COGCC Doc #2597270

Caerus
SURFACE POST JOB REPORT

Puckett 22B-26-697 05-045-23371
S:26 T:6S R:97W GARFIELD CO

1/13/2017
CallSheet #: 454
Proposal #: 12787

SURFACE Post Job Report

Attention: Mr. Steve Schmitz | (720) 880-6412 | sschmitz@caerusoilandgas.com
Caerus
1001 17th Street, Suite 1600 | Denver, CO 80202
1/13/2017

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 Phone: (307) 638-5585
Sales Office	475 17th St. Suite 460 Denver Co., 80202 Phone: (303) 296-1158

Table of Contents

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	2505	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	2520	0
Casing	Outer	20	19.5	53	n/a	0	100	0

1.2 Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Mileage
Cement Chemical	401	211	Havel, Casey	660
Cement Pump	105		Montoya, Hector	660
Bulk Trailer	504	212	Jimenez, Edgar	660
Bulk Trailer	509	221	Nepgen, AJ	660
Light Duty Pickups	3		Hall, Roland	660
Plug Container	150519			660
Swage	150539			660
Pneumatic Trailer	703			660

1.3 Timing

Event	Date/Time
Call Out	1/12/2017 22:00
Depart Facility	1/12/2017 22:00
On Location	1/12/2017 23:00
Rig Up Iron	1/13/2017 01:00
Job Started	1/13/2017 06:18
Job Completed	1/13/2017 23:01
Rig Down Iron	1/14/2017 01:00
Depart Location	1/14/2017 01:30

1.5 General Job Information

Metrics	Value
Well Fluid Density	9.1 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	190 bbls
Rig Circulation Time	0.5 hours
Calculated Displacement	190 bbls
Actual Displacement	189 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	4 bbls
Well Topped Out	Yes
Top Out Volume	217.46 bbls

1.6 Well Fluid Details

Metrics	Value
Plastic Viscosity	75
Yield Point	31
10 sec. SGS	24
10 min. SGS	34
30 min. SGS	41
Filtrate	3
Flow Line Temp.	46

1.7 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	9.1 lb/gal
Well Fluid Density Out of Well	- lb/gal

1.8 Job Details (cont.)

Metrics	Value
BHCT	94 °F
BHST	128 °F

1.9 Circulation

Lost Circulation Experienced
Yes

Circulation Details:

We did not have returns at anytime during the job

1.10 Job Execution Information

Job	Fluid	Product	Function	Density (lb/gal)	Yield (ft^3/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	DisplacementFinal	8.33			42.00		187.00	0
1	7	ALTCem S100-12	Topout	12.50	2.22	12.58		550.00	134.64	0

1.11 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	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-11	Defoamer	0.30	%BWOB
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

2 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	1/12/2017	22:00						Call out
2		Arrive on location	1/12/2017	23:00						Arrive on location
3		Safety meeting	1/12/2017	23:30						Safety meeting to rig up iron
4		Rig up	1/13/2017	01:00						Rig up iron
5		Wait	1/13/2017	04:30						Wait for casing to be ran
6		Safety meeting	1/13/2017	05:00						Safety meeting with the rig crew
7		Rig up	1/13/2017	06:13						Rig up, prime up trucks, load chemicals on truck
8		Fill lines	1/13/2017	06:18	8.33	2	10	20		Pump 10 bbls water to fill and warm up lines
9		Test lines	1/13/2017	06:21				2000		Test lines to 2000psi
10		Pump water	1/13/2017	06:30	8.33	2	10	20		Pump 10 bbls water
11		Pump sodium silicate	1/13/2017	06:40	9.8	5	20	60		Pump 50/50 sodium silicate
12		Pump water	1/13/2017	06:44	8.33	5	20	70		Pump 20 bbls water
13		Pump lead cement	1/13/2017	07:56	12	5	316.76	100		Pumped 316.76 bbls lead cement @ 12.0ppg (703sks, 2.53 yield, 14.85 gals/sk) Calculated top of cement is to surface
14		Pump tail cement	1/13/2017	08:12	12.5	5	63.65	100		Pumped 63.65 bbls tail cement @ 12.5ppg (161sks,2.22 yield, 12.58 gals/sk) Calculated top of cement is at2011.35'
15		Shut down	1/13/2017	08:13						Shut down
16		Drop plug	1/13/2017	08:17						Drop plug (Washed up ontop of the plug)
17		Displace	1/13/2017	08:50	8.33	5	180	450		Pumped 180 bbls fresh water displacement
18		Slow rates	1/13/2017	09:00	8.33	2	10	100		Slow rates to 2bbl/min for the last 10 bbls
19		Land plug	1/13/2017	09:01						Landed the plug at 100 psi and bumped it to 750 psi

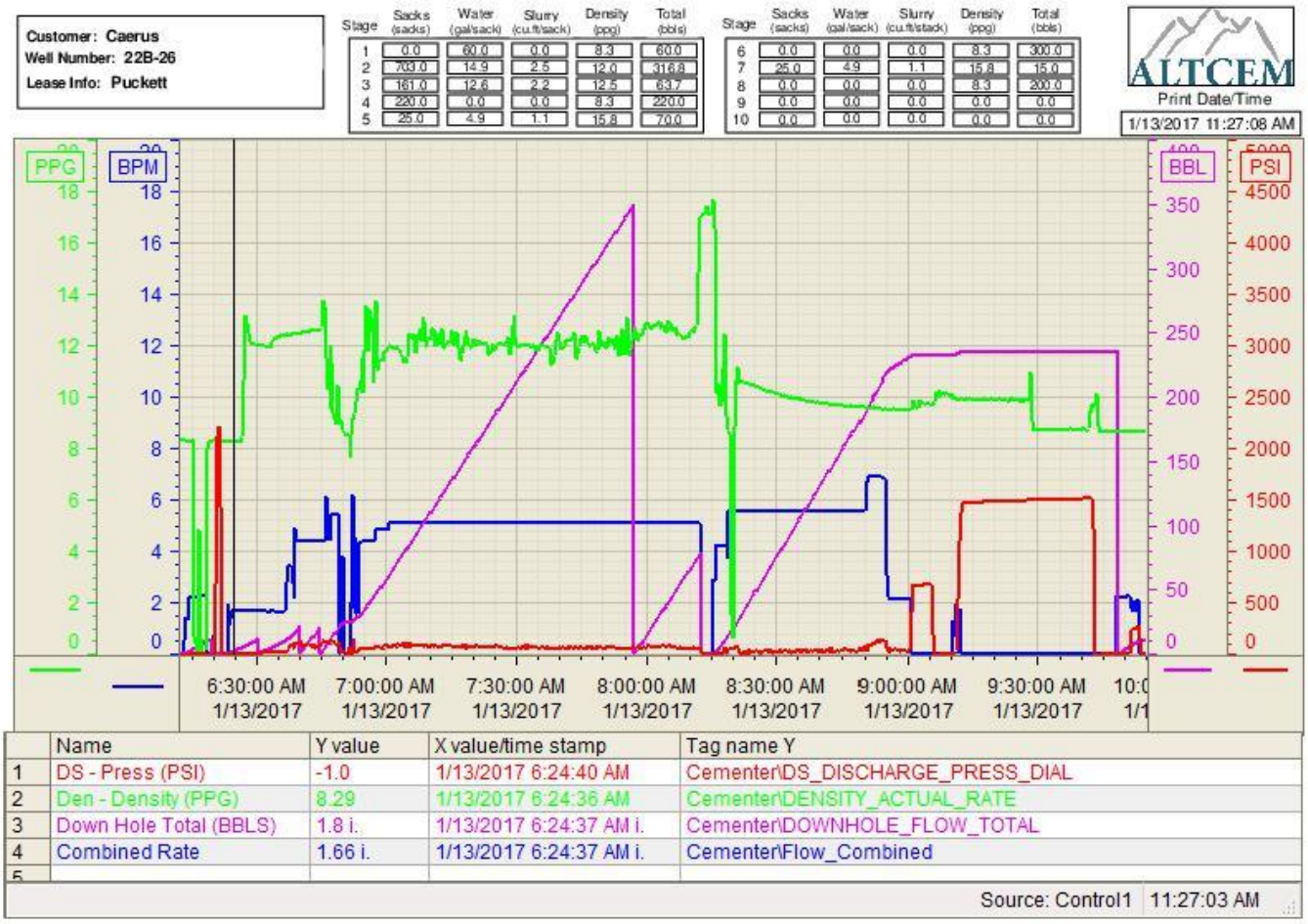
20		Check floats	1/13/2017	09:05					Checked floats got 1bbl back to the truck floats held
21		Casing test	1/13/2017	09:35			1500		Pressured up the casing to 1500psi and monitered for 30 min
22		Water	1/13/2017	09:50	8.33	2	10	1100		Pumped 10 bbls sugar water down the parasite line the check valve open at 1100psi and broke back to 300 psi
23		Wait	1/13/2017	14:26						Wait to do the top job
24		Top out	1/13/2017	16:15	12.5	2	118.61	40		Pumped 5 bbls 6% calcium chloride followed by 2 bbls fresh water than pumped 118.61 bbls top out cement at 12.5# (300 sks, 2.22 yield, 12.58 gals/sk)
25		Wait	1/13/2017	17:26						Wait to top out
26		Top out	1/13/2017	18:05	12.5	2	31.63	30		Pumped 5 bbls 7% calcium chloride followed by 2 bbls fresh water than pumped 31.63 bbls top out cement at 12.5# (80 sks, 2.22 yield, 12.58 gals/sk)
27		wait	1/13/2017	21:44						Wait to top out
28		Top out	1/13/2017	23:00	12.5	2	67.21	40		Pumped 5 bbls 10% calcium chloride followed by 2 bbls fresh water than pumped 67.21 bbls top out cement at 12.5# (170 sks, 2.22 yield, 12.58 gals/sk) we got 4 bbls cement to surface
29		End job	1/13/2017	23:01						End job
30		Safety meeting	1/13/2017	23:15						Safety meeting to rig down
31		Rig down	1/14/2016	01:00						Rig down
32		Leave location	1/14/2016	01:30						Leave location

3 Water Analysis

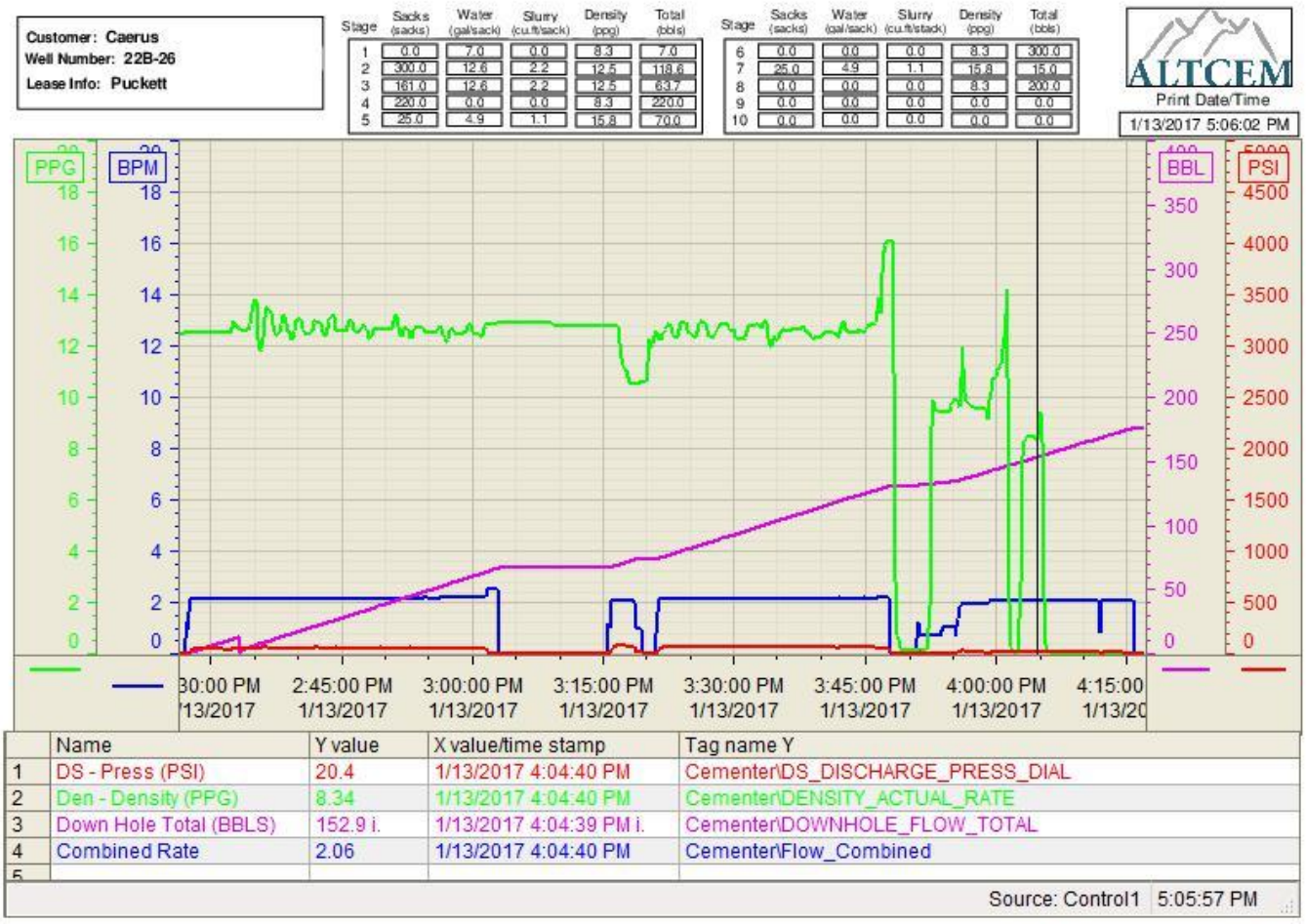
Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	80 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	180	0-1000
Total Hardness	250 mg/L	0-500 mg/L
Carbonates	215 mg/L	0-100 mg/L
Sulfates	>400 mg/L	0-1500 mg/L
Potassium	250 mg/L	0-3000 mg/L
Iron	1 mg/L	0-300 mg/L

4 Pump Diagrams

Job Chart



Top Out 1


Customer: Caerus
Well Number: 22B-26
Lease Info: Puckett
Stage Sacks (sacks) Water (gal/sack) Slurry (cu.ft/sack) Density (ppg) Total (bbls)
1 0.0 7.0 0.0 8.3 7.0
2 300.0 12.6 2.2 12.5 118.6
3 161.0 12.6 2.2 12.5 63.7
4 220.0 0.0 0.0 8.3 220.0
5 25.0 4.9 1.1 15.8 70.0
6 0.0 0.0 0.0 8.3 300.0
7 25.0 4.9 1.1 15.8 15.0
8 0.0 0.0 0.0 8.3 200.0
9 0.0 0.0 0.0 0.0 0.0
10 0.0 0.0 0.0 0.0 0.0
ALTCEM
Print Date/Time
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PPG
BPM
BBL
PSI
18
16
14
12
10
8
6
4
2
0
350
300
250
200
150
100
50
4500
4000
3500
3000
2500
2000
1500
1000
500
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3:00:00 PM 1/13/2017
3:15:00 PM 1/13/2017
3:30:00 PM 1/13/2017
3:45:00 PM 1/13/2017
4:00:00 PM 1/13/2017
4:15:00 1/13/20
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2 Den - Density (PPG) 8.34 1/13/2017 4:04:40 PM Cementer\DENSITY_ACTUAL_RATE
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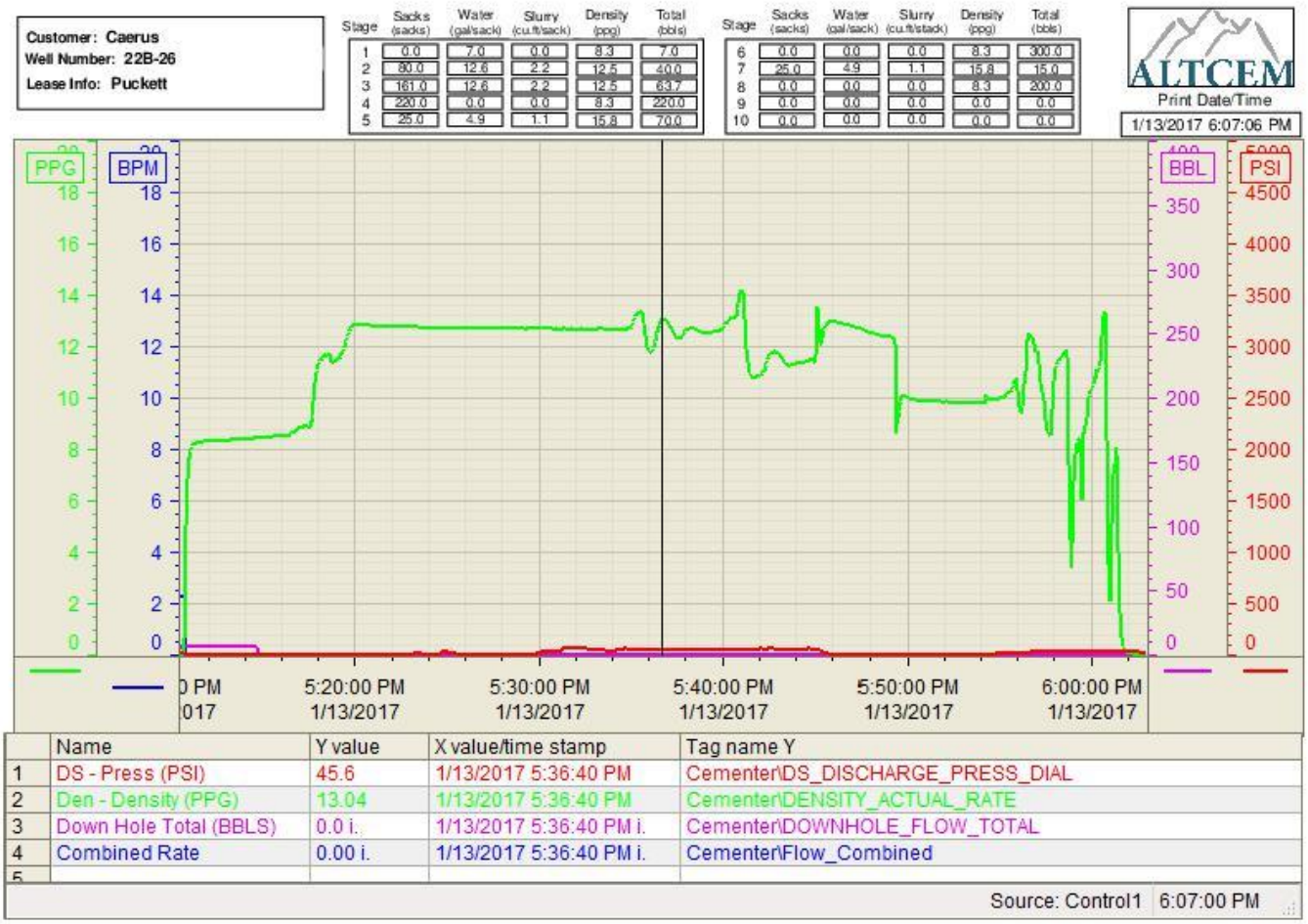
Top Out 2


Customer: Caerus
Well Number: 22B-26
Lease Info: Puckett
Stage Sacks (sacks) Water (gal/sack) Slurry (cu.ft/sack) Density (ppg) Total (bbls)
1 0.0 7.0 0.0 8.3 7.0
2 80.0 12.6 2.2 12.5 40.0
3 161.0 12.6 2.2 12.5 63.7
4 220.0 0.0 0.0 8.3 220.0
5 25.0 4.9 1.1 15.8 70.0
Stage Sacks (sacks) Water (gal/sack) Slurry (cu.ft/stack) Density (ppg) Total (bbls)
6 0.0 0.0 0.0 8.3 300.0
7 25.0 4.9 1.1 15.8 15.0
8 0.0 0.0 0.0 8.3 200.0
9 0.0 0.0 0.0 0.0 0.0
10 0.0 0.0 0.0 0.0 0.0
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PPG
BPM
BBL
PSI
5:20:00 PM 1/13/2017
5:30:00 PM 1/13/2017
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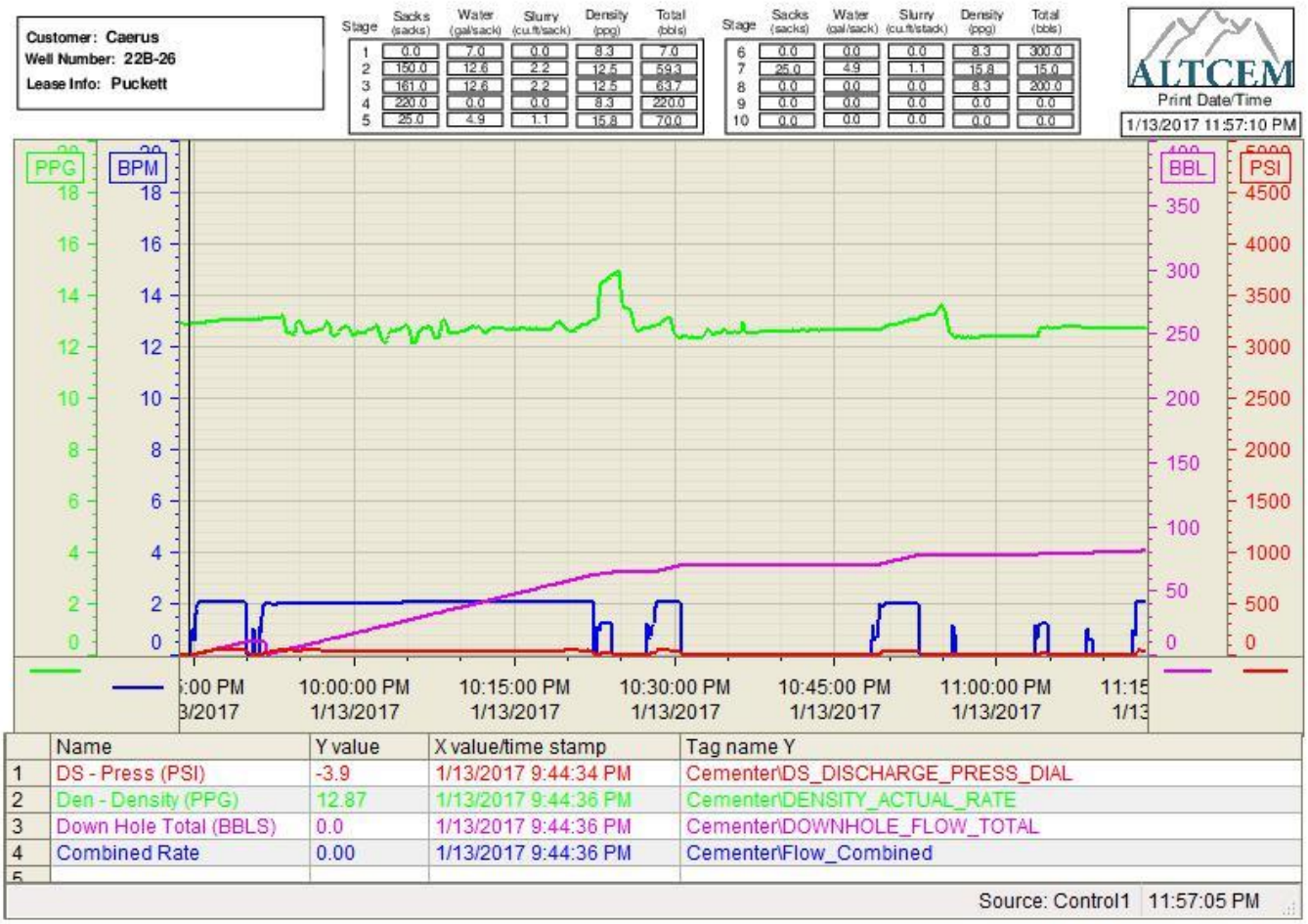
Top Out 3


Customer: Caerus
Well Number: 22B-26
Lease Info: Puckett
Stage Sacks (sacks) Water (gal/sack) Slurry (cu.ft/sack) Density (ppg) Total (bbls)
1 0.0 7.0 0.0 8.3 7.0
2 150.0 12.6 2.2 12.5 59.3
3 161.0 12.6 2.2 12.5 63.7
4 220.0 0.0 0.0 8.3 220.0
5 25.0 4.9 1.1 15.8 70.0
Stage Sacks (sacks) Water (gal/sack) Slurry (cu.ft/stack) Density (ppg) Total (bbls)
6 0.0 0.0 0.0 8.3 300.0
7 25.0 4.9 1.1 15.8 15.0
8 0.0 0.0 0.0 8.3 200.0
9 0.0 0.0 0.0 0.0 0.0
10 0.0 0.0 0.0 0.0 0.0
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PPG
BPM
BBL
PSI
10:00:00 PM 1/13/2017
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