



# Caerus

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## Surface Post Job Report

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**Puckett 11A-26 697 05-045-23372**

S:23 T:6S R:97W 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 II | (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>	10/18/2017	<b>Well</b>	Puckett 11A-26 697
<b>End Date</b>	11/30/2017	<b>County</b>	GARFIELD
<b>Client</b>	CAERUS OPERATING, LLC	<b>State/Province</b>	CO
<b>Client Field Rep</b>		<b>API</b>	05-045-23372
<b>Service Supervisor</b>		<b>Formation</b>	
<b>Field Ticket No.</b>	Caerus 330 Puckett 11A-26 Surface	<b>Rig</b>	H&P 330
<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)	Grade	Thread
Previous Casing	19.50	20.00	52.73	100.00		
Open Hole	14.75			2,545.00		
Casing	8.92	9.63	36.00	2,523.80	J-55	8 Round

**Shoe Length (ft):** 40

## HARDWARE

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<b>Bottom Plug Used?</b>	No	<b>Tool Type</b>	Float Collar
<b>Bottom Plug Provided By</b>		<b>Tool Depth (ft)</b>	2,523.80
<b>Bottom Plug Size</b>		<b>Max Tubing Pressure - Rated (psi)</b>	
<b>Top Plug Used?</b>	Yes	<b>Max Tubing Pressure - Operated (psi)</b>	
<b>Top Plug Provided By</b>	Non BJ	<b>Max Casing Pressure - Rated (psi)</b>	4,160.00
<b>Top Plug Size</b>	9.625	<b>Max Casing Pressure - Operated (psi)</b>	3,328.00
<b>Centralizers Used</b>	Yes	<b>Pipe Movement</b>	None
<b>Centralizers Quantity</b>	5.00	<b>Job Pumped Through</b>	Manifold
<b>Centralizers Type</b>	Bow	<b>Top Connection Thread</b>	8 Round
<b>Landing Collar Depth (ft)</b>	2,460	<b>Top Connection Size</b>	9.625

# 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	5.00
Circulation Time (min)	90.00	10 min SGS	14.00
Circulation Rate (bpm)	10.00	30 min SGS	27.00
Circulation Volume (bbls)	900.00	Flare Prior to/during the Cement Job	No
Lost Circulation Prior to Cement Job	Yes	Gas Present	No
Mud Density In (ppg)	9.10	Gas Units	0
Mud Density Out (ppg)	9.10		
PV Mud In	14		
PV Mud Out	14		
YP Mud In	19		
YP Mud Out	19		

## TEMPERATURE

Ambient Temperature (°F)	34.00	Slurry Cement Temperature (°F)	48.00
Mix Water Temperature (°F)	45.00	Flow Line Temperature (°F)	72.00

## BJ FLUID DETAILS

Fluid Type	Fluid Name	Density (ppg)	Yield (Cu Ft/sk)	H2O Req. (gals/sk)	Vol (sk)	Vol (Cu Ft)	Vol (bbls)
Spacer / Pre Flush / Flush	Water	8.3300					20.0000
Spacer / Pre Flush / Flush	Water	8.3300					20.0000
Spacer / Pre Flush / Flush	Sodium Silicate	10.0000					20.0000
Lead Slurry	S100-12	12.0000	2.5329	14.89	704	1,774.0000	315.9000
Tail Slurry	S100-12	12.5000	2.2282	12.62	162	358.0000	63.7000

# Cementing Treatment



Displacement Final	Displacement	8.3300				0.0000	190.2000
Top Out Slurry	S100-12	12.5000	2.2282	12.62	127	281.9400	50.2300

Fluid Type	Fluid Name	Component	Concentration	UOM
Spacer / Pre Flush / Flush	Sodium Silicate	SILICATE, SODIUM, A-3L	21.00	GPB
Lead Slurry	S100-12	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.00	LBS/SK
Lead Slurry	S100-12	CEMENT, ASTM TYPE III	100.00	PCT
Lead Slurry	S100-12	CEMENT EXTENDER, GYPSUM, A-10	5.00	BWOB
Lead Slurry	S100-12	IntegraSeal CELLO	0.13	LBS/SK
Lead Slurry	S100-12	FP-25, Dry Foam Preventer (BJS Only)	0.30	BWOB
Lead Slurry	S100-12	CEMENT EXTENDER, SODIUM METASILICATE, A-2	2.00	LBS/SK
Tail Slurry	S100-12	CEMENT EXTENDER, GYPSUM, A-10	5.00	BWOB
Tail Slurry	S100-12	CEMENT EXTENDER, SODIUM METASILICATE, A-2	2.00	LBS/SK
Tail Slurry	S100-12	CEMENT, ASTM TYPE III	100.00	PCT
Tail Slurry	S100-12	IntegraSeal CELLO	0.13	LBS/SK
Tail Slurry	S100-12	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.00	LBS/SK
Tail Slurry	S100-12	FP-25, Dry Foam Preventer (BJS Only)	0.30	BWOB
Top Out Slurry	S100-12	CEMENT EXTENDER, GYPSUM, A-10	5.00	BWOB
Top Out Slurry	S100-12	CEMENT EXTENDER, SODIUM METASILICATE, A-2	2.00	LBS/SK
Top Out Slurry	S100-12	CEMENT, ASTM TYPE III	100.00	PCT
Top Out Slurry	S100-12	IntegraSeal CELLO	0.13	LBS/SK
Top Out Slurry	S100-12	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.00	LBS/SK
Top Out Slurry	S100-12	FP-25, Dry Foam Preventer (BJS Only)	0.30	BWOB

# Cementing Treatment



## TREATMENT SUMMARY

Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)	Annulus Pressure (psi)	Comments
	Water	5.00	20.00			
	Water	5.00	20.00			
	Sodium Silicate	5.00	20.00			
	S100-12	5.00	315.90			
	S100-12	5.00	63.70			
	Displacement	5.00	190.20			

	Min	Max	Avg
Pressure (psi)	0.00	1,425.00	356.00
Rate (bpm)	2.00	7.00	6.00

## DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amount of Cement Returned/Reversed	0.00
Calculated Displacement Volume (bbls)	191.66	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	191.66	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	0.50
Bump Plug Pressure (psi)	217.00	Total Volume Pumped (bbls)	50.23
Were Returns Planned at Surface	No	Top Out Cement Spotted	Yes
Cement returns During Job	None	Lost Circulation During Cement Job	Yes

Customer Name Caerus Energy  
 Well Name Puckett 11A-26  
 Job Type Surface

District Rifle  
 Supervisor Allen Tippetts  
 Engineer \_\_\_\_\_



Seq No.	Start Date	Start Time	Event	Equipment	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	11/20/2017	1:24	Call Out						BJ Services crew call out for Caerus Energy surface cement job. On location time 0600
2	11/20/2017	3:30	STEACS						STEACS briefing for journey management. Discuss driving directions, weather conditions, communication during travel, Reasons for travel to stop, Equipment inspections, and SWA
3	11/20/2017	3:45	Depart Rifle Yard						Depart Rifle Yard for Caerus Energy / H&P 330
4	11/20/2017	4:25	Vehicle Inspection						Vehicle Inspection in Parachutte before starting on CR 215 and Garden Gulch Road
5	11/20/2017	6:00	Arrive At Caerus Energy						Arrive at Caerus Energy / H&P 330
6	11/20/2017	6:10	STEACS						STEACS briefing with BJ Services Crew. Discuss spotting of equipment, Rig-Up procedures, Job requirements, NDZ, Contingency plans, safety concerns, and SWA during job
7	11/20/2017	6:25	Rig-Up						Spot and Rig-Up surface equipment.
8	11/20/2017	7:00	STEACS						STEACS briefing with BJ Services Crew, Rig crew, and Company rep. Discuss spotting of equipment, Rig-Up procedures, Job requirements, NDZ, Contingency plans, safety concerns, and SWA during job
9	11/20/2017	7:15	Rig-Up						Final Rig-Up of all surface equipment.
10	11/20/2017	8:07	Pump Water		8.33	2	5	126	Pump 5 barrels fresh water to fill pumps and lines.
11	11/20/2017	8:10	Shutdown / Pressure Test						Shutdown with 5 barrels fresh water away. Pressure test surface equipment to 2,985 PSI
12	11/20/2017	8:11	Release Pressure						Release Pressure off surface equipment, Test Good
13	11/20/2017	8:13	Pump Water		8.33	6	15	260	Pump remaining 015 barrels fresh water spacer
14	11/20/2017	8:15	Pump Spacer		10	6	20	270	Pump 20 barrels sodium silicate spacer @ 10.0 PPG
15	11/20/2017	8:18	Pump Water		8.33	6	20	86	Pump 20 barrels fresh water spacer
16	11/20/2017	8:22	Pump Lead Cement		12	6	317.22	254	Mix and pump 317.22 Barreles (704 sks) Lead Cement @ 12.0 PPG, 2.53 YLD 14.89 GAL/SK
17	11/20/2017	8:31	Pump Lead Cement		12	6	50	280	Pump Lead Cement
18	11/20/2017	8:39	Pump Lead Cement		12	6	50	190	Pump Lead Cement
19	11/20/2017	8:47	Pump Lead Cement		12	6	50	180	Pump Lead Cement
20	11/20/2017	8:56	Pump Lead Cement		12	6	50	160	Pump Lead Cement
21	11/20/2017	9:04	Pump Lead Cement		12	6	50	165	Pump Lead Cement
22	11/20/2017	9:12	Pump Lead Cement		12	6	50	162	Pump Lead Cement
23	11/20/2017	9:15	Pump Tail Cement		12.5	6	64.34	162	Mix and pump 64.34 barrels (162 SKS) Tail cement @ 12.5 PPG, 2.23 YLG, 12.62 GAL/SK
24	11/20/2017	9:26	Pump Tail Cement		12.5	6	50	141	Pump Tail Cement
25	11/20/2017	9:27	Shutdown						Shutdown. All cement away. Drop Plug. Plug witnessed by company rep.
26	11/20/2017	9:28	Pump Displacement		8.33	5	191.66	68	Pump 191.66 barrels fresh water displacement
27	11/20/2017	9:35	Pump Displacement		8.33	5	50	72	Pump Fresh Water Displacement
28	11/20/2017	9:41	Pump Displacement		8.33	7	50	122	Pump Fresh Water Displacement
29	11/20/2017	9:48	Pump Displacement		8.33	7	50	274	Pump Fresh Water Displacement
30	11/20/2017	9:52	Slow Rate		8.33	2	11.66	170	Slow rate to 2 barrels per min with 1802 barrels fresh water displacement away.
31	11/20/2017	9:57	Land Plug			2			Land plug with 191.66 barrels fresh water displacement away
32	11/20/2017	10:02	Check Floats						Check Floats. Floats holding with .5 barrels back to truck
33	11/20/2017	10:09	Pump Sugar Water						Pump 10 barrels sugar water down parasite line. Pressure up with 6 barrels away. Pressure broke over at 267PSI
34	11/20/2017	16:01	Pump CC Water		8.6	1	2	25	Pump 2 barrels CC water
35	11/20/2017	16:03	Pump Fresh Water		8.33	1	2	25	Pump 2 barrels fresh water spacer
36	11/20/2017	16:08	Pump Top Out Cement		12.5	1	13.1	25	Mix and pump 13.1 barrels Top Out Cement (33 SKS) @ 12.5 PPG, 2.23 YLD, 12.62 GAL/SK
37	11/20/2017	16:12	Pump SS / Cement		12.5	1	13.1	25	Pump 295 Gallons Sodium Cilicate while pumping 13.1 barrels Top Out Cement (33 SKS) @ 12.5 PPG, 2.23 YLD, 12.62 GAL/SK
38	11/20/2017	16:25	Pump SS / Cement		12.5	1	13.1	25	Pump 45 Gallons Sodium Cilicate while pumping 13.1 barrels Top Out Cement (33 SKS) @ 12.5 PPG, 2.23 YLD, 12.62 GAL/SK
39	11/20/2017	16:38	Pump SS / Cement		12.5	1	12	25	Pump 45 Gallons Sodium Cilicate while pumping 12 barrels Top Out Cement (33 SKS) @ 12.5 PPG, 2.23 YLD, 12.62 GAL/SK
40	11/20/2017	16:41	Shutdown			1			Shutdown cement returns to surface
41	11/20/2017	17:25	STEACS						STEACS briefing with BJ Services Crew. Discuss Rig-Down procedures, Job requirements, NDZ, Contingency plans, safety concerns, and SWA during Rig-Down
42	11/20/2017	17:45	Rig-Down						Rig-Down all surface equipment
43	11/20/2017	18:30	STEACS						STEACS briefing for journey management. Discuss driving directions, weather conditions, communication during travel, Reasons for travel to stop, Equipment inspections, and SWA
44									
45	11/20/2017								No returns during cement job. Well topped out with 50.23 barrels top out cement 805 gal sodium silicate 1275KS. Silo 11 blown into top out silo. No job issues.
46	11/20/2017								Estimated top of tail cement 2022. Well topped out. Cement returns to surface.
47									
48									



