



# Caerus

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## Surface Post Job Report

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**NPR 14B-10-596 05-045-23755**

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

Quote #:

I Execution #:



# 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



<b>Start Date</b>	2/10/2018	<b>Well</b>	NPR 14B-10-596
<b>End Date</b>	2/10/2018	<b>County</b>	GARFIELD
<b>Client</b>	CAERUS OPERATING, LLC	<b>State/Province</b>	CO
<b>Client Field Rep</b>		<b>API</b>	05-045-23755
<b>Service Supervisor</b>		<b>Formation</b>	
<b>Field Ticket No.</b>	Surface	<b>Rig</b>	H&P 273
<b>District</b>	Rifle, CO	<b>Type of Job</b>	Surface

## WELL GEOMETRY

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Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	Excess(%)	Grade	Thread
Open Hole	13.50			1,750.00	25.00		
Open Hole	13.50			2,038.00			
Casing	8.92	9.63	36.00	2,016.00		J-55	LTC
Previous Casing	19.50	20.00	52.73	120.00			

**Shoe Length (ft):** 45

# Cementing Treatment



## HARDWARE

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Bottom Plug Used?	No	Tool Type	Float Collar
Top Plug Used?	Yes	Tool Depth (ft)	1,971.00
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	No	Pipe Movement	None
Centralizers Quantity		Job Pumped Through	No Manifold
Centralizers Type		Top Connection Thread	8 rnd
Landing Collar Depth (ft)	1,971	Top Connection Size	9.625

## CIRCULATION PRIOR TO JOB

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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	17.00
Circulation Rate (bpm)	5.50	30 min SGS	23.00
Circulation Volume (bbls)	165.00	Flare Prior to/during the Cement Job	No
Lost Circulation Prior to Cement Job	Yes	Gas Present	No
Mud Density In (ppg)	8.75	Gas Units	
PV Mud In	14		
YP Mud In	15		

## TEMPERATURE

# Cementing Treatment



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Ambient Temperature (°F)	38.00	Slurry Cement Temperature (°F)	73.00
Mix Water Temperature (°F)	71.00	Flow Line Temperature (°F)	98.00

## BJ FLUID DETAILS

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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	Fresh Water	8.3300			0.00				20.0000
Spacer / Pre Flush / Flush	Sodium Silicate	10.0000			0.00				20.0000
Spacer / Pre Flush / Flush	Fresh Water	8.3300			0.00				20.0000
Lead Slurry	S100-12	12.0000	2.5298	14.86	0.00		461	1,164.0000	207.3000
Tail Slurry	S100-12	12.5000	2.2256	12.59	1,519.00		118	262.0000	46.6000
Displacement Final	Displacement	8.3300			0.00			0.0000	152.0000

# Cementing Treatment



Fluid Type	Fluid Name	Component	Concentration	UOM
Spacer / Pre Flush / Flush	Sodium Silicate	SILICATE, SODIUM, A-3L	21.0000	GPB
Lead Slurry	S100-12	Foam Preventer, FP-25	0.3000	BWOB
Lead Slurry	S100-12	CEMENT EXTENDER, SODIUM METASILICATE, A-2	2.0000	LBS/SK
Lead Slurry	S100-12	IntegraSeal CELLO	0.1300	LBS/SK
Lead Slurry	S100-12	CEMENT, ASTM TYPE III	100.0000	PCT
Lead Slurry	S100-12	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A- 7P, PELLETS	2.0000	LBS/SK
Lead Slurry	S100-12	CEMENT EXTENDER, GYPSUM, A-10	5.0000	BWOB
Tail Slurry	S100-12	CEMENT, ASTM TYPE III	100.0000	PCT
Tail Slurry	S100-12	Foam Preventer, FP-25	0.3000	BWOB
Tail Slurry	S100-12	IntegraSeal CELLO	0.1300	LBS/SK
Tail Slurry	S100-12	CEMENT EXTENDER, GYPSUM, A-10	5.0000	BWOB
Tail Slurry	S100-12	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A- 7P, PELLETS	2.0000	LBS/SK
Tail Slurry	S100-12	CEMENT EXTENDER, SODIUM METASILICATE, A-2	2.0000	LBS/SK

## TREATMENT SUMMARY

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# Cementing Treatment



Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)	Annulus Pressure (psi)	Comments
2/10/2018 4:57 AM	Fresh Water	4.00	20.00	82.00		
2/10/2018 4:59 AM	Sodium Silicate	4.00	20.00	132.00		
2/10/2018 5:04 AM	Fresh Water	4.00	20.00	115.00		
2/10/2018 5:13 AM	S100-12	4.00	207.30	81.00		
2/10/2018 6:06 AM	S100-12	4.00	46.60	101.00		
2/10/2018 6:20 AM	Displacement	4.00	152.00	239.00		

	Min	Max	Avg
Pressure (psi)	0.00	1,192.00	300.00
Rate (bpm)	4.00	4.00	4.00

# Cementing Treatment



## DISPLACEMENT AND END OF JOB SUMMARY

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Displaced By	BJ	Amount of Cement Returned/Reversed	22.00
Calculated Displacement Volume (bbls)	152.00	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	148.00	Amount of Spacer to Surface	0.00
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0.00
Bump Plug	Yes	Amount Bled Back After Job	0.75
Bump Plug Pressure (psi)	607.00	Total Volume Pumped (bbls)	560.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement returns During Job	Full	Lost Circulation During Cement Job	Yes



Customer Name CAERUS  
 Well Name NPR 14B-10  
 Job Type SURFACE

District RIFLE  
 Supervisor KEN ESTEP  
 Engineer ZEN



Seq No.		Start Time	Event	Equipment	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	2/9/2018	18:00	CREW CALL OUT						CREW CALL OUT REQUESTED ON LOCATION @ :00
2	2/9/2018	18:45	SAFETY MEETING						JOURNEY MANAGEMENT SAFETY MEETING WITH CREW
3	2/9/2018	19:00	LEAVE YARD						DEPART FOR LOCATION
4	2/9/2018	21:00	ON LOCATION						ARRIVE ON LOCATION
5	2/9/2018	21:15	SAFETY MEETING						STEACS SAFETY MEETING WITH CREW
6	2/9/2018	21:30	SPOT EQUIPMENT						SPOT IN ALL EQUIPMENT USING SPOTTERS AND GROUND GUIDES
7	2/9/2018	21:45	SAFETY MEETING						STEACS RIG UP MEETING WITH CREW
8	2/9/2018	22:00	RIG UP						RIG UP IRON AND ALL HOSES. RIG UP SILOS AND HOSES
9	2/9/2018	22:30	WAIT ON RIG						WAIT FOR RIG TO RUN CASING
10	2/10/2018	3:00	RIG ON BOTTOM						RIG DONE RUNNING CASING
11	2/10/2018	3:30	SAFETY MEETING						SAFETY MEETING WITH RIG CREW AND CREW
12	2/10/2018	4:52	TEST					4000	PRESSURE TEST LINES
13	2/10/2018	4:57	H2O		8.33	4	20	108	PUMP H2O
14	2/10/2018	4:59	SODIUM SILICATE		9.4	4	20	132	PUMP SODIUM SILICATE
15	2/10/2018	5:04	H2O		8.33	4	20	115	PUMP H2O
16	2/10/2018	5:13	LEAD		12	4	207	81	PUMP LEAD CEMENT @ (12PPG 2.52.YIELD 14.86 GAL/SK) 461 SKS 207 BBLS
17	2/10/2018	5:24	LEAD		12	4	50	81	50 BBLS GONE
18	2/10/2018	5:36	LEAD		12	4	100	83	100 BBLS PUMPED
19	2/10/2018	5:48	LEAD		12	4	150	80	150 BBLS PUMPED
20	2/10/2018	6:04	LEAD		12	4	200	81	200 BBLS PUMPED
21	2/10/2018	6:06	TAIL		12.5	4		101	PUMP TAIL CEMENT @ (12.5 PPG 2.22 YIELD 12.59 GAL/SK) 118 SKS 46.6 BBLS
22	2/10/2018	6:20	DROP PLUG						SHUT DOWN DROP PLUG
23	2/10/2018	6:32	DISPLACE		8.33	4		34	PUMP H2O DISPLACEMENT
24	2/10/2018	6:34	RETURNS		8.33	4	44	239	MUD RETURNS TO SURFACE
25	2/10/2018	6:38	SHUT DOWN						SHUT DOWN PUMP CELLAR OUT
26	2/10/2018	6:42	RESUME		8.33	4			RESUME DISPLACEMENT
27	2/10/2018	6:51	DISPLACE		8.33	4	100	420	100 BBLS PUMPED
28	2/10/2018	6:57	CEMENT			4	126	526	CEMENT RETURNS TO SURFACE. 22 BBLS TOTAL
29	2/10/2018	7:02	SLOW		8.33	2	140	496	SLOW RATE
30	2/10/2018	7:05	BUMP PLUG				148	607	BUMPED PLUG TOOK PRESSURE TO 1192
31	2/10/2018	7:10	CHECK FLOAT						CHECK FLOATS GOT .75 BBLS BACK

Customer Name CAERUS  
 Well Name NPR 14B-10  
 Job Type SURFACE

District RIFLE  
 Supervisor KEN ESTEP  
 Engineer ZEN



Seq No.		Start Time	Event	Equipment	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
32	2/10/2018	7:20	SAFETY MEETING						SAFETY MEETING WITH RIG CREW AND CREW
33	2/10/2018	7:35	WASH TRUCK						WASH TRUCK INTO CELLAR/TAKE CEMENT HEAD OFF
34	2/10/2018	8:00	WAIT						WAIT 4 HOURS ON CEMENT
35	2/10/2018	11:30	SAFETY MEETING						SAFETY MEETING WITH CREW
36	2/10/2018	11:45	RIG DOWN						RIG DOWN IRON AND HOSES
37	2/10/2018	13:00	SAFETY MEETING						SAFETY MEETING WITH CREW
38	2/10/2018	13:15	LEAVE						LEAVE LOCATION

