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# Caerus

## SURFACE POST JOB REPORT

Puckett 32D-26-697 05-045-23357  
S:26 T:6N R:97W Garfield CO

CallSheet #: 580  
Proposal #: 12972



**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,

**Zen Keith**

Technical Specialist-II | (307) 757-7178 | zenkeith@altcem.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	36	LTC	0	2396	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	2417	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	702			630
Pneumatic Trailer	703			630
Bulk Trailer	508			630
Cement Pump	104	Chaparro, Hector		630
Cement Chemical	401	Creel, Jason	Martinez, Michael	630
Light Duty Pickups	5	Hyde, Andrew		630

### 1.3 Timing

Event	Date/Time
Call Out	2/25/2017 16:30
Depart Facility	2/25/2017 17:00
On Location	2/25/2017 18:30
Rig Up Iron	2/25/2017 19:30
Job Started	2/26/2017 04:27
Job Completed	2/26/2017 14:20
Rig Down Iron	2/26/2017 14:45
Depart Location	2/26/2017 17:29

### 1.4 General Job Information

Metrics	Value
Well Fluid Density	9.4 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	100 bbls
Rig Circulation Time	0.5 hours
Calculated Displacement	182 bbls
Actual Displacement	182 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	Yes
Top Out Volume	79 bbls

### 1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	4
Yield Point	4
10 sec. SGS	2
10 min. SGS	2
30 min. SGS	3
Filtrate	.35/1.05
Flow Line Temp.	62

### 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	9.4 lb/gal
Well Fluid Density Out of Well	N/A lb/gal

### 1.7 Job Details (cont.)

Metrics	Value
BHCT	94 °F
BHST	128 °F

## 1.8 Circulation

Lost Circulation Experienced	Losses into Spacer	Losses into Cement	Losses into Displacement
Yes	20	379	182

### Circulation Details:

Never had returns running casing or during the job

## 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		17.00	0
1	9	ALTCem S100-12	Topout	12.50	2.22	12.58		200.00	79.00	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	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	Call Out	2/25/2017	16:30					BJ crew got called and requested on location at 22:30
2	Depart Hotel	2/25/2017	17:00					BJ crew left Hotel
3	Arrive On Location	2/25/2017	18:30					BJ crew arrived on location
4	Safety Meeting	2/25/2017	18:45					BJ crew talked about th hazards of spotting in equipment and rigging up
5	Rig Up	2/25/2017	19:30					Rig Up
6	Waiting	2/25/2017	21:00					Wait for rig crew to finish running casing
7	Safety Meeting	2/26/2017	03:30					BJ and rig crew talked about the hazards of pumping the job
8	Fill Lines	2/26/2017	04:30	8.33	2	3	30	Pump 3 bbls of water ahead
9	Pressure Test	2/26/2017	04:33					Pressure test pumps and lines to 3000 psi
10	Pump Water	2/26/2017	04:36	8.33	5	20	100	Pump 20 bbls of water
11	Pump ASF-10	2/26/2017	04:41	8.33	5	20	175	Pump 20 bbls of 50/50 ASF-10
12	Pump Water	2/26/2017	04:45	8.33	5	20	175	Pump 20 bbls of water ahead
13	Pump Lead Cement	2/26/2017	04:48	12	6	316	186	Mix up and pump 703 sks of ALTCem S100-12 lead cement at 12 ppg, yield 2.53, 14.85 gal/sk, 316 bbls
14	Pump Tail Cement	2/26/2017	05:44	12.5	6	64	134	Mix up and pump 161 sks of ALTCem S100-12 tail cement at 12.5 ppg, yield 2.22, 12.58 gal/sk, 64 bbls
15	Shutdown	2/26/2017	05:58					Shutdown to line out manifold to drop top plug
16	Drop Top Plug	2/26/2017	06:04					I witness plug leave manifold
17	Pump Displacement	2/26/2017	06:06	9.4	6	162	130	Pump 182 bbls of mud displacement 10 bbls water, 152 bbls mud
18	Slow Rate	2/26/2017	06:34	8.33	2	20	150	Slow rate the last 20 bbls to 2 bpm to bump plug
19	Bump Plug	2/26/2017	06:44					Bump Plug at 250 psi took it up to 1500 psi
20	Casing Test	2/26/2017	06:46					Casing test to 1500 psi for 15 min
21	Check Floats	2/26/2017	07:01					Got 1 bbls back to the truck
22	Pump Water	2/26/2017	07:03	8.33	1	6	250	Pump sugar water 5 bbls down the parasite line pressure up to 250 psi, then got returns
23	Waiting	2/26/2017	08:00					Wait 4 hours to do top out job



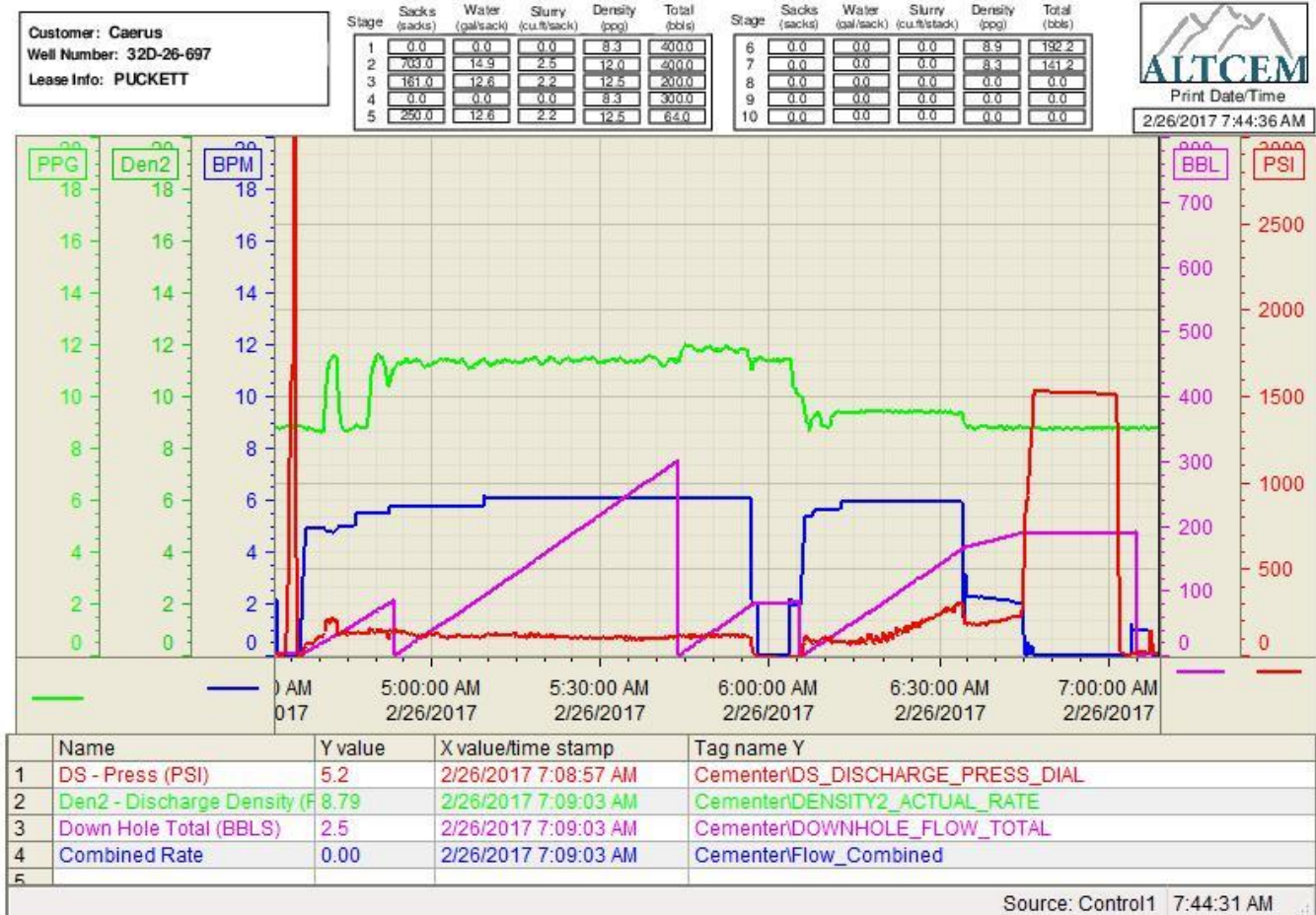
24	Pump Calcium Chloride	2/26/2017	01:08	8.33		6		Pump 6 % calcium chloride and ASF-10 before stating top out
25	Pump Top Out	2/26/2017	13:08	12.5		79		Mix up and pump 200 sks of ALTCem S100-12 top out cement at 12.5 ppg, 2.22 yield, 12.58 gal/sk
26	Shutdown	2/26/2017	14:19					Shutdown got cement to surface. 2 bbls of cement to surface.
27	Safety Meeting	2/26/2017	14:25					BJ crew talked about the hazards of rigging down
28	Rig Down	2/26/2017	14:45					Rig Down
29	Depart Location	2/26/2017	17:29					Depart location
30	Other	2/26/2017	17:30					Never had returns Pump 200 sks of top out to get it to surface

### 3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	70 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	100 mg/L	0-3000 mg/L
Total Alkalinity	180	0-1000
Total Hardness	250 mg/L	0-500 mg/L
Carbonates	140 mg/L	0-100 mg/L
Sulfates	<200 mg/L	0-1500 mg/L
Potassium	250 mg/L	0-3000 mg/L
Iron	0.15 mg/L	0-300 mg/L

### 4 Pump Diagrams

Job Chart







Top Out

