



Caerus

Well Name: NPR 25D-4

API #: 05-045-23881

Job Type: Surface

Date Job Completed: 02/09/2019

Quote #: QUO-26769

Execution #: EXC-15557



Caerus

Attention: Mr. Steve Schmitz | (720) 880-6412 | sschmitz@caerusoilandgas.com

Caerus | 1001 17th Street, Suite 1600 | Denver, CO 80202

Dear Mr. Schmitz,

Thank you for the opportunity to provide cementing services on this well. BJ Services strives to achieve complete customer satisfaction. If you have any questions regarding the services or data provided, please contact BJ Services at any time.

Sincerely,

Zen Keith
Field Engineer III | (307) 757-7178 | Zen.Keith@BJServices.com

Field Office 28730 US-6, Rifle, CO 81650
Phone: (970) 632-2412

Sales Office 999 18th St. Suite 1200 Denver, CO 80202
Phone: (281) 408-2361

BJ Cementing Treatment Report

SERVICE SUPERVISOR	H. Zeke Busheri	FORMATION	
CLIENT FIELD REPRESENTATIVE	Jarvis Abbey	RIG	H&P 273
DISTRICT	Rifle, CO	COUNTY	GARFIELD
SERVICE	Cementing	STATE / PROVINCE	CO

TYPE	OD (in)	ID (in)	WEIGHT (lb/ft)	MD (ft)	EXCESS (%)	GRADE	THREAD
Previous Casing	20.00	19.50	52.73	130.00			
Open Hole	0.00	14.75	0.00	2,504.00			
Casing	9.63	8.92	36.00	2,480.00		J-55	LTC

HARDWARE

Bottom Plug Used?	No	Tool Type	Float Collar
Top Plug Used?	Yes	Tool Depth (ft)	2,436.40
Top Plug Provided By	Non BJ	Max Casing Pressure - Rated (psi)	3,520.00
Top Plug Size	9.625	Max Casing Pressure - Operated (psi)	2,800.00
Centralizers Used	Yes	Pipe Movement	None
Centralizers Quantity	5.00	Job Pumped Through	No Manifold
Centralizers Type	Bow	Top Connection Thread	8rd
Landing Collar Depth (ft)	2,436	Top Connection Size	9.625



CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	YP Mud In	8
Circulation Prior to Job	Yes	Solids Present at End of Circulation	No
Circulation Time (min)	90.00	10 sec SGS	4
Circulation Rate (bpm)	8.00	10 min SGS	11
Circulation Volume (bbls)	605.00	30 min SGS	20
Lost Circulation Prior to Cement Job	No	Flare Prior to / during the Cement Job	No
Mud Density In (ppg)	9.00	Gas Present	No
PV Mud In	8		

TEMPERATURE

Ambient Temperature (°F)	36.00	Slurry Cement Temperature (°F)	77.00
Mix Water Temperature (°F)	73.00	Flow Line Temperature (°F)	100.00

FLUID DETAILS

FLUID TYPE	FLUID NAME	DENSITY (ppg)	YIELD (Cu Ft/sk)	H ₂ O REQ (gals/sk)	VOL (sk)	VOL (Cu Ft)	VOL (bbls)
Spacer / Pre Flush / Flush	Water	8.3300					20.0000
Lead Slurry	BJCem S100.3.01D	12.0000	2.5298	14.86	584	1477.0000	263.0000
Tail Slurry	BJCem S100.3.01D	12.5000	2.2256	12.59	161	358.0000	63.7000
Displacement Final	Displacement	8.3300				0.0000	190.2000



FLUID TYPE	FLUID NAME	COMPONENT	CONCENTRATION	UOM
Lead Slurry	BJCem S100.3.01D	CEMENT EXTENDER, GYPSUM, A-10	5.0000	BWOB
Lead Slurry	BJCem S100.3.01D	FOAM PREVENTER, FP-25	0.3000	BWOB
Lead Slurry	BJCem S100.3.01D	IntegraSeal CELLO	0.1300	LBS/SK
Lead Slurry	BJCem S100.3.01D	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	LBS/SK
Lead Slurry	BJCem S100.3.01D	Cement Additive, Sodium Metasilicate A-2	2.0000	LBS/SK
Lead Slurry	BJCem S100.3.01D	CEMENT, ASTM TYPE III	100.0000	PCT
Tail Slurry	BJCem S100.3.01D	Cement Additive, Sodium Metasilicate A-2	2.0000	LBS/SK
Tail Slurry	BJCem S100.3.01D	CEMENT, ASTM TYPE III	100.0000	PCT
Tail Slurry	BJCem S100.3.01D	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	LBS/SK
Tail Slurry	BJCem S100.3.01D	FOAM PREVENTER, FP-25	0.3000	BWOB
Tail Slurry	BJCem S100.3.01D	IntegraSeal CELLO	0.1300	LBS/SK
Tail Slurry	BJCem S100.3.01D	CEMENT EXTENDER, GYPSUM, A-10	5.0000	BWOB

TREATMENT SUMMARY

TIME	FLUID	RATE (bpm)	FLUID VOL (bbls)	PIPE PRESSURE (psi)	ANNULUS PRESSURE (psi)	COMMENTS
2/9/2019 8:00:00 PM	Water	4.50	20.00	151.00		
2/9/2019 8:30:00 PM	BJCem S100.3.01D	4.50	263.00	247.00		
2/9/2019 9:00:00 PM	BJCem S100.3.01D	4.50	63.70	156.00		
2/9/2019 9:30:00 PM	Displacement	5.50	188.40	782.00		

MIN / MAX / AVG PRESSURE AND RATES

	MIN	MAX	AVG
Pressure (psi)	151.00	782.00	334.00
Rate (bpm)	4.50	5.50	4.75

DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amt of Cement Returned / Reversed	200.00
Calculated Displacement Vol (bbls)	188.40	Method Used to Verify Returns	Visual
Actual Displacement Vol (bbls)	188.40	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)	1,288.00	Total Volume Pumped (bbls)	570.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement Returns During Job	Full	Lost Circulation During Cement Job	No

Client Name: Caerus Operating LLC

Well: NPR 25D-4-596

Well API: 05-045-23881



Start Date: 2/9/2019

End Date: 2/10/2019

Field Ticket #: FT-15557-TOP3F60202-94477

BJ Cementing Event Log

Surface - Rifle, CO – H. Zeke Busheri

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	02/09/2019 09:00	Callout					Yard Call 0900, STEACS, Loadout, Pre-Trip, JM Leave Yard @ 1130
2	02/09/2019 11:30	Arrive on Location					Convoy to Location, AOL @ 1410, RTS @ 1500
3	02/09/2019 14:10	STEACS Briefing					STEACS w/Co-Man
4	02/09/2019 14:15	Rig Up					STEACS, Spot Equip on Location, Rig up to Buffer Zone
5	02/09/2019 16:00	Rig					Rig running Casing
6	02/09/2019 18:40	STEACS Briefing					STEACS w/ Co-Man, Rig Crew, 3rd Party
7	02/09/2019 19:00	Other (See comment)					Rig Shut Down Circulating @ 1935, 2x Bottoms up @ 605 Bbls, 8 BPM, 90 mins
8	02/09/2019 19:35	Rig Up					Rig up PLH and lines to Cellar
9	02/09/2019 20:02	Pump Spacer	8.3400	2.50	5.00	97.00	Fill Lines, Break Circulation
10	02/09/2019 20:06	Pressure Test				3500.00	Pressure Test
11	02/09/2019 20:22	Pump Spacer	8.3400	3.50	20.00	151.00	20 Bbls FW Spacer, Swap to Lead @ 12.0 PPG DH
12	02/09/2019 20:30	Pump Lead Cement	12.0000	4.50	50.00	221.00	50 Bbls Lead Cmt
13	02/09/2019 20:42	Pump Lead Cement	12.0000	4.50	100.00	242.00	100 Bbls Lead Cmt
14	02/09/2019 20:53	Pump Lead Cement	12.0000	4.50	150.00	176.00	150 Bbls Lead Cmt
15	02/09/2019 21:04	Pump Lead Cement	12.0000	4.50	200.00	149.00	200 Bbls Lead Cmt
16	02/09/2019 21:16	Pump Lead Cement	12.0000	4.50	250.00	196.00	250 Bbls Lead Cmt
17	02/09/2019 21:27	Pump Lead Cement	12.0000	4.50	263.00	201.00	263 Bbls Lead Cmt, Swap to Tail @ 12.5 PPG DH

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Client: Caerus Operating LLC

Well: NPR 25D-4-596

Well 05-045-23881
API:

Plan #: ORD-15557-TOP3F6

Execution #: EXC-15557-TOP3F602

Quote #: QUO-26769-F6P4Q7



SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
18	02/09/2019 21:31	Pump Tail Cement	12.5000	4.00	50.00	156.00	50 Bbls Tail Cmt, Cement to Surface @ 50 Bbls Tail Away
19	02/09/2019 21:42	Pump Tail Cement	12.5000	3.50	60.00	121.00	60 Bbls Tail Cmt, Shutdown
20	02/09/2019 21:45	Drop Top Plug	12.0000	2.00	4.00	95.00	Pump 2 Bbls Cmt Down Previous Parasite Line, Drop Top Plug, Pump 2 Bbls Cmt on top of plug, Begin FW Disp
21	02/09/2019 21:52	Pump Displacement	8.3300	5.50	50.00	408.00	50 Bbls Disp
22	02/09/2019 22:01	Pump Displacement	8.3300	5.50	100.00	554.00	100 Bbls Disp
23	02/09/2019 22:10	Pump Displacement	8.3300	5.50	150.00	690.00	150 Bbls Disp
24	02/09/2019 22:22	Land Plug	8.3300	2.00	188.40	782.00	188.4 Bbls Disp, Land Plug @ 1288 PSI, FCP @ 782 PSI
25	02/09/2019 22:34	Check Floats					Floats Held, 0.5 Bbls Returned to Truck
26	02/09/2019 22:39	Other (See comment)	8.5000	2.00	10.00	21.00	10 Bbls Sugar Water Down Parasite, Break Over @ 151 PSI, 3.5 Bbls Pumped
27	02/09/2019 22:45	Rig Down					STEACS, Rig Down all DH Equip
28	02/09/2019 00:30	Leave Location					STEACS, JM, Convoy Back to Yard

-Lead 584 Sks, Y – 2.53, MW 14.86, 263 Bbls @ 12.0 PPG
Height of Lead 2167' – Top of Lead @ Surf
-Tail 161 Sks, Y – 2.22, MW 12.59, 63.7 Bbls @ 12.5 PPG
Height of Tail 497' – Top of Tail 1983'
-Disp 188.4 Bbls, Bumped Plug @ 1288 PSI, FCP @ 782 PSI
200 Bbls Cmt to Surf
Floats Held, 0.5 Bbls Returned to Truck
-Parasite Line, 10 Bbls Sugar Water
Breakover @ 141 PSI, 3.5 Bbls Away



