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# Caerus

## SURFACE POST JOB REPORT

Puckett 22C-26-697 05-045-23368  
S:26 T:6S R:97W Weld CO

CallSheet #: 457  
Proposal #: 12801



**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	40	LTC	0	2525	0
Open Hole	Outer	n/a	14.75	n/a	n/a	100	2027	25
Open Hole	Outer	n/a	14.75	n/a	n/a	2027	2525	0
Casing	Outer	20	19.5	53	n/a	0	100	0

### 1.2 Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Mileage
Pneumatic Trailer	704	216		866
Bulk Trailer	509	302	Jimenez, Edgar	866
Bulk Trailer	504	211	Chaparro, Hector	866
Cement Pump	105		Boyd, Brian	866
Light Duty Pickups	4		Fuentes, Orlando	866
Plug Container	150519			866
Swage	150539			866
Cement Chemical	401	210		866

### 1.3 Timing

Event	Date/Time
Call Out	1/19/2017 05:00
Depart Facility	1/19/2017 06:00
On Location	1/19/2017 07:00
Rig Up Iron	1/19/2017 07:30
Job Started	1/19/2017 11:00
Job Completed	1/19/2017 21:00
Rig Down Iron	1/19/2017 21:30
Depart Location	1/19/2017 23:59

### 1.5 General Job Information

Metrics	Value
Well Fluid Density	9.3 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	250 bbls
Rig Circulation Time	0.5 hours
Calculated Displacement	191.9 bbls
Actual Displacement	193.5 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	Yes
Top Out Volume	161 bbls

### 1.6 Well Fluid Details

Metrics	Value
Plastic Viscosity	17
Yield Point	16
10 sec. SGS	6
10 min. SGS	16
30 min. SGS	34
Filtrate	0.08
Flow Line Temp.	63

### 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	Yes
Well Fluid Density Into Well	9.3 lb/gal
Well Fluid Density Out of Well	9.3 lb/gal

### 1.8 Job Details (cont.)

Metrics	Value
BHCT	94 °F
BHST	128 °F



## 1.9 Circulation

Lost Circulation Experienced
Yes

### Circulation Details:

Had No Returns Throught Entire Job

## 1.10 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	2027
1	6	Water	DisplacementFinal	8.33			42.00		187.00	0
1	7	ALTCem S100-12	Topout	12.50	2.22	12.58		250.00	99.00	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)	Comment
1	Pre Rig Up Meeting	1/19/2017	07:30					BJ Crew Had A Pre Rig Up Meeting
2	Rig Up	1/19/2017	07:35					Bj Crew Rigid Up Pump And Iron
3	Waiting	1/19/2017	08:00					Waiting On Rig To Run Casing
4	Casing On Bottom	1/19/2017	09:50					Rig Landed Casing On Bottom
5	Waiting	1/19/2017	10:22					Waiting On Rig To Lay Down Landing Joint
6	Safety Meeting	1/19/2017	10:30					BJ Crew Had Safety Meeting With Rig Hands And Company Man - Went Over Job Procedure
7	Pressure Test	1/19/2017	11:07				2000	Pressure Test Lines To 2000 PSI
8	Pump H2o Spacer	1/19/2017	11:11	8.33	4	20	47	Pumped 20 BBL Of Fresh Water Ahead At 4 BPM W/47 PSI
9	Pump Sodium Silicate	1/19/2017	11:16	8.33	4	20	31	Pumped 20 BBL Of Sodium Silicate At 4 BPM W/31 PSI
10	Pump Fresh Water	1/19/2017	11:21	8.33	4	20	43	Pumped 20 BBL Of Fresh Water At 4 BPM W/43 PSI
11	Pump Lead Cement	1/19/2017	11:27	12	5	316	104	Pumped 316 BBL Of Lead Cement (703 SKS 12 PPG 2.53 Yld 14.85 G/Sk) At 5 BPM W/104 PSI
12	Pump Tail Cement	1/19/2017	12:37	12.5	5	63	121	Pumped 63 BBL Of Tail Cement (161 SKS 12.5 PPG 2.22 Yld 12.58 G/Sk) At 5 BPM W/121 PSI
13	Shut Down	1/19/2017	12:51					Shut Down Pumping Cement
14	Drop Plug	1/19/2017	12:52					BJ Drops Plug - Tattle Tale Indicates Plug Is Gone
15	Start Displacement	1/19/2017	12:54	8.33	5		55	Start Pumping Displacement At 5 BPM W/ 55 PSI
16	Slow Down Rate	1/19/2017	13:18	8.33	2	170	277	At 170 BBL Away Slow Down Rate To 2 BPM W/277 PSI
17	Land Plug	1/19/2017	13:30			193.5	308	Land Plug At 193.5 BBL Away Final Circ Pressure Was 308 PSI/ Bumped Plug To 850 PSI
18	Check Floats	1/19/2017	13:36					Check Floats Got .5 BBL Back
19	Casing Test	1/19/2017	13:50	8.33			1500	Pressure Test Lines And Well To 1500 Psi For Casing Test - Test Failed Pressure Bled Off To 0 Psi
20	2nd Attempt	1/19/2017	13:59	8.33	2	2	500	2nd Attempt Casing Test Pressure leak at cement head
21	Other	1/19/2017	14:22				2000	Change Valve On Cement Head Pressure Tested Pump To 2000 PSI
22	Pump Sugar Water	1/19/2017	14:34	8.33	2		0	Pumped Sugar Water Through Parasite Line



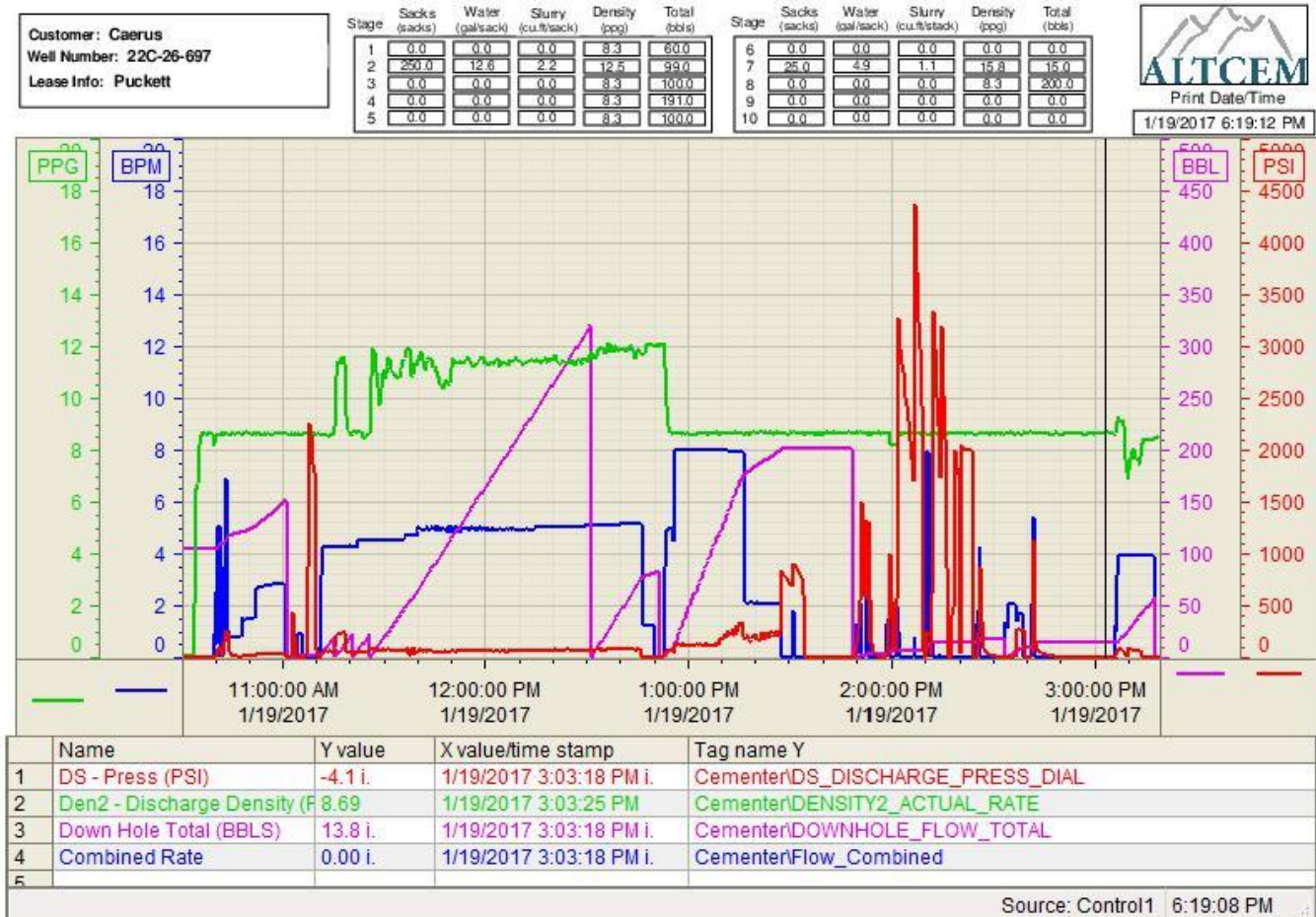
23	Opened Check Valve	1/19/2017	14:38	8.33	2	6.5	435	At 6.5 BBL Away Opened Check Valve On Parasite Line With 435 PSI At 2 BPM
24	Shut Down	1/19/2017	18:40					Shut Down Pumping - Pumped Total Of 10 BBL Of Sugar Water
25	Other	1/19/2017	14:43	8.33	3	2	555	
26	Other	1/19/2017	14:50					Turn well over to operator
27	Rig Down	1/19/2017	15:30					BJ Services Crew Rigs Down Cement Head And Gets Ready For Top Out
28	Pump CC Ahead	1/19/2017	16:49	8.33	2	10	18	Pumped 10BBL Of Water With 10 % Calcium Chloride At 2 BPM W/18 PSI And 250 Gal Of Sodium Silicate On Back Side
29	Pump Top Out Cement	1/19/2017	16:55	12.5	3.5	99	68	Pumped 99 BBL Of Top Out Cement ( 250 SKS 2.22 Yld 12.58 G / Sk ) At 3.5 BPM W/68 PSI
30	Shut Down	1/19/2017	17:32					Shut Down Pumping
31	Pump Water	1/19/2017	17:35					Pumped 2 BBL Of Fresh Water To Clear Lines
32	Other	1/19/2017	17:40					We Did Not Get Cement To Surface BJ Crew Goes To Re Load Bulk Truck To Out Out Well Again
33	Pump Top Out Cement	1/19/2017	20:49	12.5	3.5	63	150	Pumped 63 BBL Of Top Out Cement ( 160 Sks 2.22 Yld 12.58 G/sk ) At 3.5 BPM W/150 PSI Got 2 bbl Cement To Surface
34	Pump Water	1/19/2017	21:13	8.33	2	2	0	Pumped 2 BBL Of Water To Clear Lines At 2 BPM W0 PSI
35	Pre Rig Down Meeting	1/19/2017	21:30					BJ Crew Had A Pre Rig Down Meeting
36	Rig Down	1/19/2017	21:31					BJ Crew Rigs Down Pump And Iron Cement Did Not Fall
37	Depart Location	1/19/2017	00:00					BJ Crew Departs Location
39		1/19/2017	00:00					Calculated Top Of Tail Cement 2027'

### 3 Water Analysis

Metrics	Value	Recommended
Water Source	Flat Tank	
Temperature	65 °F	50-80 °F
pH Level	6	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	120	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	250 mg/L	0-3000 mg/L
Iron	1 mg/L	0-300 mg/L

### 4 Pump Diagrams

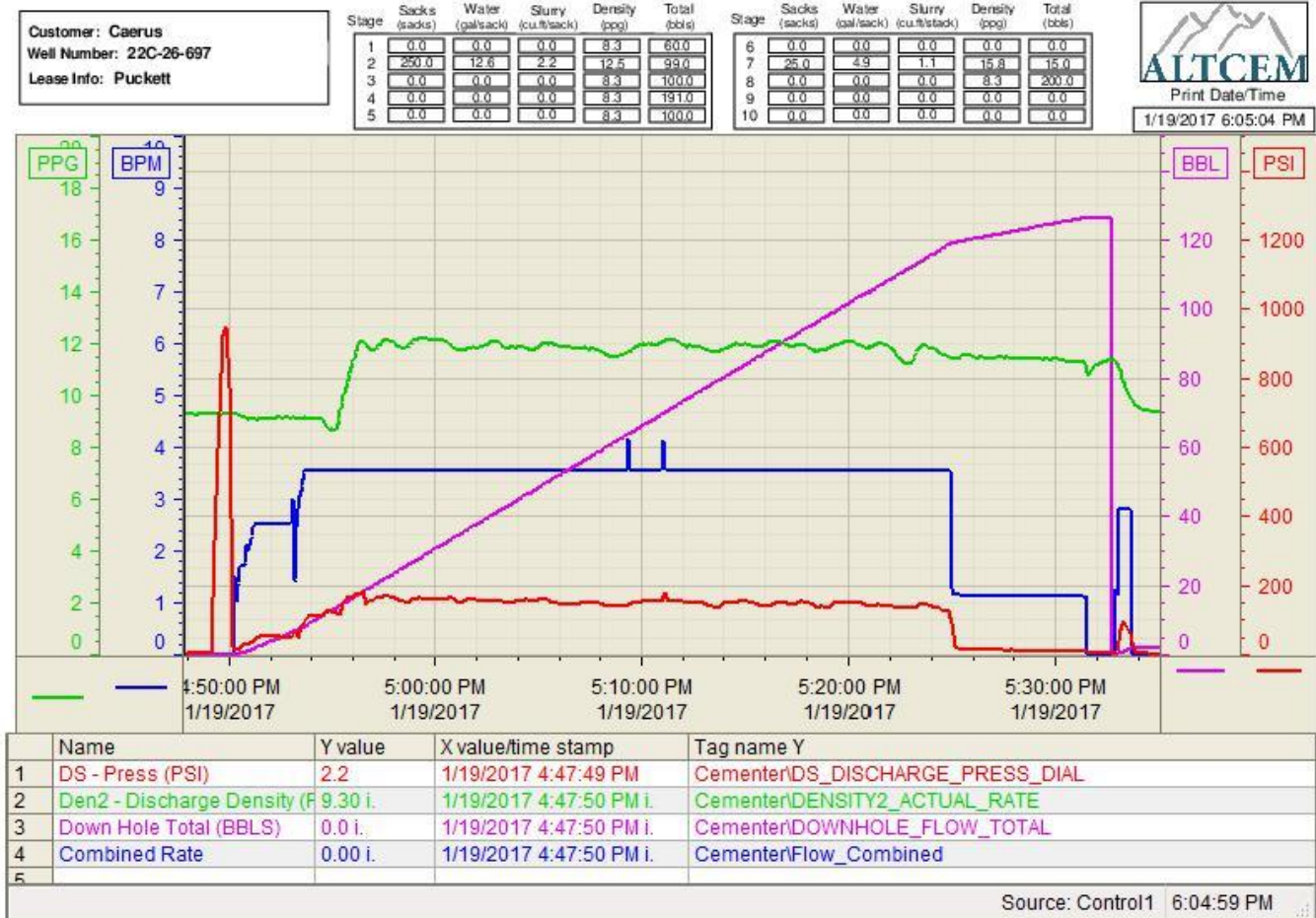
Job Chart







Top Out 1





Top Out 2

