

Cement Post Job Report

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

Puckett 32C-23
05-045-14860
S:23 T:6S R:97W
Garfield, CO

Prepared For:

Mr. Steve Schmitz
sschmitz@caerusoilandgas.com
(720) 880-6412

Job Completion Data:

10/13/2016
CallSheet #: 316
Proposal #: 12585

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 17th 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	2529	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	2535	0
Casing	Outer	20	19.5	53	n/a	0	100	0

Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Mileage
Cement Pump	101	201	Draney, Chance	780
Cement Chemical	401	205	Johnson, Chad	780
Bulk Trailer	507	204	Kresge, Adam	780
Bulk Trailer	506	222	Orner, Lance	780
Field Bin	604			
Plug Container	150519			

Timing

Event	Date/Time
Call Out	10/13/2016 12:00
Depart Facility	10/13/2016 16:00
On Location	10/13/2016 18:00
Rig Up Iron	10/13/2016 18:20
Job Started	10/13/2016 22:00
Job Completed	10/14/2016 06:00
Rig Down Iron	10/14/2016 06:15
Depart Location	10/14/2016 08:30

General Job Information

Metrics	Value
Well Fluid Density	9.2 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	334 bbls
Rig Circulation Time	1.5 hours
Calculated Displacement	192 bbls
Actual Displacement	192 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	Yes
Top Out Volume	29 bbls

Well Fluid Details

Metrics	Value
Plastic Viscosity	25
Yield Point	20
10 sec. SGS	12
10 min. SGS	33
30 min. SGS	47
Filtrate	11.6
Flow Line Temp.	90

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	9.2 lb/gal
Well Fluid Density Out of Well	9.2 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	295	0

Circulation Details:

No returns during job until 292 bbls lead cement away. At 295 bbls away in lead returns stopped. Regained returns at 24 bbls away in tail cement. Returns stopped at 42 bbls away in tail cement. And no returns for remainder of 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	2000
1	6	Water	DisplacementFinal	8.33			42.00		187.00	0
1	7	ALTCem S100-12	Topout	12.50	2.22	12.53		74.00	29.00	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	21.1	4.1	17
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	4.1	0	4
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	0.1	0.1	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			



Job Logs

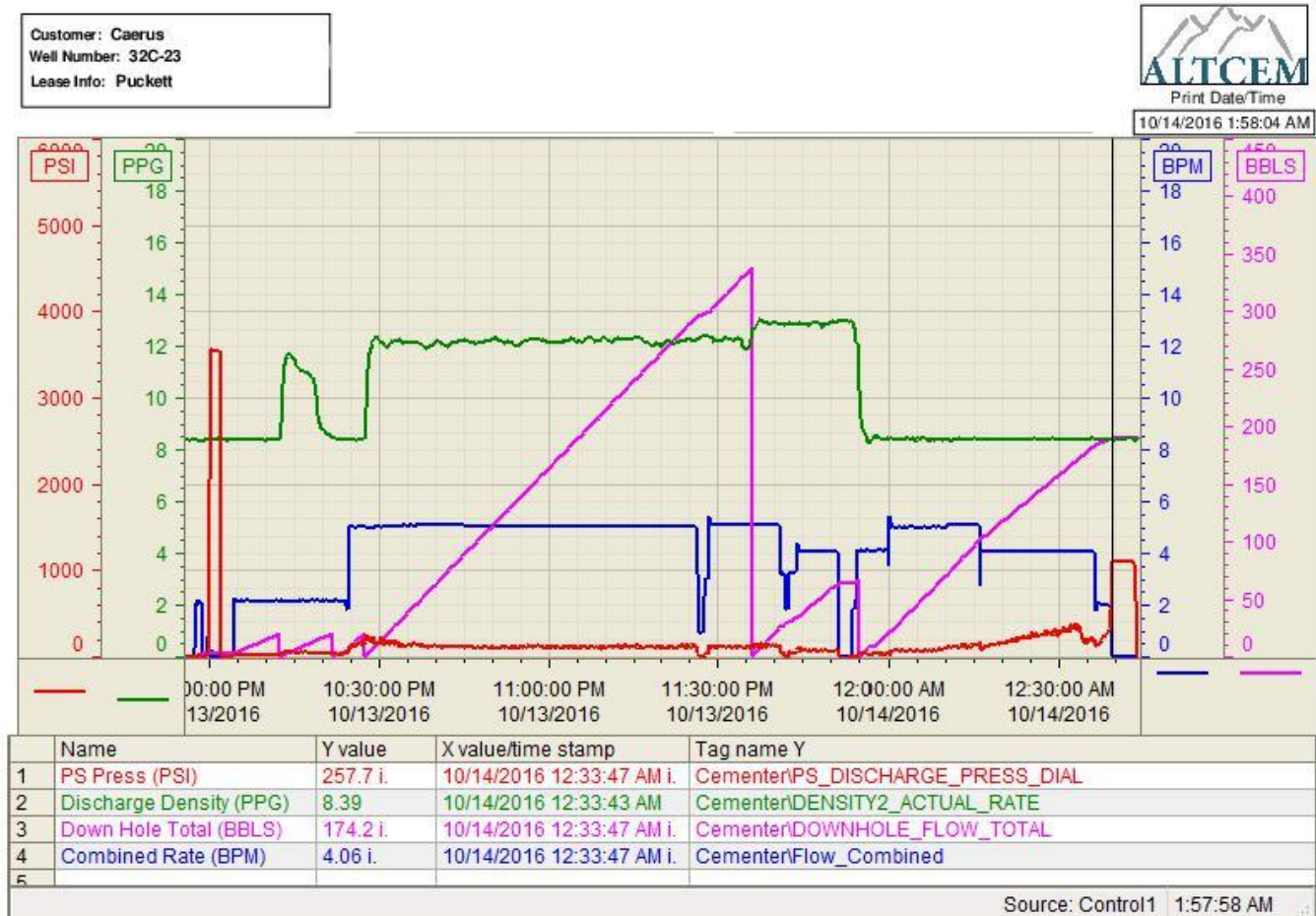
Line	#	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Annular Pressure (psi)	Comment
1		Callout	10/13/2016	12:00						Crew called out for job
2		Arrive On Location	10/13/2016	18:00						Arrive on location received all required job info from company rep. (TP: 2529.4, SJ: 44.71, MW: 9.25 ppg)
3		Safety Meeting	10/13/2016	18:10						Pre rig up safety meeting
4		Rig Up Iron	10/13/2016	18:20						Crew spotted and rigged up all iron and equipment.
5		Waiting	10/13/2016	19:00						Crew waiting on rig to finish running casing and circulate well. Casing on bottom at 20:00 rig circulated at 3.7 bpm for 90 mins.
6		Safety Meeting	10/13/2016	21:30						Pre job safety meeting
7	1	Fill Lines	10/13/2016	22:01	8.33	2	2	20		Fill lines with 2 bbls fresh water
8		Pressure Test Lines	10/13/2016	22:03						Pressure test line to 3000 psi
9	2	Pump Spacer 1	10/13/2016	22:08	8.33	2	20	20		Pump 20 bbls water spacer
10	3	Pump Spacer 2	10/13/2016	22:17	10	2	20	20		Pump 20 bbls SMS spacer
11	4	Pump Spacer 3	10/13/2016	22:26	8.33	5	20	20		Pump 20 bbls water spacer
12	5	Pump Lead Cement	10/13/2016	22:31	12	5	316	300		Pump 316 bbls lead cement @ 12 ppg (704 sks, 2.52 Y, 14.8 gal/sk)
13	6	Pump Tail Cement	10/13/2016	23:40	12.5	5	64	150		Pump 64 bbls tail cement @ 12.5 ppg (162 sks, 2.22 Y, 12.53 gal/sk)
14		Shutdown	10/13/2016	23:55						Shutdown
15		Drop Top Plug	10/13/2016	23:56						Drop top plug
16	7	Pump Displacement	10/13/2016	23:57	8.33	5	100	200		Pump 192 bbls fresh water displacement
17		Slow Pump Rate	10/14/2016	00:20	8.33	4	82	400		Slow pump rate to 4 bpm at 100 bbls away
18		Slow Pump Rate	10/14/2016	00:40	8.33	2	10	250		Slow pump rate to 2 bpm at 182 bbls away
19		Land Plug	10/14/2016	00:43		2		400		Land plug at 400 psi took to 1000 psi
20		Check Floats	10/14/2016	00:47						Check floats floats holding 1 bbls back
21		Other	10/14/2016	00:50				1500		Casing pressure test at 1500 psi for 30 mins
22		Other	10/14/2016	01:00						Wait 4 hrs from plug landing and start topping out well
23		Other	10/14/2016	01:30						Pump 10 bbls sugar water down parasite line
24		Pump top out	10/14/2016	05:00	12.5	2	29	0		Pumped a total of 29 bbls top out cement @ 12.5 ppg. (74 sks, 2.22Y, 12.53 gal/sk)
25		Shutdown	10/14/2016	05:20						Shutdown cement to surface
26		Pump top out	10/14/2016	05:50						Pump top out to verify well was topped out. Pumped 0.25 bbls, cement to surface
27		Safety Meeting	10/14/2016	06:00						Pre rig down safety meeting.
28		Rig Down Iron	10/14/2016	06:15						Crew rigged down all equipment
29		Depart Location	10/14/2016	08:30						Crew departed location.

Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	62 °F	50-80 °F
pH Level	6	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	40	0-1000
Total Hardness	250 mg/L	0-500 mg/L
Carbonates	70 mg/L	0-100 mg/L
Sulfates	<200 mg/L	0-1500 mg/L
Potassium	0 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

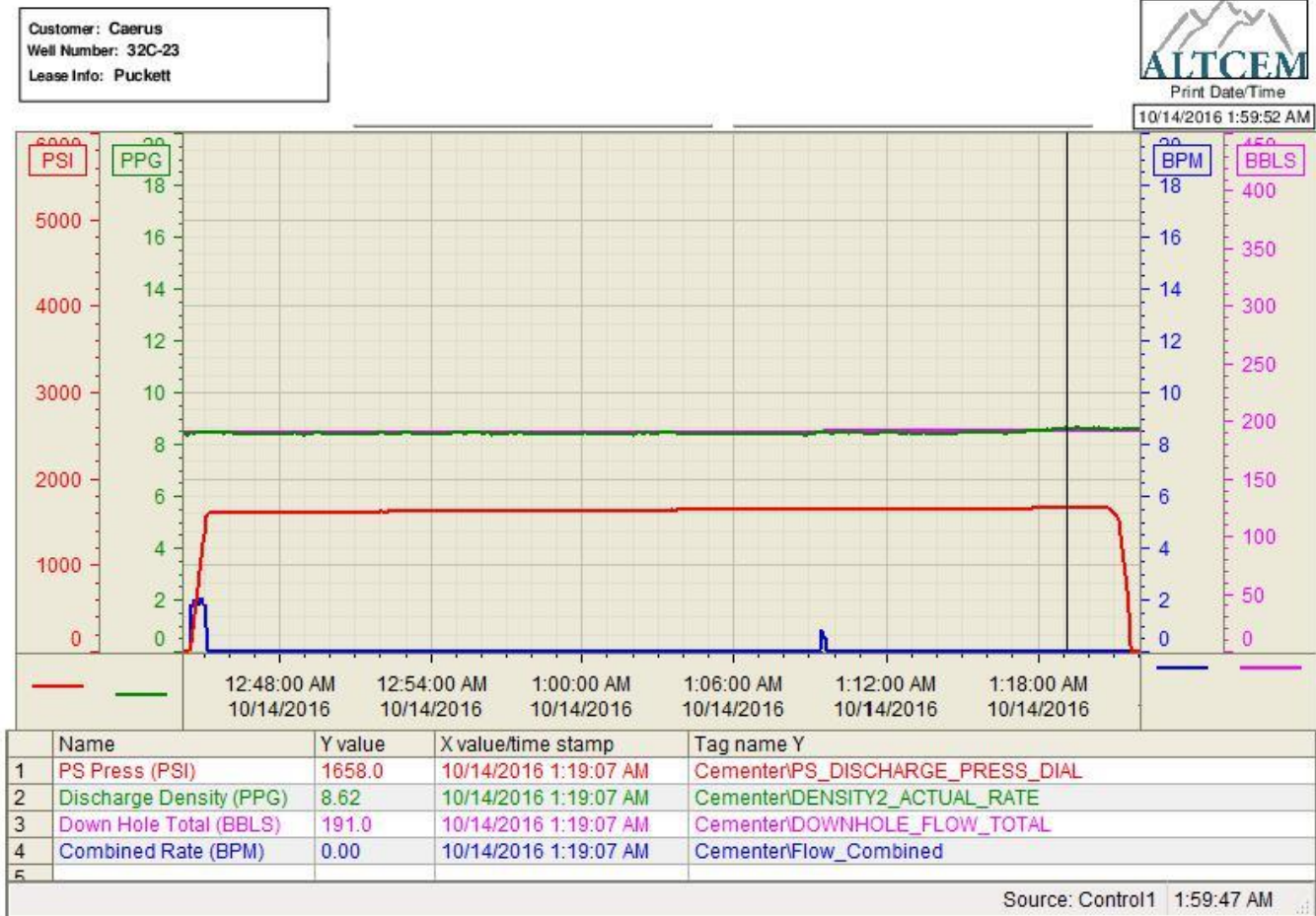
Pump Diagrams

Job Chart





Casing Test





Top Out

Customer: Caerus
Well Number: 32C-23
Lease Info: Puckett



Print Date/Time

10/14/2016 6:10:12 AM



	Name	Y value	X value/time stamp	Tag name Y
1	PS Press (PSI)	8.7	10/14/2016 5:50:35 AM	CementeriPS_DISCHARGE_PRESS_DIAL
2	Den - Recirc Density (PPG)	12.67 i.	10/14/2016 5:50:36 AM i.	CementeriDENSITY_ACTUAL_RATE
3	Down Hole Total (BBLs)	0.0 i.	10/14/2016 5:50:36 AM i.	CementeriDOWNHOLE_FLOW_TOTAL
4	Combined Rate (BPM)	0.00 i.	10/14/2016 5:50:36 AM i.	CementeriFlow_Combined
5				

Source: Control1 6:10:06 AM