



Caerus

Well Name: NPR 25C-4

API #: 05-045-23886

Job Type: Surface

Date Job Completed: 01/31/2019

Quote #: QUO-26164

Execution #: EXC-15259



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	Douglas Diaz	FORMATION	
CLIENT FIELD REPRESENTATIVE	Leonard Stomley	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		14.75		2,517.00			
Casing	9.63	8.92	36.00	2,499.60		J-55	LTC

HARDWARE

Bottom Plug Used?	No	Tool Type	Float Collar
Top Plug Used?	Yes	Tool Depth (ft)	2,458.10
Top Plug Provided By	Non BJ	Max Casing Pressure - Rated (psi)	3,520.00
Top Plug Size	9.625	Max Casing Pressure - Operated (psi)	2,816.00
Centralizers Used	Yes	Pipe Movement	None
Centralizers Type	Bow	Job Pumped Through	Manifold
Landing Collar Depth (ft)	2,458	Top Connection Thread	8 RND
		Top Connection Size	9.625



CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	YP Mud In	10
Circulation Prior to Job	Yes	Solids Present at End of Circulation	No
Circulation Time (min)	90.00	10 sec SGS	2
Circulation Rate (bpm)	6.00	10 min SGS	4
Circulation Volume (bbls)	543.00	30 min SGS	16
Lost Circulation Prior to Cement Job	No	Flare Prior to / during the Cement Job	No
Mud Density In (ppg)	9.80	Gas Present	No
PV Mud In	17		

TEMPERATURE

Ambient Temperature (°F)	18.00	Slurry Cement Temperature (°F)	52.00
Mix Water Temperature (°F)	47.00	Flow Line Temperature (°F)	76.00

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	FOAM PREVENTER, FP-25	0.3000	BWOB
Lead Slurry	BJCem S100.3.01D	CEMENT, ASTM TYPE III	100.0000	PCT
Lead Slurry	BJCem S100.3.01D	CEMENT EXTENDER, GYPSUM, A-10	5.0000	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
Tail Slurry	BJCem S100.3.01D	FOAM PREVENTER, FP-25	0.3000	BWOB
Tail Slurry	BJCem S100.3.01D	CEMENT, ASTM TYPE III	100.0000	PCT
Tail Slurry	BJCem S100.3.01D	IntegraSeal CELLO	0.1300	LBS/SK
Tail Slurry	BJCem S100.3.01D	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	LBS/SK
Tail Slurry	BJCem S100.3.01D	Cement Additive, Sodium Metasilicate A-2	2.0000	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
1/30/2019 9:03:00 PM	Water	4.00	20.00	90.00		Spacer
1/30/2019 9:07:00 PM	BJCem S100.3.01D	5.00	263.00	152.00		Lead cement
1/30/2019 10:13:00 PM	BJCem S100.3.01D	4.00	64.00	56.00		Tail cement
1/31/2019 10:34:00 PM	Displacement	6.00	190.00	504.00		Displacement

MIN / MAX / AVG PRESSURE AND RATES

	MIN	MAX	AVG
Pressure (psi)	56.00	504.00	200.50
Rate (bpm)	4.00	6.00	4.75



DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ
Calculated Displacement Vol (bbls)	190.00
Actual Displacement Vol (bbls)	190.00
Did Float Hold?	Yes
Bump Plug	Yes
Bump Plug Pressure (psi)	1,062.00
Were Returns Planned at Surface	Yes
Cement Returns During Job	Full

Amt of Cement Returned / Reversed	128.00
Method Used to Verify Returns	Visual
Amt of Spacer to Surface	20.00
Pressure Left on Casing (psi)	0.00
Amt Bled Back After Job	0.75
Total Volume Pumped (bbls)	547.00
Top Out Cement Spotted	No
Lost Circulation During Cement Job	No

Client Name: Caerus Operating LLC
Start Date: 1/30/2019

Well: NPR 25C-4-596
End Date: 1/30/2019

Well API: 05-045-23886
Field Ticket #: FT-15259-M1Y4D60202-18731



BJ Cementing Event Log

Surface - Rifle, CO - Douglas Diaz

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	01/30/2019 14:35	Depart for Location					Leave shop for location, on location time of 1800
2	01/30/2019 17:14	Arrive on Location					Arrive on location, rig running casing
3	01/30/2019 17:14	Spot Units					Spot all equipment
4	01/30/2019 17:34	Rig Up					Pre-rig up safety meeting, rig up equipment and lines
5	01/30/2019 18:30	Rig					Waiting on rig to finish casing and circulate
6	01/30/2019 20:00	STEACS Briefing					Pre-job safety meeting with rig crew and company man
7	01/30/2019 20:23	Rig					Rig finished circulating, circulated at 6 BBLs per min for 90 mins. Laid down landing joint.
8	01/30/2019 20:35	Rig Up					Rig up head and lines
9	01/30/2019 20:54	Prime Up	8.3400	4.00	5.00	59.00	Prime up pump
10	01/30/2019 20:58	Pressure Test				3000.00	Pressure test, pressure held
11	01/30/2019 21:03	Pump Spacer	8.3400	4.00	20.00	90.00	Pumped fresh water spacer
12	01/30/2019 21:07	Pump Lead Cement	12.0000	5.00	0.00	152.00	Started pumping Lead cement
13	01/30/2019 21:07	Pump Lead Cement	12.0000	4.00	50.00	32.00	Pumping lead cement
14	01/30/2019 21:19	Pump Lead Cement	12.0000	4.00	100.00	56.00	Pumping lead cement
15	01/30/2019 21:30	Pump Lead Cement	12.0000	4.00	150.00	53.00	Pumping lead cement
16	01/30/2019 21:42	Pump Lead Cement	12.0000	4.00	200.00	34.00	Pumping lead cement
17	01/30/2019 21:55	Pump Lead Cement	12.0000	3.00	250.00	0.00	Pumping lead cement



SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
18	01/30/2019 22:07	Pump Lead Cement	12.0000	3.50	263.00	0.00	Pumping lead cement
19	01/30/2019 22:13	Pump Tail Cement	12.5000	4.00	0.00	56.00	Pumping tail cement
20	01/30/2019 22:13	Pump Tail Cement	12.5000	3.50	50.00	26.00	Pumping tail cement
21	01/30/2019 22:26	Pump Tail Cement	12.5000	3.50	63.00	36.00	Pumping tail cement
22	01/30/2019 22:30	Pumping Cement	12.5000	2.50	3.00	220.00	Pumping cement down previous parasite
23	01/30/2019 22:34	Drop Top Plug					Dropped plug verified by company man
24	01/30/2019 22:34	Pump Displacement	8.3400	4.00	0.00	95.00	Pumping fresh water displacement
25	01/30/2019 22:34	Pump Displacement	8.3400	3.00	50.00	124.00	Pumping fresh water displacement
26	01/30/2019 22:44	Pump Displacement	8.3400	5.00	100.00	345.00	Pumping fresh water displacement
27	01/30/2019 22:58	Pump Displacement	8.3400	5.00	150.00	490.00	Pumping fresh water displacement
28	01/30/2019 23:07	Pump Displacement	8.3400	2.00	190.00	504.00	Pumping fresh water displacement
29	01/30/2019 23:16	Land Plug				1062.00	Bumped plug, FCP 504 PSI, Took to 1062 PSI
30	01/30/2019 23:16	Check Floats					Checked floats, floats held, .75 BBL Bled back
31	01/30/2019 23:21	Other (See comment)		3.00	10.00	195.00	Pumped sugar water down parasite string, broke over at 195 PSI
32	01/30/2019 23:28	Wash Pumps and Lines					Washed pumps and lines to the cellar
33	01/30/2019 23:50	Rig Down					Pre-rig down safety meeting, rigged down all equipment and lines
34	01/31/2019 00:50	Leave Location					Depart location for shop



