

# Cement Post Job Report

**Caerus**

**1001 17th Street, Suite 1600  
Denver, CO 80202**

**Puckett 32A-23**

**05-045-23284**

**S:23 T:6S R:97W**

**Garfield, CO**

**Prepared For:**

**Mr. Steve Schmitz**

**sschmitz@caerusoilandgas.com**

**(720) 880-6412**

**Job Completion Data:**

**10/2/2016**

**CallSheet #: 300**

**Proposal #: 12566**

**Submitted by:**

**Zen Keith**

**(307) 757-7178**

**zenkeith@altcem.com**





Dear Mr. Schmitz,

Thank you for the opportunity to provide cementing services on this well. ALTCem strives to achieve complete customer satisfaction. If you have any questions regarding the services or data provided, please contact ALTCem at any time.

Sincerely,

Zen Keith

**Field Office**

**1716 East Allison Rd., Cheyenne WY, 82007**  
**Phone: (307) 638-5585**

**Sales Office**

**475 17<sup>th</sup> St. Suite 460 Denver Co., 80202**  
**Phone: (303) 296-1158**



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## Job Details & Summary

### 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	2496.01	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	2534.05	0
Casing	Outer	20	19.5	53	n/a	0	100	0

### Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Employee #2	Mileage
Field Bin	604				786
Bulk Trailer	506	204	Moore, Mike		786
Bulk Trailer	507	213	Poole, Alex	Steinmetz, Christopher	786
Plug Container	150521				
Cement Pump	103	203	Montoya, Hector		786
Cement Chemical	401	205	Hall, Roland		786
Plug Container	150519				

### Timing

Event	Date/Time
Call Out	10/2/2016 04:00
Depart Facility	10/2/2016 04:30
On Location	10/2/2016 05:30
Rig Up Iron	10/2/2016 08:00
Job Started	10/2/2016 13:00
Job Completed	10/2/2016 20:30
Rig Down Iron	10/2/2016 21:45
Depart Location	10/2/2016 22:15

### General Job Information

Metrics	Value
Well Fluid Density	9.5 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	190 bbls
Rig Circulation Time	1 hours
Calculated Displacement	189.46 bbls
Actual Displacement	191 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	Yes
Top Out Volume	31 bbls

### Well Fluid Details

Metrics	Value
Plastic Viscosity	80
Yield Point	22
10 sec. SGS	10
10 min. SGS	26
30 min. SGS	49
Filtrate	1.18
Flow Line Temp.	105

### Job Details

Metrics	Value
Flare Prior to Job	No
Flare During Job	No
Flare at End of Job	No
Well Full Prior to Job	Yes
Well Fluid Density Into Well	9.5 lb/gal
Well Fluid Density Out of Well	9.5 lb/gal

### Job Details (cont.)

Metrics	Value
BHCT	94 °F
BHST	128 °F



## Circulation

Lost Circulation Experienced	Losses into Spacer	Losses into Cement	Losses into Displacement
Yes	0	0	0

## Circulation Details:

No Returns during job

## Job Execution Information

Job	Fluid	Product	Function	Density (lb/gal)	Yield (ft³/sk)	Water Rq. (gal/sk)	Water Rq. (gal/bbl)	Volume (sk)	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	2.52	14.80		704.00	316.16	0
1	5	ALTCem S100-12	Tail	12.50	2.22	12.53		162.00	64.03	1966
1	6	Water	DisplacementFinal	8.33			42.00		187.00	0
1	7	ALTCem S100-12	Topout	12.50	2.22	12.53		80.00	98.81	0

## Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom	Start (gal)	End (gal)	Used (gal)
1	2	Flush	Sodium Silicate	ASF-10	Extender	21.00	gal/bbl			0
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-20	Defoamer	0.03	gal/sk	8	8	0
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-20	Defoamer	0.03	gal/sk	4	4	0
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	7	Topout	ALTCem S100-12	AC3-10	Cement	100.00	%			
1	7	Topout	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk			
1	7	Topout	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB			
1	7	Topout	ALTCem S100-12	ADF-20	Defoamer	0.03	gal/sk	2	2	0
1	7	Topout	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk			
1	7	Topout	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk			
1	7	Topout	ALTCem S100-12	ASF-10	Accelerator	8.50	gal/bbl	80	80	0



## Job Logs

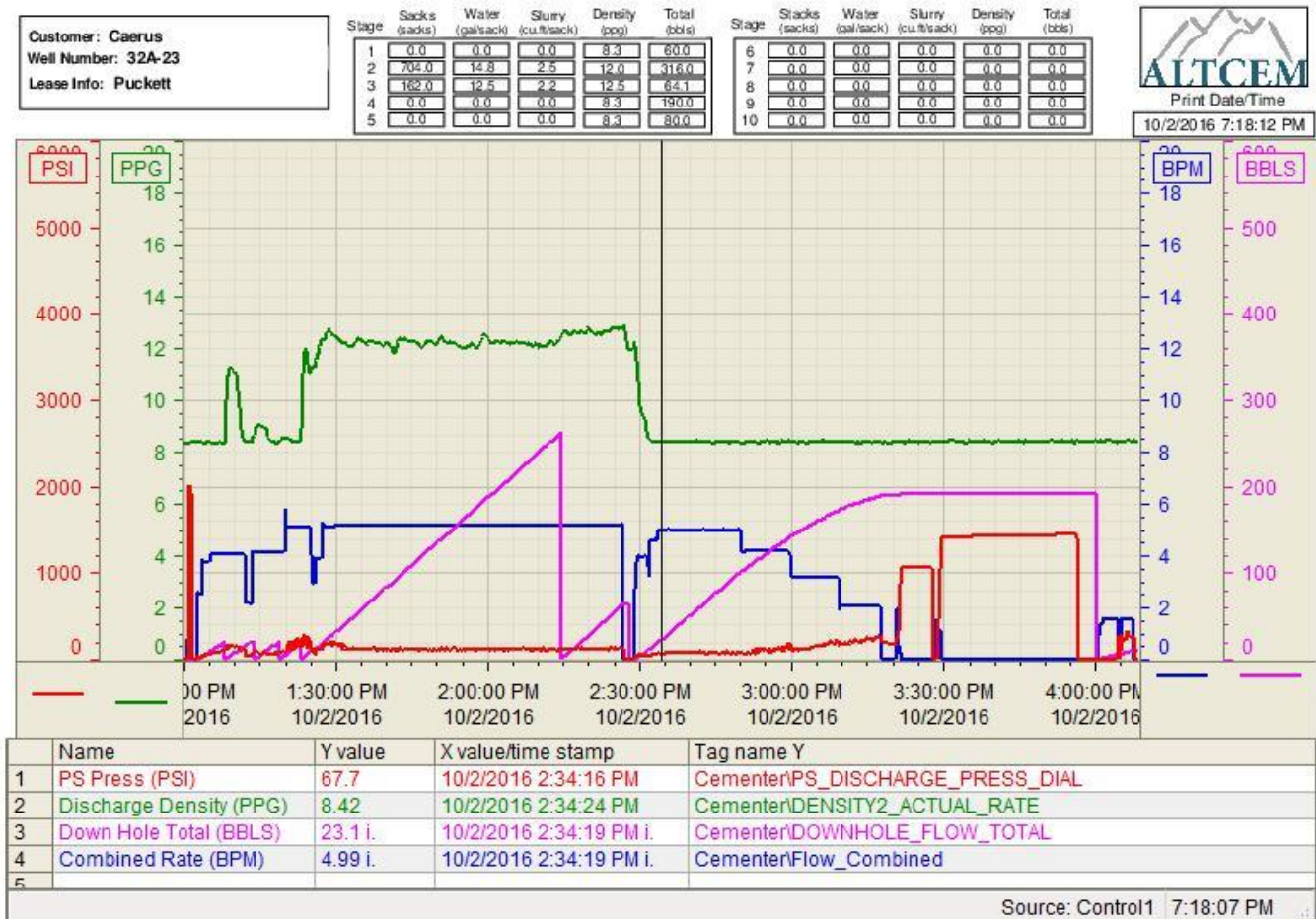
Line	#	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Annular Pressure (psi)	Comment
1		Call out	10/2/2016	04:00						Call out
2		Arrive to LOC.	10/2/2016	05:30						Arrive to location
3		Safety meeting	10/2/2016	06:00						Safety meeting
4		Rig up	10/2/2016	08:00						Rig up iron
5		Wait	10/2/2016	12:30						Wait on rig to run casing
6		Safety meeting	10/2/2016	13:00						Safety meeting with the rig crew
7		Fill lines	10/2/2016	13:04						Pump 2bbls water to fill lines
8		Test lines	10/2/2016	13:06				3000		Test lines to 3000 psi
9		Pump water	10/2/2016	13:12	8.33	4	20	100		Pump 20 bbls fresh water
10		Pump sodium silicate	10/2/2016	13:23	8.33	5	20	200		Pump 20 bbls 50/50 sodium silicate water
11		Pump water	10/2/2016	13:27	8.33	5	20	400		Pump 20 bbls fresh water
12		Pump lead cement	10/2/2016	14:17	12	5	315	300		Mix 704 sks Lead cement @ 12.00# (Yield 2.52, water 14.80 gals/sk) Calculated top is at 271'
13		pump tail cement	10/2/2016	14:30	12.5	5	64	250		Mix 162 sks Tail cement @ 12.50# (Yield 2.22, water 12.53 gals/sk) Calculated top is at 1965.54'
14		Shut down	10/2/2016	14:31						Shut down
15		Drop plug	10/2/2016	14:33						Drop top plug and wash up on top of the plug
16		Pump displacement	10/2/2016	15:25	8.33	5	191	450		Pump 191bbls fresh water displacement
17		Land plug	10/2/2016	15:26						Landed the plug at 450 psi and bumped it to 1000 psi
18		Check floats	10/2/2016	15:31						Floats held 1 bbl back to the truck
19		Pressure test casing	10/2/2016	16:01				1500		Performed a 30 min. casing test to 1500psi
20		Pump sugar water	10/2/2016	16:15						Pumped 10bbls sugar water down the parasite line
21		Wait	10/2/2016	19:30						Wait 4hrs to do the top job
22		Top out	10/2/2016	20:30	12.5	4	31	0		Mix 80 sks top out cement @12.50# (Yield 2.22, Water 12.53gals/sk) Top of cement is at surface
23		Safety meeting	10/2/2016	20:45						Rig down safety meeting
24		Rig down	10/2/2016	21:30						Rig down
25		Leave location	10/2/2016	22:15						Leave location

## Water Analysis

Metrics	Value	Recommended
Water Source	None	
Temperature	70 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	1.2 mg/L	0-3000 mg/L
Total Alkalinity	240	0-1000
Total Hardness	7.4 mg/L	0-500 mg/L
Carbonates	12 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

## Pump Diagrams

### Job Chart



Top Out

