



Caerus

SURFACE POST JOB REPORT

Puckett 34D-23-697 05-045-23367
S:26 T:6S R:97W Garfield CO

CallSheet #: 688
Proposal #: 13132



SURFACE Post Job Report

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

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 | Zen.Keith@bjservices.com

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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	2520	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	2532	0
Casing	Outer	20	19.5	53	n/a	0	100	0

1.2 Equipment / People

Unit Type	Unit	Employee #1	Mileage
Bulk Trailer	503	Hamilton, Daniel	677
Cement Pump	104	Kresge, Adam	677
Silo	651		
Silo	650		
Light Duty Pickups	5	Johnson, Chad	677

1.3 Timing

Event	Date/Time
Call Out	4/1/2017 21:30
Depart Facility	4/1/2017 22:30
On Location	4/1/2017 23:00
Rig Up Iron	4/1/2017 23:30
Job Started	4/2/2017 02:30
Job Completed	4/2/2017 11:30
Rig Down Iron	4/2/2017 12:00
Depart Location	4/2/2017 14:00

1.4 General Job Information

Metrics	Value
Well Fluid Density	9.1 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	191 bbls
Rig Circulation Time	1 hours
Calculated Displacement	191 bbls
Actual Displacement	191 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	Yes
Top Out Volume	13 bbls

1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	19
Yield Point	17
10 sec. SGS	7
10 min. SGS	14
30 min. SGS	42
Filtrate	12
Flow Line Temp.	81

1.6 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	9.1 lb/gal
Well Fluid Density Out of Well	9.1 lb/gal

1.7 Job Details (cont.)

Metrics	Value
BHCT	94 °F
BHST	128 °F

1.8 Circulation

Lost Circulation Experienced	Losses into Spacer	Losses into Cement	Losses into Displacement
Yes	0	315	0

Circulation Details:

Had no returns until 210 bbls in to lead cement lost returns again at 22 bbls into tail cement. Had no returns for remainder of the job.

1.9 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	Displacement	8.33			42.00		10.00	2328
1	7	Mud	Displacement	8.33			42.00		160.00	218
1	8	Water	DisplacementFinal	8.33			42.00		17.00	0
1	9	ALTCem S100-12	Topout	12.50	2.22	12.58		250.00	99.00	0

1.10 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	9	Topout	ALTCem S100-12	AC3-10	Cement	100.00	%
1	9	Topout	ALTCem S100-12	ACL-10	Accelerator	2.00	lb/sk
1	9	Topout	ALTCem S100-12	ACL-20	Accelerator	5.00	%BWOB
1	9	Topout	ALTCem S100-12	ADF-11	Defoamer	0.30	%BWOB
1	9	Topout	ALTCem S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	9	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	Callout	4/1/2017	19:30					Crew called out for job requested on location for 02:00 4/2/17
2	Depart For Location	4/1/2017	22:00					Crew departed for location
3	Arrive On Location	4/1/2017	23:00					Crew arrived on location
4	Safety Meeting	4/1/2017	23:15					Pre rig up safety meeting
5	Rig Up Iron	4/1/2017	23:30					Crew spotted and rigged up all equipment and iron
6	Safety Meeting	4/2/2017	02:00					Pre jo safety meeting
7	Fill Lines	4/2/2017	02:34	8.3	2	3	50	Filled lines with 3 bbls fresh water
8	Pressure Test Lines	4/2/2017	02:36					Pressure test lines to 3000 psi
9	Pump Spacer	4/2/2017	02:40	8.3	2	20	100	Pump 20 bbls water spacer
10	Pump Spacer	4/2/2017	02:48	9.5	2	20	100	Pump 20 bbls SMS spacer
11	Pump Spacer	4/2/2017	02:53	8.3	2	20	100	Pump 20 bbls water spacer
12	Pump Lead Cement	4/2/2017	02:58	12	5	317	150	Pump 317 bbls lead cement @ 12 ppg (703 sks, 2.53 Y, 14.85 gal/sk)
13	Pump Tail Cement	4/2/2017	04:19	12.5	5	64	150	Pump 64 bbls tail cement @ 12.5 ppg (161 sks, 2.22 Y, 12.58 gal/sk)
14	Shutdown	4/2/2017	04:36					Shutdown
15	Drop Top Plug	4/2/2017	04:40	8.3	6	50	100	Drop top plug, pump 50 bbls water displacement
16	Pump Displacement	4/2/2017	05:04	8.3	6	100	450	Pump 50 bbls water displacement
17	Pump Displacement	4/2/2017	05:12	8.3	6	150	650	Pump 50 bbls water displacement
18	Slow Pump Rate	4/2/2017	05:16	8.3	2	180	700	Slow pump rate to 2 bpm at 180 bbls away
19	Land Plug	4/2/2017	05:21	8.3	2	191	600	Land plug at 191 bbls away, final pressure was 600 psi, took it to 1500 psi
20	Casing Test	4/2/2017	05:22	8.3			1500	Hold 1500 psi for 15 min casing test
21	Check Floats	4/2/2017	05:37					Check floats, floats holding, 0.75 bbls back, pumped 10 bbls sugar water down parasite line
22	Waiting	4/2/2017	06:00					Crew waiting for rig to nipple up and test BOP
23	Safety Meeting	4/2/2017	10:30					Safety meeting
24	Pump Cement	4/2/2017	11:05	12.5	1	13	50	Pump top out cement. Pumped 13 bbls of cement. (33 sks, 2.22 Y, 12.58 gal/sk)

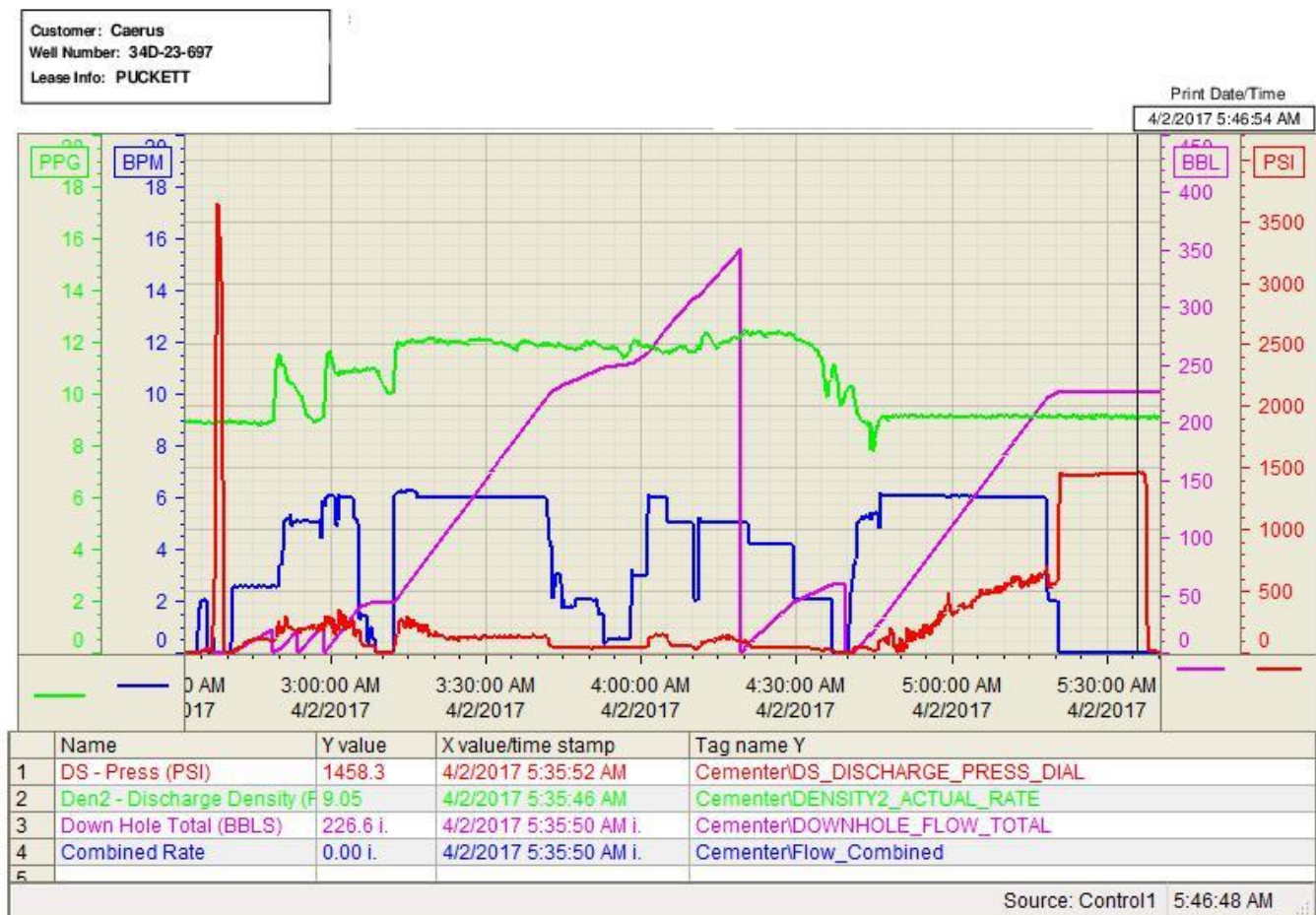


25	Shutdown	4/2/2017	11:25					Shutdown watch cement for 15 mins cement did not fall
26	Safety Meeting	4/2/2017	11:45					Pre rig down safety meeting
27	Rig Down Iron	4/2/2017	12:00					Crew rigged down all equipment and iron
28	Depart Location	4/2/2017	14:00					Crew departed location

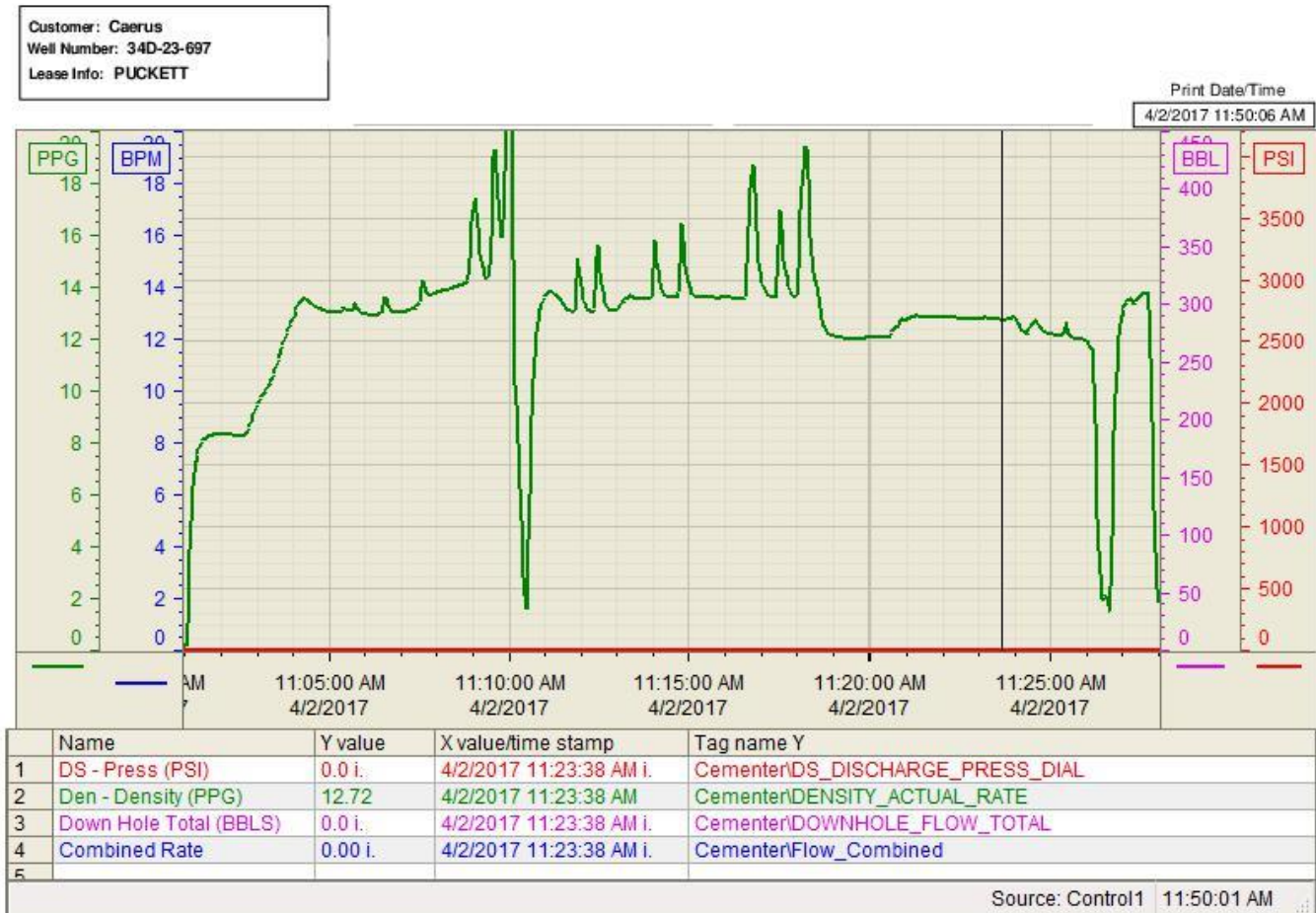
3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	75 °F	50-80 °F
pH Level	6	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	0	0-1000
Total Hardness	50 mg/L	0-500 mg/L
Carbonates	250 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

4 Pump Diagrams



Job Chart



Top Out Chart