

Cement Post Job Report

Caerus
600 17th Street Suite 1600N
Denver, CO 80202

Savage 8A-794
05-045-23079
S:8 T:7S R:94W
Garfield, CO

Prepared For:

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

Job Completion Data:

5/20/2016
CallSheet #: 146
Proposal #: 12196

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	Outer	16	15.25	65	n/a	0	90	0
Open Hole	Outer	n/a	13.5	n/a	n/a	90	2000	7
Open Hole	Outer	n/a	13.5	n/a	n/a	2000	2525	0
Casing	Inner	9.625	8.921	36	LTC	0	2501	0

Equipment / People

Unit Type	Unit	Power Unit	Employee #1
Cement Pump	102	202	Casciato, Luke
Cement Chemical	401	202	
Bulk Trailer	599	206	Davis, Rod
Field Bin	601		
Bulk Trailer	502	204	Montoya, Hector
Light Duty Pickups	4		Acuna, Roger

Timing

Event	Date/Time
Call Out	5/19/2016 22:00
Depart Facility	5/19/2016 23:00
On Location	5/20/2016 00:00
Rig Up Iron	5/20/2016 00:30
Job Started	5/20/2016 02:51
Job Completed	5/20/2016 05:35
Rig Down Iron	5/20/2016 06:00
Depart Location	5/20/2016 07:30

General Job Information

Metrics	Value
Well Fluid Density	9.4 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	240 bbls
Rig Circulation Time	12/30/1899 12:30:00 AM hours
Calculated Displacement	189.6 bbls
Actual Displacement	189.6 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	90 bbls
Well Topped Out	No
Top Out Volume	0 bbls

Well Fluid Details

Metrics	Value
Plastic Viscosity	9
Yield Point	4
10 sec. SGS	1
10 min. SGS	5
Flow Line Temp.	81

Job Details

Metrics	Value
Flare Prior to Job	No
Flare Prior to Job	0 units
Flare During Job	No
Flare During Job	0 units
Flare at End of Job	No
Flare at End of Job	0 units
Well Full Prior to Job	Yes
Well Fluid Density Into Well	9.4 lb/gal
Well Fluid Density Out of Well	9.4 lb/gal

Job Details (cont.)

Metrics	Value
BHCT	100 °F
BHST	129 °F



Circulation

Lost Circulation Experienced	Losses into Spacer	Losses into Cement	Losses into Displacement
No	NA	NA	NA

Job Execution Information

Job	Fluid	Product	Function	Density (lb/gal)	Yield (ft ³ /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	ALTCem S100-12	Lead	12.00	2.52	14.80		424.00	190.42	0
1	3	ALTCem S100-12	Tail	12.50	2.22	12.53		118.00	46.64	2007
1	4	Water	DisplacementFinal	8.33			42.00		189.60	0

Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom	Start (gal)	End (gal)	Used (gal)
1	2	Lead	ALTCem S100-12	AC3-10	Cement	100.00	%			
1	2	Lead	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk			
1	2	Lead	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB			
1	2	Lead	ALTCem S100-12	ADF-20	Defoamer	0.03	gal/sk	5	0	5
1	2	Lead	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk			
1	2	Lead	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk			
1	3	Tail	ALTCem S100-12	AC3-10	Cement	100.00	%			
1	3	Tail	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk			
1	3	Tail	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB			
1	3	Tail	ALTCem S100-12	ADF-20	Defoamer	0.03	gal/sk	2	0	2
1	3	Tail	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk			
1	3	Tail	ALTCem S100-12	AXE-30	Extender	2.00	lb/sk			



Job Logs

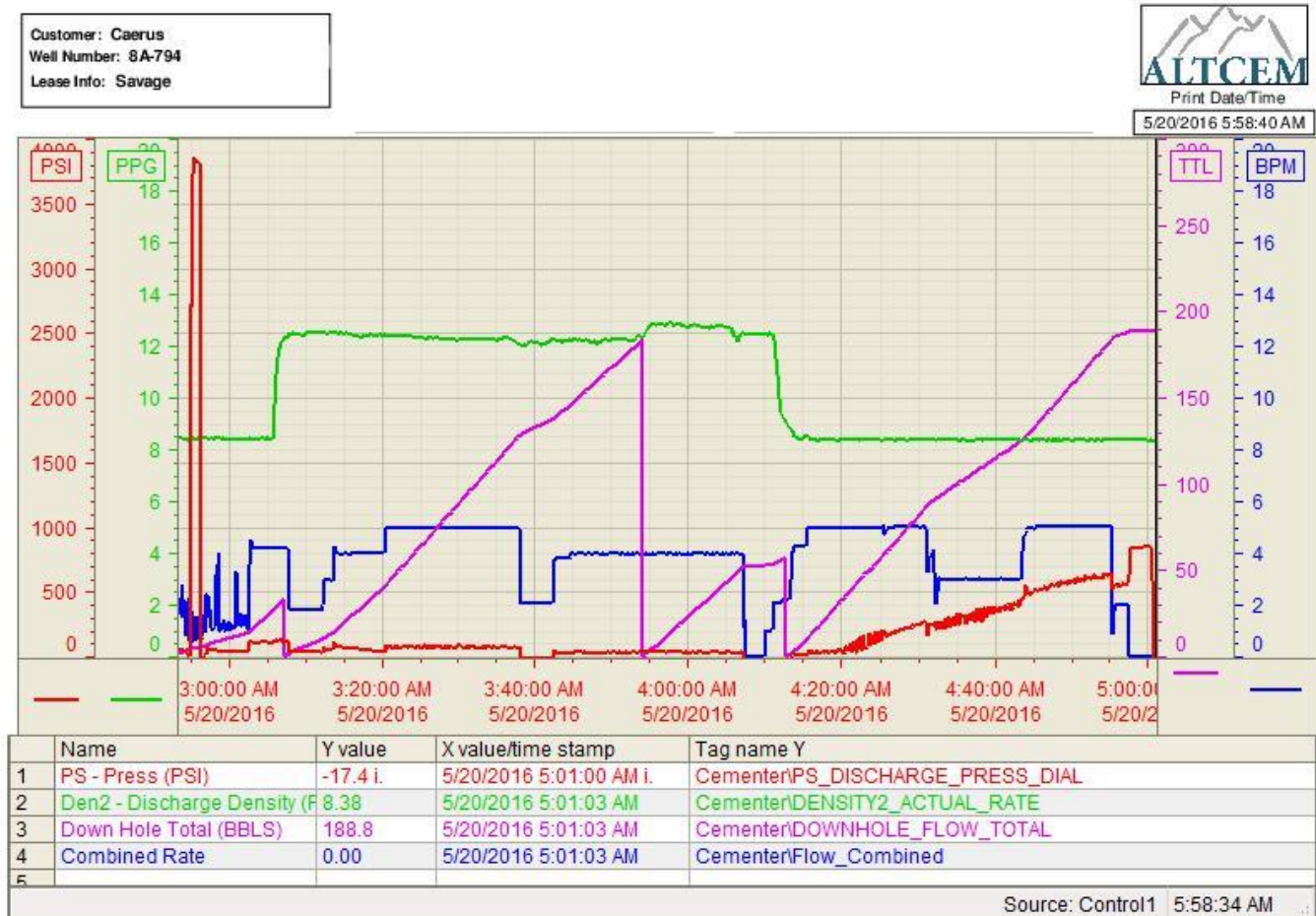
Line	#	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Annular Pressure (psi)	Comment
1		Called Out	5/19/2016	22:00						Called out to be on location @ 00:00
2		Depart	5/19/2016	23:00						Depart Hotel
3		Arrived to Location	5/20/2016	00:00						Arrived to location, checked in with company man, OH 13.5" 2525', CSG 9.625" 36ppf J-55 2501', SJ 48'
4		Safety Meeting	5/20/2016	00:15						Pre rig up safety meeting
5		Rig up Iron	5/20/2016	00:30						Rig up iron
6		Waiting	5/20/2016	00:45						Waiting for the rig to finish running casing
7		On Bottom	5/20/2016	01:50	9.8	8	240	244		Casing on bottom rig circulating 8bpm 244psi
8		Safety Meeting	5/20/2016	02:00						Pre job safety meeting
9		Start Job	5/20/2016	02:51						Start Job
10		Fill Lines	5/20/2016	05:52	8.33	1	2	45		Fill Lines 2 bbls fresh water
11		Test Lines	5/20/2016	02:54	8.33			3800		Test Lines to 3800 psi, test good
12		Pump Spacer	5/20/2016	02:56	8.33	4	20	170		Pump 20bbls Fresh Water, First 10bbls Dyed
13		Pump Lead CMT	5/20/2016	03:06	12	5	190	160		Pump 190bbls lead cement, 424sks 12ppg 2.53cuft/ft 14.80gps, calc. to surface
14		Pump Tail CMT	5/20/2016	03:55	12.5	5	47	60		Pump 47bbls tail cement, 118sks 12.5ppg 2.22cuft/ft 12.53gps, Calc. top 2007'
15		Shutdown	5/20/2016	04:07						Shutdown, wash on top of plug
16		Drop Top Plug	5/20/2016	04:13						Drop top plug, Wire indicated that plug left
17		Displacement	5/20/2016	04:14	8.33	5		75		Displacement calculated 190bbls fresh water
18		Caught Cement	5/20/2016	04:22	8.33	5	26	200		Caught cement 26bbls into displacement
19		Slow Rate	5/20/2016	04:30	8.33	3	80	400		Slow rate celler pump wasn't keeping up
20		Cement to Surface	5/20/2016	04:37	8.33	3	100	350		Got 90 bbls Cement to Surface, Calculated 15bbls
21		Pick Rate Up	5/20/2016	04:40	8.33	5	110	420		Pick rate back up to 5bpm well was getting tight
22		Slow Rate	5/20/2016	04:55	8.33	2	170	700		Slow rate to land plug
23		Land Plug	5/20/2016	05:01	8.33	2	187	500		Land plug, 500psi brought to 850psi held for 3 min. Total pumped 187psi
24		Check Floats	5/20/2016	05:04						Checked floats, floats held getting 1bbl back to the pump
25		Casing Test	5/20/2016	05:05	8.33			1500		1500psi Casing test for 30min. Test good
26		End Job	5/20/2016	05:35						End job, Job went good
27		Safety Meeting	5/20/2016	05:45						Pre rig down safety meeting
28		Rig Down Iron	5/20/2016	06:00						Rig down iron
29		Depart Location	5/20/2016	07:30						Depart location
30			5/20/2016	00:00						

Water Analysis

Metrics	Value	Recommended
Water Source	Rig Tank	
Temperature	65° °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	Below 302 mg/L mg/L	0-3000 mg/L
Total Alkalinity	80	0-1000
Total Hardness	250 mg/L mg/L	0-500 mg/L
Carbonates	70 mg/L mg/L	0-100 mg/L
Sulfates	Below 200 mg/L 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

