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# Caerus

## SURFACE POST JOB REPORT

Puckett 32B-26-697 05-045-23360  
S:26 T:6S R:97W GARFIELD CO

CallSheet #: 616  
Proposal #: 13030



**SURFACE Post Job Report**

**Attention:** Mr. Steve Schmitz | (720) 880-6412 | 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,

**Oscar Medrano**

Technical Specialist-II | (307) 996-6222 | Oscar.Medrano@bjservices.com

**Field Office**      1716 East Allison Rd., Cheyenne WY, 82007  
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## 1 Job Details & Summary

### 1.1 Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Thread	Top (ft)	Bottom (ft)	Excess (%)
Casing	Inner	9.625	8.835	40	LTC	0	2520	0
Open Hole	Outer	n/a	14.75	n/a	n/a	100	2000	25
Open Hole	Outer	n/a	14.75	n/a	n/a	2000	2533	0
Casing	Outer	20	19.5	53	n/a	0	100	0

### 1.2 Equipment / People

Unit Type	Unit	Employee #1	Employee #2	Mileage
Pneumatic Trailer	703			
Pneumatic Trailer	705			
Bulk Trailer	503			
Light Duty Pickups	5	Bell, Wesley	Mellon, Zacahria	660
Cement Chemical	401	Henderson, Ethan		660
Cement Pump	104	Hyde, Zack		660

### 1.3 Timing

Event	Date/Time
Call Out	3/10/2017 20:00
Depart Facility	3/11/2017 03:00
On Location	3/11/2017 04:15
Rig Up Iron	3/11/2017 04:25
Job Started	3/11/2017 07:15
Job Completed	3/11/2017 19:02
Rig Down Iron	3/11/2017 19:05
Depart Location	3/11/2017 20:30

### 1.4 General Job Information

Metrics	Value
Well Fluid Density	8.9 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	0 bbls
Rig Circulation Time	0 hours
Calculated Displacement	187 bbls
Actual Displacement	189 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	Yes
Top Out Volume	155 bbls

### 1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	22
Yield Point	27
10 sec. SGS	18
10 min. SGS	38
30 min. SGS	66
Filtrate	2
Flow Line Temp.	na

### 1.6 Job Details

Metrics	Value
Flare Prior to Job	no
Flare During Job	no
Flare at End of Job	no
Well Full Prior to Job	No
Well Fluid Density Into Well	8.9 lb/gal
Well Fluid Density Out of Well	12.5 lb/gal

### 1.7 Job Details (cont.)

Metrics	Value
BHCT	94 °F
BHST	128 °F

### 1.8 Circulation

Lost Circulation Experienced
Yes

#### Circulation Details:

We did not have any returns during the entire job. Rig did not have circulation while running casing and we did not have return during preflush, spacer, cement, and displacement.

### 1.9 Job Execution Information

Job	Fluid	Product	Function	Density (lb/gal)	Yield (ft <sup>3</sup> /sk)	Water Rq. (gal/sk)	Water Rq. (gal/bbl)	Volume (sks)	Volume (bbl)	Top (ft)
1	1	Water	Flush	8.33			42.00		20.00	0
1	2	Sodium Silicate	Flush	10.00			21.00		20.00	0
1	3	Water	Flush	8.33			42.00		20.00	0
1	4	ALTCem S100-12	Lead	12.00	2.53	14.85		703.00	316.33	0
1	5	ALTCem S100-12	Tail	12.50	2.22	12.58		161.00	63.76	2000
1	6	Water	Displacement	8.33			42.00		10.00	2328
1	7	Mud	Displacement	8.33			42.00		160.00	218
1	8	Water	DisplacementFinal	8.33			42.00		19.00	0
1	9	ALTCem S100-12	Topout	12.50	2.22	12.58		390.00	155.00	0

### 1.10 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Flush	Sodium Silicate	ASF-10	Extender	21.00	gal/bbl
1	4	Lead	ALTCem S100-12	AC3-10	Cement	100.00	%
1	4	Lead	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	4	Lead	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	4	Lead	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	4	Lead	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	4	Lead	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk



1	4	Lead	ALTCem S100-12	ADF-20	Defoamer	0.00	
1	5	Tail	ALTCem S100-12	AC3-10	Cement	100.00	%
1	5	Tail	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	5	Tail	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	5	Tail	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	5	Tail	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	5	Tail	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk
1	9	Topout	ALTCem S100-12	AC3-10	Cement	100.00	%
1	9	Topout	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	9	Topout	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	9	Topout	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	9	Topout	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	9	Topout	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk

## 2 Job Logs

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	Arrive on location	3/11/2017	04:15					arrive on location, requested time was 06:00
2	Spot Units	3/11/2017	04:20					Spot pump unit, iron trailer, chemical trailer
3	Rig In	3/11/2017	04:30					Rig in water, bulk, treating lines
4	Safety meeting	3/11/2017	06:30					Review job procedure and associated hazards
5	Fill Lines	3/11/2017	07:15	8.34	2	3	0	Fill lines with Fresh water
6	Pressure Test Lines	3/11/2017	07:17	8.34			3200	Pressure test all surface lines, no leaks
7	Pump	3/11/2017	07:19	8.34	5	20	0	Pump 20bbls fresh water ahead
8	Pump Spacer	3/11/2017	07:25	10	5	20	0	Pump 20bbls of Sodium Silicate spacer
9	Pump	3/11/2017	07:31	8.34	5	20	0	Pump 20bbls of Fresh water
10	Pump Lead Cement	3/11/2017	07:34	12	5	316	100	Mix and pump 316bbls of lead cement at 12ppg, Y: 2.53, WR:14.85, 703sk, 249bbls of mix water, Top of Tail 1950'
11	Pump Tail Cement	3/11/2017	08:40	12.5	5	64	100	Mix and pump 64bbls of Tail cement at 12.5ppg, Y: 2.22, WR:12.58, 161sk, 48bbls mix water
12	Shut down/drop Plug	3/11/2017	08:51					Drop 9.625" top rubber plug
13	Start Displacement	3/11/2017	08:53	8.34	5			Calculated displacement is 187bbls, Casing is 9.625" 40# with a capacity of .0758bbl/ft
14	Pump	3/11/2017	09:04	8.34	5	50	0	50bbls of displacement away, no returns, no pressure
15	Pump	3/11/2017	09:14	8.34	5	50	100	100bbls of displacement away, no returns
16	Pump	3/11/2017	09:24	8.34	5	50	200	150bbls of displacement away, no returns
17	Pump	3/11/2017	09:29	8.34	5	27	200	177bbls of displacement away, no returns, decrease pump rate for last ten bbls
18	Bump Plug	3/11/2017	09:38	8.34	2	12	220	Bump plug, final circulating pressure 220psi, 189bbls of displacement according to strap count
19	Casing Test	3/11/2017	09:39	8.34	0	0	1570	Casing test for 15minutes at 1570psi
20	Check Floats	3/11/2017	09:54	8.34				1bbls back, floats held



21	Pump	3/11/2017	09:58	8.4	2	10	260	Pump 10bbls of sugar water down parasite line and open check valve at 260psi
22	Wait	3/11/2017	10:03					Wait 4hrs before beginning top off
23	Pump	3/11/2017	14:10	9.5	2	10	50	Pump 10bbls of CaCl <sub>2</sub> water ahead
24	Pump Top Out	3/11/2017	14:17	12.5	2	99	50	Mix and pump 99bbls of Top out cement at 12.5ppg, Y:2.22, WR:12.58, 250sk
25	Wait	3/11/2017	14:56					wait 1hr before pumping more cement
26	Pump	3/11/2017	16:00	9.5	2	10	50	Pump 10bbls of CaCl <sub>2</sub> water ahead
27	Pump Top Out	3/11/2017	16:05	12.5	2	40	50	Mix and pump 40bbls of Top out at 12.5ppg, Y: 2.22, WR: 12.58, 100sk
28	Wait	3/11/2017	16:30					Shut down, no returns to surface, wait 1hr
29	Pump Top out	3/11/2017	18:53	12.5	2	16	50	Mix and pump 16bbls of top out cement at 12.6ppg, Y:2.22, WR: 12.58, 40sk
30	Shut down	3/11/2017	19:02					Well topped off,
31	Rig Out	3/11/2017	19:08					Rig down all water, bulk, and treating lines
32	Job complete	3/11/2017	20:00					
33	Leave location	3/11/2017	20:30					



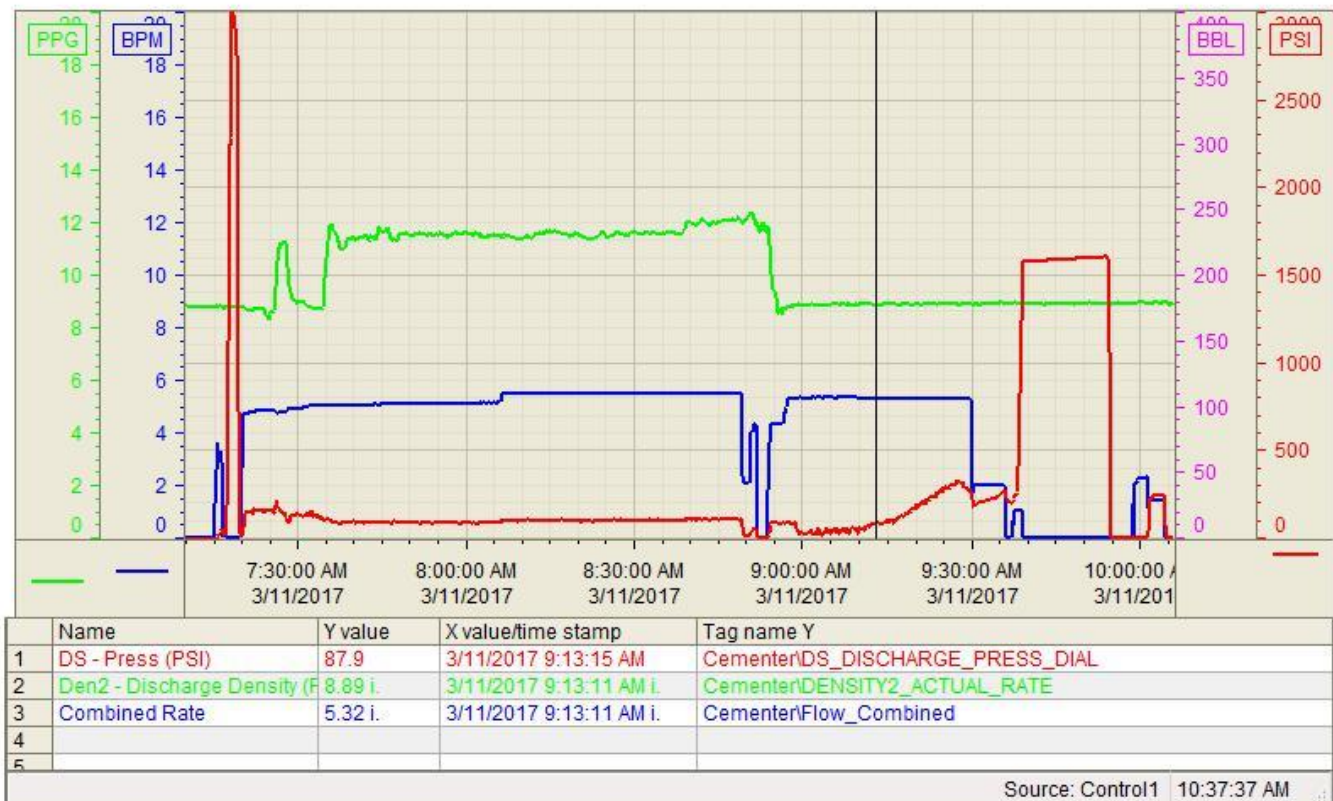
### 3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	80 °F	50-80 °F
pH Level	8	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	120	0-1000
Total Hardness	250 mg/L	0-500 mg/L
Carbonates	100 mg/L	0-100 mg/L
Sulfates	<200 mg/L	0-1500 mg/L
Potassium	300 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

### 4 Pump Diagrams

Job Chart

Customer: Caerus  
Well Number: 32B-26-697  
Lease Info: PUCKETT



### Top-Out Chart

Customer: Caerus  
Well Number: 32B-26-697  
Lease Info: PUCKETT

