

BJ Cementing Treatment Report

SERVICE SUPERVISOR	Brian Boyd	RIG	True 33
CLIENT FIELD REPRESENTATIVE	Scott	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	13.50	0.00	0.00	1,580.00	1,580.00	30.00
Casing	8.92	9.63	36.00	1,569.00	1,569.00	

HARDWARE

Bottom Plug Used?	No	Tool Type	Float Collar
Top Plug Used?	Yes	Tool Depth (ft)	1,524.00
Top Plug Provided By	Non BJ	Max Casing Pressure - Rated (psi)	3520.00
Top Plug Size	9.625	Max Casing Pressure - Operated (psi)	1200.00
Centralizers Used	Yes	Pipe Movement	None
Centralizers Quantity	16.00	Job Pumped Through	Manifold
Centralizers Type	Bow	Top Connection Thread	LTC
Landing Collar Depth (ft)	1,524	Top Connection Size	9.625

CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	PV Mud In	4
Circulation Prior to Job	Yes	YP Mud In	2
Circulation Time (min)	45.00	Solids Present at End of Circulation	No
Circulation Rate (bpm)	5.00	10 sec SGS	2
Circulation Volume (bbls)	140.00	10 min SGS	3
Lost Circulation Prior to Cement Job	No	Flare Prior to / during the Cement Job	No
Mud Density In (ppg)	8.90	Gas Present	No

TEMPERATURE

Ambient Temperature (°F)	40.00	Slurry Cement Temperature (°F)	60.00
Mix Water Temperature (°F)	54.00	Flow Line Temperature (°F)	88.00

Client Name: Petro Operating Company

Well: FLASCHENRIEM #3

Well API: 05-123-49819

Start Date: 3/22/2019

End Date: 3/23/2019



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	Water	8.3337			0.00				20.0000
Lead Slurry	BJCem S100.03.1C	12.0000	2.5298	14.86	0.00	1,050.00	264	667.0000	118.7000
Lead Slurry	BJCem S100.03.1C	13.0000	1.9869	10.80	890.00	500.00	169	336.0000	59.8000
Displacement Final	Water	8.3300			0.00			0.0000	118.0000

FLUID TYPE	FLUID NAME	COMPONENT	CONCENTRATION	UOM
Spacer / Pre Flush / Flush	Water	Fresh Water	100.0000	PCT
Lead Slurry	BJCem S100.03.1C	FOAM PREVENTER, FP-25	0.3000	BWOB
Lead Slurry	BJCem S100.03.1C	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	LBS/SK
Lead Slurry	BJCem S100.03.1C	Cement Additive, Sodium Metasilicate A-2	2.0000	LBS/SK
Lead Slurry	BJCem S100.03.1C	CEMENT, ASTM TYPE III	100.0000	PCT
Lead Slurry	BJCem S100.03.1C	CEMENT EXTENDER, GYPSUM, A-10	5.0000	BWOB
Lead Slurry	BJCem S100.03.1C	IntegraSeal POLI	0.1300	LBS/SK
Lead Slurry	BJCem S100.03.1C	Cement Additive, Sodium Metasilicate A-2	2.0000	LBS/SK
Lead Slurry	BJCem S100.03.1C	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	LBS/SK
Lead Slurry	BJCem S100.03.1C	CEMENT EXTENDER, GYPSUM, A-10	5.0000	BWOB
Lead Slurry	BJCem S100.03.1C	FOAM PREVENTER, FP-25	0.3000	BWOB
Lead Slurry	BJCem S100.03.1C	CEMENT, ASTM TYPE III	100.0000	PCT
Lead Slurry	BJCem S100.03.1C	IntegraSeal POLI	0.1300	LBS/SK
Displacement Final	Water	Fresh Water	100.0000	PCT

DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amt of Cement Returned / Reversed	42.00
Calculated Displacement Vol (bbls)	118.00	Method Used to Verify Returns	Visual
Actual Displacement Vol (bbls)	118.00	Amt of Spacer to Surface	20.00
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0.00
Bump Plug	Yes	Amt Bled Back After Job	0.50
Bump Plug Pressure (psi)	1200.00	Total Volume Pumped (bbls)	318.50
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

Surface - Cheyenne, WY - Brian Boyd

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	03/22/2019 16:20	Callout					Customer requested crew to be on location at 21:00
2	03/22/2019 18:00	Arrive on Location					BJ crew has journey management and departs from shop, BJ crew arrives on location and meet with customer
3	03/22/2019 19:45	STEACS Briefing					BJ crew has steacs briefing over rigging up iron and hoses
4	03/22/2019 19:50	Rig Up					BJ crew rigs up iron and hoses
5	03/22/2019 22:49	STEACS Briefing					Steacs briefing with BJ crew, rig crew and company man over job and hazards
6	03/22/2019 23:32	Prime Up	8.3300	2.00	3.00	70.00	Fill pumps and lines
7	03/22/2019 23:34	Pressure Test	8.3300	0.50	0.50	3800.00	Pressure test iron and hoses to 3000 PSI
8	03/22/2019 23:36	Pump Spacer	8.3300	4.00	20.00	140.00	Pump 20 bbls of fresh water spacer
9	03/22/2019 23:42	Pump Lead Cement	12.0000	6.00	118.00	304.00	Pump 118 bbls of 12 PPG lead cement (264 Sks, 2.52 Yield. 14.86 Gals/Sks)
10	03/23/2019 00:05	Pump Tail Cement	13.0000	6.00	59.00	200.00	Pump 59 bbls of 13 PPG tail cement (169 Sks, 1.98 Yield, 10.80 Gals/Sks, Top Of Tail 890')
11	03/23/2019 00:19	End Pumping					Shut down pumping
12	03/23/2019 00:21	Drop Top Plug					Drop top plug with company man to verify plug went down hole
13	03/23/2019 00:21	Pump Displacement	8.3300	7.00		400.00	Pump 118 bbls of fresh water displacement
14	03/23/2019 00:37	Cement Back-to-Surface	8.3300	7.00	76.00	464.00	76 bbls into displacement got cement to surface for total of 42 bbls of cement to surface
15	03/23/2019 00:41	Pump Displacement	8.3300	2.00	118.00	430.00	Last 18 bbls of displacement slow rate to 3 bpm
16	03/23/2019 00:48	Land Plug				1000.00	Bump plug top 1000 PSI, FCP of 430 PSI
17	03/23/2019 00:51	Check Floats					Hold for 3 mins and check floats and got .5 bbl back to pump truck
18	03/23/2019 00:53	STEACS Briefing					BJ crew has steacs briefing over rigging down iron and hoses
19	03/23/2019 00:57	Rig Down					BJ crew rigs down iron and hoses
20	03/23/2019 01:30	Leave Location					BJ crew has journey management and departs from location



JobMaster Program Version 4.02C1

Customer: Petro Operating

Well Name: Flaschenriem 3

