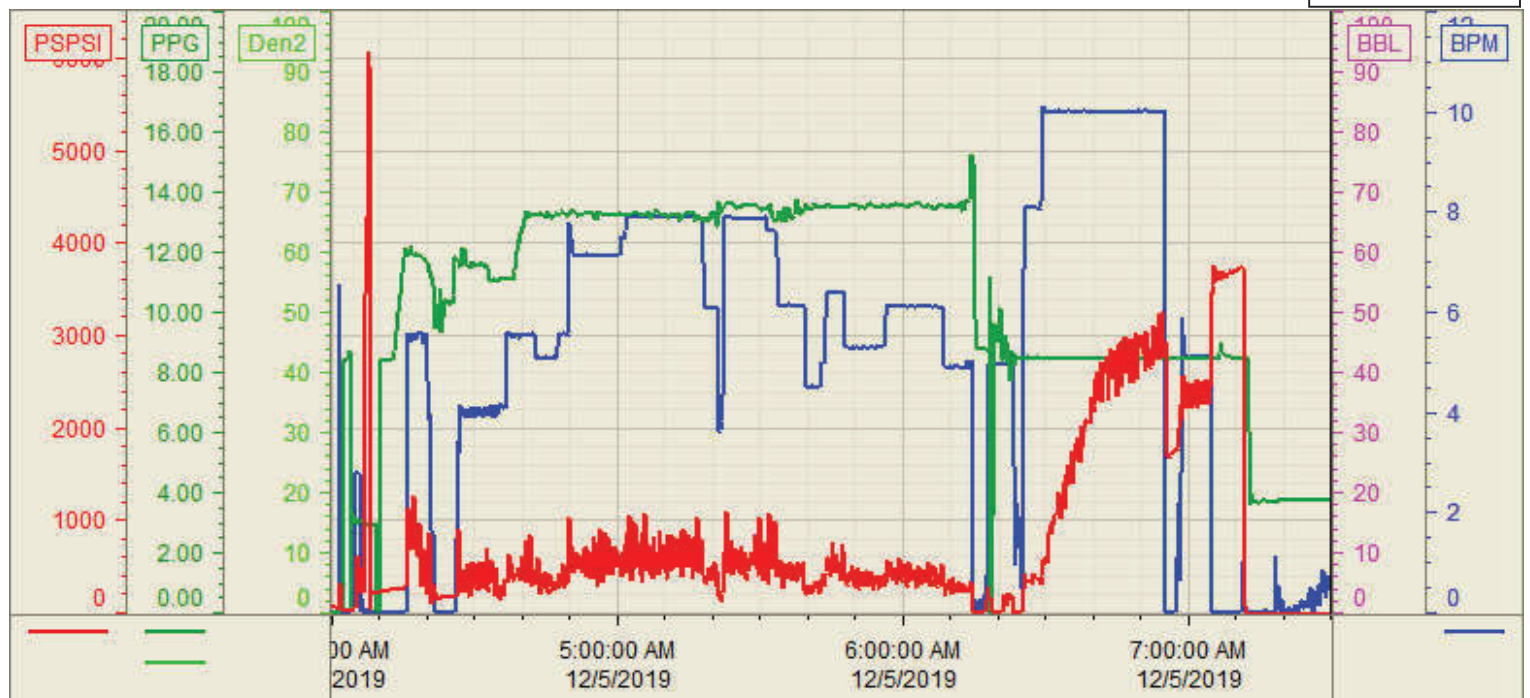
Plan #: ORD-22923-H9L8B5

Execution #: EXC-22923-H9L8B502

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



Print Date/Time
12/5/2019 8:08:00 AM



	Name	Y value	X value/time stamp	Tag name Y
1	PPSI	-21.7 l.	12/5/2019 7:30:00 AM l.	CementPS_DISCHARGE_PRESS_DIAL
2	Den - Density (PPG)	3.74	12/5/2019 7:30:00 AM	CementDENSITY_ACTUAL_RATE
3	BPM	0.43	12/5/2019 7:30:03 AM	CementFlow_Combined
4	Den2 - Discharge Density (PPG)	-0.24	12/5/2019 7:30:03 AM	CementDENSITY2_ACTUAL_RATE
5				

Source: Control1 8:07:22 AM