



Caerus

SURFACE POST JOB REPORT

Puckett 24C-23 697 05-045-23374
S:23 T:6S R:97W Garfield CO

CallSheet #: 1287
Proposal #: 13910



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

Field Office 28730 US-6, Rifle, CO 81650
Phone: (307) 360-3062

Sales Office 999 18th St. Suite 1200 Denver, CO 80202
Phone: (281) 408-2361



Table of Contents

1 Job Details & Summary 3

 1.1 Geometry 3

 1.2 Equipment / People 3

 1.3 Timing 3

 1.4 General Job Information 3

 1.5 Well Fluid Details 3

 1.6 Job Details 3

 1.7 Job Details (cont.) 3

 1.8 Circulation 4

 1.9 Job Execution Information 4

 1.10 Job Fluid Details 4

2 Job Logs 5

3 Water Analysis 6

4 Pump Diagrams 6

1 Job Details & Summary

1.1 Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Thread	Top (ft)	Bottom (ft)	Excess (%)
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	2550	0
Casing	Outer	20	19.5	53	n/a	0	100	0
Casing	Inner	9.625	8.921	36	LTC	0	2505	0

1.2 Equipment / People

Unit Type	Unit	Employee #1	Employee #2	Mileage
Silo	651			
Silo	Silo 25	Cose, Rhaun		70
Cement Chemical	401	Gonzalez, Omar	Estep, Ken	70
Cement Pump	104	McClure, Christian	Johnson, Brandon	70
Light Duty Pickups	4	Helton, Shane		70

1.3 Timing

Event	Date/Time
Call Out	9/8/2017 12:30
Depart Facility	9/8/2017 13:00
On Location	9/8/2017 14:00
Rig Up Iron	9/8/2017 14:30
Job Started	9/8/2017 23:37
Job Completed	9/9/2017 07:15
Rig Down Iron	9/9/2017 07:35
Depart Location	9/9/2017 08:45

1.4 General Job Information

Metrics	Value
Well Fluid Density	9.1 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	190 bbls
Rig Circulation Time	1.25 hours
Calculated Displacement	190.1 bbls
Actual Displacement	187.5 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	Yes
Top Out Volume	5.2 bbls

1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	23
Yield Point	21
10 sec. SGS	13
10 min. SGS	27
30 min. SGS	14.4
Filtrate	0.9
Flow Line Temp.	75

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	0 lb/gal

1.7 Job Details (cont.)

Metrics	Value
BHCT	94 °F
BHST	128 °F



1.8 Circulation

Lost Circulation Experienced
Yes

Circulation Details:

Had no returns throughout the entire surface 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	S100-12	Lead	12.00	2.53	14.85		703.00	316.33	0
1	5	S100-12	Tail	12.50	2.22	12.58		162.00	64.15	2000
1	6	Water	DisplacementFinal	8.33			42.00		191.00	0
1	7	S100-12	Topout	12.50	2.22	12.58		515.00	203.94	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	S100-12	AC3-10	Cement	100.00	%
1	4	Lead	S100-12	ACL-10	Accelerator	2.00	lb/sk
1	4	Lead	S100-12	ACL-20	Accelerator	5.00	%BWOB
1	4	Lead	S100-12	ADF-11	Defoamer	0.30	%BWOB
1	4	Lead	S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	4	Lead	S100-12	AXE-30	Extender	2.00	lb/sk
1	5	Tail	S100-12	AC3-10	Cement	100.00	%
1	5	Tail	S100-12	ACL-10	Accelerator	2.00	lb/sk
1	5	Tail	S100-12	ACL-20	Accelerator	5.00	%BWOB
1	5	Tail	S100-12	ADF-11	Defoamer	0.30	%BWOB
1	5	Tail	S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	5	Tail	S100-12	AXE-30	Extender	2.00	lb/sk
1	7	Topout	S100-12	AC3-10	Cement	100.00	%
1	7	Topout	S100-12	ACL-10	Accelerator	2.00	lb/sk
1	7	Topout	S100-12	ACL-20	Accelerator	5.00	%BWOB
1	7	Topout	S100-12	ADF-11	Defoamer	0.30	%BWOB
1	7	Topout	S100-12	ALC-10	LostCirculation	0.13	lb/sk
1	7	Topout	S100-12	AXE-30	Extender	2.00	lb/sk



2 Job Logs

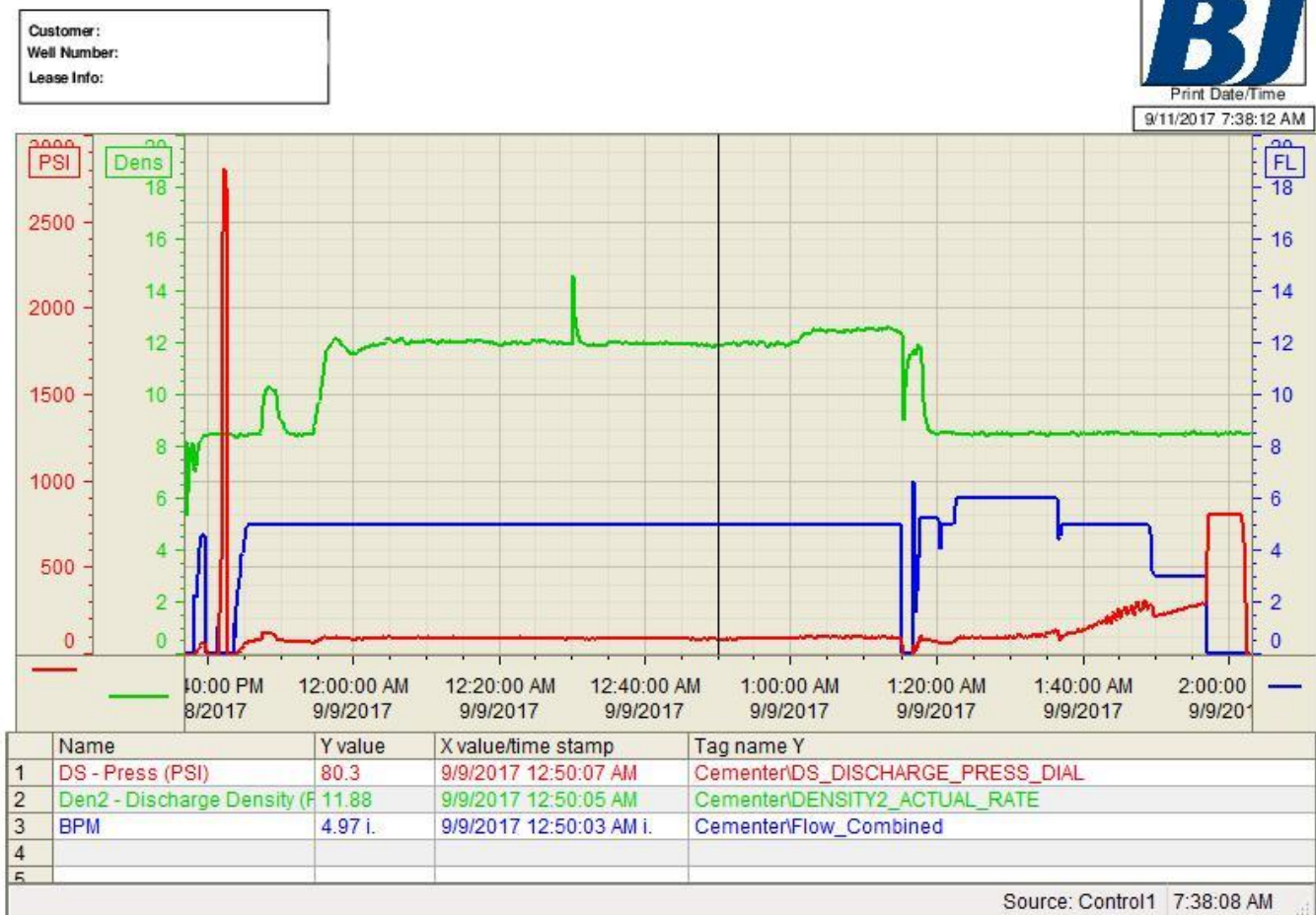
Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	Call Out	9/8/2017	17:00					Requested Location time
2	Yard Call	9/8/2017	12:30					Yard Call
3	Depart Facility	9/8/2017	13:00					Depart Facility
4	on Location	9/8/2017	14:00					Arrived on Location
5	Safety Meeting	9/8/2017	14:30					STEACS Briefing
6	Rig Up Equipment	9/8/2017	15:00					Rig Up Equipment
7	WOR	9/8/2017	15:30					WOR
8	Casing on Bottom	9/8/2017	22:00					Casing on Bottom
9	Safety Meeting	9/8/2017	22:35					STEACS Briefing
10	Rig up	9/8/2017	23:30					Rig up Cement Head
11	Load Line	9/8/2017	23:37	8.34		5		Load Line
12	Pressure Test Line	9/8/2017	23:40	8.34			3000	Pressure Test Line
13	Spacer	9/8/2017	23:42	8.34	5	15	90	Fresh Water Spacer
14	Spacer	9/8/2017	23:45	10	5	20	110	Sodium Silicate Spacer
15	Spacer	9/8/2017	23:50	8.34	5	20	110	Fresh Water Spacer
16	Start Lead Cement	9/8/2017	23:55	12	5		130	Start Lead Cement
17	Lead Cement	9/9/2017	00:05	12	5	50	130	50 Bbls Lead Cement
18	Lead Cement	9/9/2017	00:14	12	5	100	121	100 Bbls Lead Cement
19	Lead Cement	9/9/2017	00:24	12	5	150	138	150 bbls Lead Cement
20	Lead Cement	9/9/2017	00:34	12	5	200	127	200 Bbls Lead Cement
21	Lead Cement	9/9/2017	00:44	12	5	250	133	250 Bbls Lead Cement
22	Lead Cement	9/9/2017	00:54	12	5	300	121	300 Bbls Lead Cement
23	Lead Cement	9/9/2017	00:58	12	5	320	121	320 Bbls Lead Cement
24	Start Tail Cement	9/9/2017	01:00	12.5	5		121	Start Tail Cement
25	Tail Cement	9/9/2017	01:10	12.5	5	50	133	50 Bbbls Tail Cement
26	Tail Cement	9/9/2017	01:14	12.5	5	70	133	70 Bbls Tail Cement
27	Shut Down	9/9/2017	01:14					Shut Down/Drop Plug
28	Start Displacement	9/9/2017	01:15	8.34	5		100	Start Displacement
29	Displacement	9/9/2017	01:25	8.34	6	50	138	50 Bbls Displacement
30	Displacement	9/9/2017	01:35	8.34	6	100	162	100 Bbls Displacement
31	Displacement	9/9/2017	01:45	8.34	5	150	381	150 Bbls Displacement
32	Slow Rate	9/9/2017	01:48	8.34	3		277	Slow Rate
33	Land Plug	9/9/2017	01:55	8.34		187.5	833	Land Plug
34	Check Float	9/9/2017	02:00					Check Float .5 Bbls back
35	Pump Down	9/9/2017	02:05	8.34	1	7.5	100	Pump Down Parasite
37	Waiting	9/9/2017	02:10					Wait 4 hours to top out
38	Calcium Chloride	9/9/2017	06:30	8.4	1.5	2	50	Calcium Chloride Spacer
39	Spacer	9/9/2017	06:33	8.34	1.5	3	50	Fresh Water Spacer
40	Top Out Cement	9/9/2017	06:36	12.5	1.5	5.2	50	Cement to Surface 13.1 Sacks
41	Pump Down Parasite	9/9/2017	06:40	12.5	0.75	10	100	Cement up last Parasite string 24B-23

3 Water Analysis

Metrics	Value	Recommended
Water Source	None	
Temperature	75.6 °F	50-80 °F
pH Level	6	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	200 mg/L	0-1500 mg/L
Potassium	250 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

4 Pump Diagrams

Job Chart





Top Out Chart

