



Caerus

# Surface Post Job Report

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**NPR 12C-10-596 05-045-23773**

S:10 T:5S R:96W Garfield CO

Quote #:

I Execution #:

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# Caerus

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

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

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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](mailto: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

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# Cementing Treatment



**Start Date** 7/26/2018 **Field Ticket#** FT-09168-M4V0F90202-33558  
**End Date** 7/26/2018 **Well** NPR 12C-10-596  
**Client** CAERUS OPERATING, LLC **API#** 05-045-23773  
**Client Field Rep.** Whitey Cottam **Well Classification**  
**Service Sup.** Paul Linn III **County** GARFIELD  
**District** Rifle, CO **State/Province** CO  
**Type of Job** Surface **Formation**  
**Execution ID** EXC-09168-M4V0F902 **Rig** H&P 273  
**Project ID** PRJ1009006

## WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	Excess(%)	Grade	Thread
Previous Casing	15.50	16.00	42.05	100.00			
Open Hole	14.75	0.00	0.00	2,415.00			
Casing	8.92	9.63	36.00	2,399.00		J-55	LTC

**Shoe Length (ft):** 45

## HARDWARE

**Bottom Plug Used?** No **Tool Type** Float Collar  
**Top Plug Used?** Yes **Tool Depth (ft)** 2,354.00  
**Top Plug Provided By** Non BJ **Pipe Movement** None  
**Top Plug Size** 9.625 **Job Pumped Through** Manifold  
**Centralizers Used** Yes **Top Connection Thread** 8 RND  
**Centralizers Quantity** 9.00 **Top Connection Size** 9.625  
**Centralizers Type** Bow  
**Landing Collar Depth (ft)** 2,360

# Cementing Treatment



## CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	Solids Present at End of Circulation	No
Circulation Prior to Job	Yes	10 sec SGS	9.00
Circulation Time (min)	30.00	10 min SGS	14.00
Circulation Rate (bpm)	8.00	30 min SGS	22.00
Circulation Volume (bbls)	240.00	Flare Prior to/during the Cement Job	No
Lost Circulation Prior to Cement Job	No	Gas Present	No
Mud Density In (ppg)	9.30	Gas Units	0
Mud Density Out (ppg)	9.30		
PV Mud In	19		
PV Mud Out	19		
YP Mud In	23		
YP Mud Out	23		

## TEMPERATURE

Ambient Temperature (°F)	73.00	Slurry Cement Temperature (°F)	84.20
Mix Water Temperature (°F)	70.20	Flow Line Temperature (°F)	0.00

## BJ FLUID DETAILS

Fluid Type	Fluid Name	Density (ppg)	Yield (Cu Ft/sk)	H2O Req. (gals/sk)	Planned Top of Fluid (Ft)	Length (Ft)	Vol (sk)	Vol (Cu Ft)	Vol (bbls)
Spacer / Pre Flush / Flush	Water 1	8.3300			0.00				20.0000
Spacer / Pre Flush / Flush	Sodium Silicate	10.0000			0.00				20.0000
Spacer / Pre Flush / Flush	Water 2	8.3300			0.00				20.0000
Lead Slurry	BJCem S100.3.01D	12.0000	2.5298	14.86	0.00	1900	517	1,306.0000	232.6000
Tail Slurry	BJCem S100.3.01D	12.5000	2.2256	12.59	1,900.00	500	161	358.0000	63.7000
Displacement Final	Displacement	8.3300			0.00			0.0000	182.5000

# Cementing Treatment



Fluid Type	Fluid Name	Component	Concentration	UOM
Spacer / Pre Flush / Flush	Sodium Silicate	SILICATE, SODIUM, A-3L	21.0000	GPB
Lead Slurry	BJCem S100.3.01D	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	LBS/SK
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	Cement Additive, Sodium Metasilicate A-2	2.0000	LBS/SK
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
Tail Slurry	BJCem S100.3.01D	Cement Additive, Sodium Metasilicate A-2	2.0000	LBS/SK
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 EXTENDER, GYPSUM, A-10	5.0000	BWOB
Tail Slurry	BJCem S100.3.01D	CEMENT, ASTM TYPE III	100.0000	PCT
Tail Slurry	BJCem S100.3.01D	FOAM PREVENTER, FP-25	0.3000	BWOB

## TREATMENT SUMMARY

Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)
7/26/2018 9:28:00 PM	Water 1	5.50	20.00	276.00
7/26/2018 9:32:00 PM	Sodium Silicate	5.50	20.00	408.00
7/26/2018 9:35:00 PM	Water 2	5.50	20.00	277.00
7/26/2018 9:40:00 PM	BJCem S100.3.01D	5.50	232.96	447.00
7/26/2018 10:19:00 PM	BJCem S100.3.01D	5.50	63.94	299.00
7/26/2018 10:34:00 PM	Displacement	8.00	181.92	242.00

	Min	Max	Avg
Pressure (psi)	59.00	1,026.00	376.00
Rate (bpm)	2.50	8.00	5.50

# Cementing Treatment



## DISPLACEMENT AND END OF JOB SUMMARY

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<b>Displaced By</b>	BJ	<b>Amount of Cement Returned/Reversed</b>	80.00
<b>Calculated Displacement Volume (bbls)</b>	181.92	<b>Method Used to Verify Returns</b>	Visual
<b>Actual Displacement Volume (bbls)</b>	176.00	<b>Amount of Spacer to Surface</b>	60.00
<b>Did Float Hold?</b>	Yes	<b>Pressure Left on Casing (psi)</b>	0.00
<b>Bump Plug</b>	Yes	<b>Amount Bled Back After Job</b>	1.00
<b>Bump Plug Pressure (psi)</b>	706.00	<b>Total Volume Pumped (bbls)</b>	515.00
<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

# EVENT LOG



**Customer Name:** CAERUS OPERATING, LLC  
**Well Name:** NPR 12C-10-596  
**Job Type:** Surface  
**Quote ID:** QUO-14067-M4X9G3  
**Plan ID:** ORD-09168-M4V0F9  
**Execution ID:** EXC-09168-M4V0F902

**District:** Rifle, CO  
**BJ Supervisor:** Paul Linn III

Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol(bbls)	Pipe Pressure(psi)	Comments
1	07/26/2018 11:11	Callout					CALL OUT ON LOCATION TIME OF 21:00
2	07/26/2018 15:38	Safety Meeting					PRE CONVOY SAFETY MEETING
3	07/26/2018 15:43	Arrive on Location					ARRIVE ON H&P 273, RIG CREW WAS RUNNING CASING
4	07/26/2018 17:07	Safety Meeting					PRE RIG UP SAFETY MEETING, AND ROC DRILL
5	07/26/2018 17:22	Spot Units					SPOT IN ALL EQUIPMENT
6	07/26/2018 17:30	Rig Up					RIG IN ALL BJ CEMENT EQUIPMENT
7	07/26/2018 18:30	Customer					WAIT ON RIG TO FINISH RUNNING CASING
8	07/26/2018 20:47	Safety Meeting					PRE JOB SAFETY MEETING WITH ALL BJ CEMENT CREW AND RIG CREW
9	07/26/2018 21:00	Rig Up					STAB PLUG CONTAINER, LOAD PLUG CONTAINER, HOOK UP LINES
10	07/26/2018 21:20	Prime Up	8.3300	2.00	5.00	164.00	FILL LINES WITH FRESH WATER
11	07/26/2018 21:23	Pressure Test				4,910.00	PRESSURE TESTED TO 4910 PSI. PRESSURE HELD

# EVENT LOG



Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol(bbls)	Pipe Pressure(psi)	Comments
12	07/26/2018 21:28	Pump Spacer	8.3300	5.50	20.00	276.00	FRESH WATER SPACER
13	07/26/2018 21:31	Pump Spacer	10.5000	5.50	20.00	408.00	50/50 FRESH WATER SODIUM SILICATE SPACER
14	07/26/2018 21:34	Pump Spacer	8.3300	5.50	20.00	335.00	FRESH WATER SPACER
15	07/26/2018 21:38	Pump Lead Cement	12.0000	5.50	5.00	447.00	LEAD CEMENT 12 PPG 517 SKS 2.53 CUFT/SK 14.86 GAL/SK FOR 232.96 BBLS OF LEAD CEMENT REQUIRING 182.92 BBLS OF FRESH WATER. WEIGHT VERIFIED WITH MUD SCALE, TOP OF LEAD IS 0 FT, WITH A HEIGHT OF 1901.31 FT.
16	07/26/2018 21:40	Pump Lead Cement	12.0000	5.50	50.00	413.00	PUMPED LEAD CEMENT
17	07/26/2018 21:48	Pump Lead Cement	12.0000	7.00	81.00	560.00	PUMPED LEAD CEMENT
18	07/26/2018 21:55	Pump Lead Cement	12.0000	6.00	100.00	376.00	PUMPED LEAD CEMENT
19	07/26/2018 22:00	Pump Lead Cement	12.0000	6.00	150.00	312.00	PUMPED LEAD CEMENT
20	07/26/2018 22:06	Pump Lead Cement	12.0000	3.00	174.00	62.00	PUMPED LEAD CEMENT
21	07/26/2018 22:10	Pump Lead Cement	12.0000	3.00	200.00	59.00	PUMPED LEAD CEMENT
22	07/26/2018 22:17	Pump Lead Cement	12.0000	3.00	218.00	61.00	FINISHED PUMPING LEAD CEMENT WITH 218 BBLS AWAY
23	07/26/2018 22:19	Pump Tail Cement	12.5000	5.50	5.00	299.00	TAIL CEMENT 12.5 PPG 161 SKS 2.23 CUFT/SK 12.59 GAL/SK FOR 63.94 BBLS OF TAIL CEMENT REQUIRING 48.26 BBLS OF FRESH WATER. WEIGHT VERIFIED WITH MUD SCLAES. HEIGHT OF TAIL 497.67 WITH A TOP OF TAIL OF 1901.31
24	07/26/2018 22:26	Pump Tail Cement	12.5000	5.50	50.00	300.00	PUMPED TAIL CEMENT
25	07/26/2018 22:28	Pump Tail Cement	12.5000	2.50	60.00	70.00	FINISHED PUMPING TAIL CEMENT
26	07/26/2018 22:29	Drop Top Plug					DROPPED TOP PLUG VERIFIED BY DRILLER
27	07/26/2018 22:34	Pump Displacement	8.3300	6.50	10.00	284.00	PUMPED FRESH WATER DISPLACEMENT

# EVENT LOG



Seq.	Start Dt./Time	Event	Density (ppg)	Pump Rate (bpm)	Pump Vol(bbls)	Pipe Pressure(psi)	Comments
28	07/26/2018 22:37	Pump Displacement	8.3300	8.00	30.00	454.00	PUMPED FRESH WATER DISPLACEMENT
29	07/26/2018 22:40	Pump Displacement	8.3300	8.00	50.00	597.00	PUMPED FRESH WATER DISPLACEMENT
30	07/26/2018 22:47	Cement Back to Surface					80 BBLS OF CEMENT TO SURFACE
31	07/26/2018 22:47	Pump Displacement	8.3300	7.00	100.00	705.00	PUMPED FRESH WATER DISPLACEMENT
32	07/26/2018 22:54	Pump Displacement	8.3300	7.00	150.00	950.00	PUMPED FRESH WATER DISPLACEMENT
33	07/26/2018 22:57	Pump Displacement	8.3300	3.00	171.00	706.00	PUMPED FRESH WATER DISPLACEMENT
34	07/26/2018 22:57	Land Plug				1,509.00	LANDED THE PLUG AT 706 PSI TOOK TO 1509, LANDED 5 BBLS EARLY
35	07/26/2018 22:58	Check Floats					CHECK FLOATS, FLOATS HELD 1 BBL BACK
36	07/26/2018 23:00	Circulate Well					PUMP ON PARASITRE STING, PRESSURED UP, PRESSURE BROKE OVER ONCE THEN PRESSURED UP AGAIN AND COULDNT GET IT TO BREAK OVER AGAIN
37	07/27/2018 00:00	Safety Meeting					PRE RIG DOWN SAFETY MEETING WITH RIG CREW
38	07/27/2018 00:15	Rig Down					RIG DOWN PLUG CONTAINER
39	07/27/2018 00:15	Clean Pumps and Lines					WASHED PUMPS AND LINES AND BLEW DOWN SILO
40	07/27/2018 00:36	Safety Meeting					PRE RIG DOWN SAFETY MEETING WITH ALL BJ CEMENT CREW
41	07/27/2018 00:42	Rig Down					RIG DOWN ALL BJ EQUIPMENT
42	07/27/2018 01:28	Safety Meeting					PRE CONVOY SAFETY MEETING
43	07/27/2018 01:36	Leave Location					LEAVE LOCATION FOR RIFLE YARD, THANK YOU FOR USING BJ SERVICES, ANDREW LINN AND CREW

