



Caerus

SURFACE POST JOB REPORT

Puckett 34A-23 697 05-045-23393
S:23 T:6S R:97W Garfield CO

CallSheet #: 1051
Proposal #: 13578



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 1716 East Allison Rd., Cheyenne WY, 82007
Phone: (307) 638-5585

Sales Office 475 17th St. Suite 460 Denver Co., 80202
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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 7

4 Pump Diagrams 7

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	2500	0
Casing	Outer	20	19.5	53	n/a	0	100	0
Casing	Inner	9.625	8.921	36	LTC	0	2482	0

1.2 Equipment / People

Unit Type	Unit	Employee #1	Mileage
Silo	651		60
Field Storage Silo	25		60
Cement Pump	104	Gilliam, Glen	60
Cement Chemical	401	Turek, Chad	60
Light Duty Pickups	2	McVay Jr., Jerry	60
Bulk Trailer	E949	Ham, Robert	60

1.3 Timing

Event	Date/Time
Call Out	7/22/2017 10:00
Depart Facility	7/22/2017 14:30
On Location	7/22/2017 16:00
Rig Up Iron	7/22/2017 16:15
Job Started	7/23/2017 03:15
Job Completed	7/23/2017 14:00
Rig Down Iron	7/23/2017 14:50
Depart Location	7/23/2017 16:15

1.4 General Job Information

Metrics	Value
Well Fluid Density	9.8 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	191 bbls
Rig Circulation Time	1 hours
Calculated Displacement	191 bbls
Actual Displacement	196 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	Yes
Top Out Volume	60 bbls

1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	23
Yield Point	22
10 sec. SGS	7
10 min. SGS	21
30 min. SGS	49
Filtrate	9.6
Flow Line Temp.	88

1.6 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	9.8 lb/gal
Well Fluid Density Out of Well	9.8 lb/gal

1.7 Job Details (cont.)

Metrics	Value
BHCT	94 °F
BHST	128 °F



1.8 Circulation

Lost Circulation Experienced
Yes

Circulation Details:

No returns from start of job to end of 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		162.00	64.15	2000
1	6	Water	DisplacementFinal	8.33			42.00		191.00	0
1	7	ALTCem S100-12	Topout	12.50	2.22	12.58		153.00	60.00	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	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	Callout	7/22/2017	10:00					Crew Called Out
2	Arrive Rifle District	7/22/2017	07:00					Arrive Rifle District for Caerus Surface
3	STEACS/Journy Management	7/22/2017	14:00					STEACS/Journey Management Discussed Lease Road Hazards
4	Depart Rifle Facility	7/22/2017	14:30					Depart Rifle Facility
5	Arrive On Location	7/22/2017	16:00					Met with Customer Rep to get job numbers.
6	Spot Vehicles	7/22/2017	16:05					STEACS, discussed hazards of rig-up
7	Rig-up Safety Meeting/Start Rig-up	7/22/2017	16:20					Start Rig-up
8	Rig-up Complete/WOR	7/22/2017	17:10					Rig-up complete/Waiting on Rig
9	Pre-job STEACS/Safety meeting	7/23/2017	02:50					Pre-job STEACS/Safety meeting with Rig Crew
10	Start Job	7/23/2017	03:15					Job Started
11	Fill Lines	7/23/2017	03:18	8.33	2	5	70	Filled Line with 5bbls Fresh Water
12	Pressure Test Lines	7/23/2017	03:20	8.33			3000	Tested Line to 3000psi.
13	Pump Spacer	7/23/2017	03:23	8.33	3		58	Pump Fresh Water
14	Pump Spacer	7/23/2017	03:29	10	5.5	15	56	FW Spacer Complete, 20bbls/Pump 50/50 Sodium Silicate.
15	Pump Spacer	7/23/2017	03:33	8.33	3.5	20	55	SS Complete, 40bbls/Pump Fresh Water Spacer/Batch Lead Cement
16	Pump Lead Cement	7/23/2017	03:36	12	3	20	54	Fresh Water Spacer Complete, 60bbls/Pump Lead Downhole
17	Pump Tail Cement	7/23/2017	05:00	12	5.5	317	56	Lead Downhole Complete 317bbls/Tail Downhole
18	Shutdown/Pump Displacement	7/23/2017	05:25	12.5	5	62	170	Tail Cement Downhole Complete, 62bbls ahead of Plug/Shut Down to Drop Top Plug/Pump 2bbls Tail on Top of Plug/Begin Displacement/379BBLs
19	Slow Pump Rate	7/23/2017	06:00	8.33	6	181	145	Displacement, Slow Rate to 3bpm to Land Plug, 560bbls



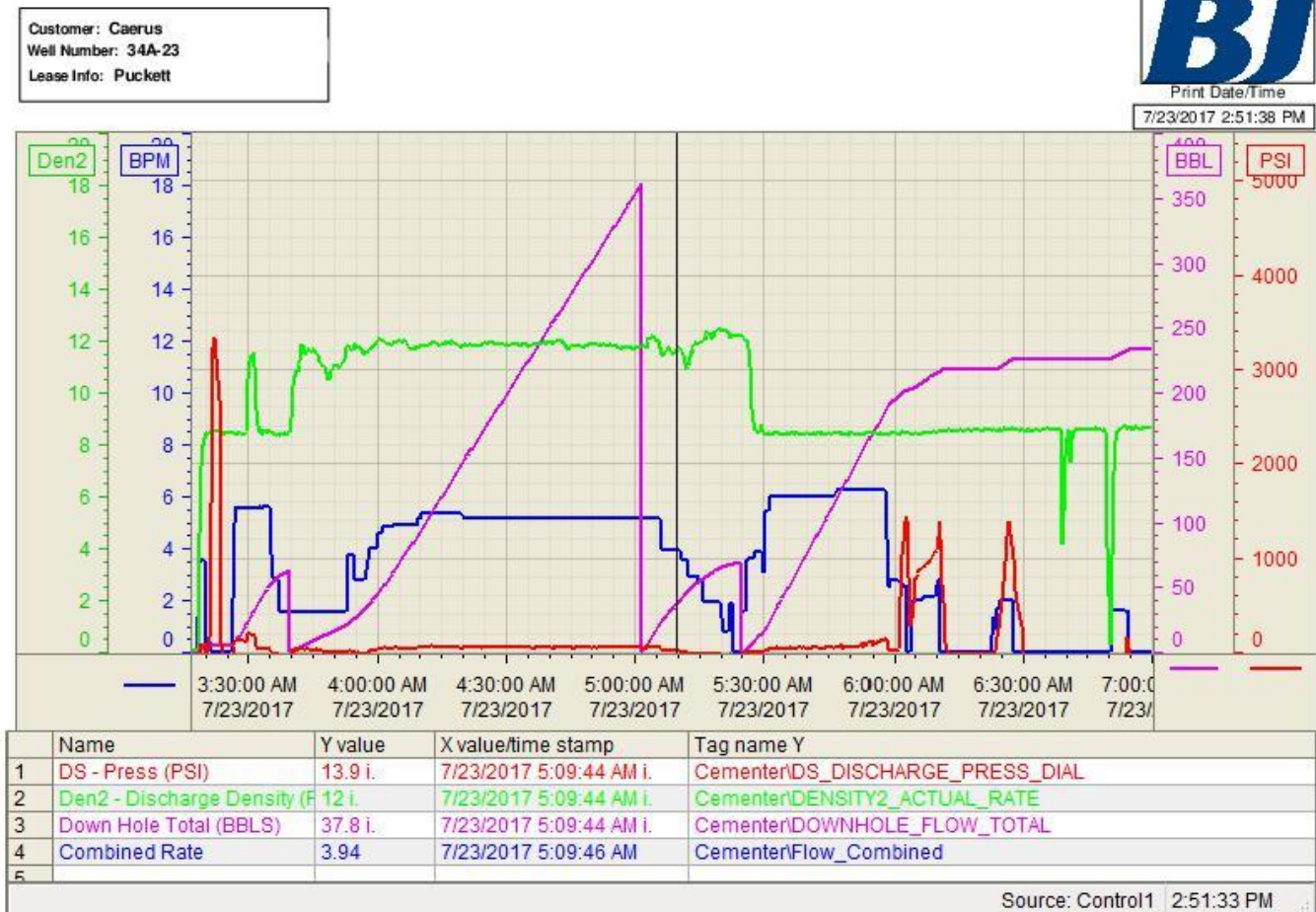
20	Land Plug	7/23/2017	06:10	8.33	3	10	1550	Displacement, 191bbls/ Landed Plug at 854psi 570bbls
21	Rigged-Up to Parasite Line to Pump Sugar Water Down to Burst Diaphragm/Burst at 6bbls and 240psi/Returns through Casing/Shutdown	7/23/2017	06:50	8.33	1.5	6	240	Rigged-Up to Pump Sugar Water Down Parasite Line to Burst Diaphragm/Burst at 6bbls and 240psi/Returns Through Casing/Shutdown, 581bbls
22	Rig-Down Floor/Rig-Up For Top Out Complete/WOR 4 hours	7/23/2017	08:00					Rig-Down Floor/Rig-Up For Top Out Complete/WOR 4 hours
23	Complete Rig-Up For Top Out	7/23/2017	12:05					Complete Rig-Up for Top Out
24	Begin Top out	7/23/2017	12:10					Begin Top Out
25	Pump 2bbls Calcium Chloride Water Down Annulus/Clean Pump With 2bbls Fresh Water and Pump Downhole	7/23/2017	12:15					Pump 2bbls of Calcium Chloride water Down Annulus, Clean Pump With 2bbls Fresh Water and Pump Downhole, Pump Top Out Downhole
26	Batch-up Topout	7/23/2017	12:25					Batch-Up Top Out (12.5ppg, 2.22cf/sk, 12.58gal/sk)
27	Top Out Downhole	7/23/2017	12:30					Pump Top Out Down Annulus
28	Rig Testing BOP	7/23/2017	13:15					Rig Testing BOP, watched for cement from stairs out of the cellar area.
29	Cement to Surface/shut down, 153sks, 60bbls(2.22yld/12.5ppg/ 12.58gals/sk) Top Out Used/Job Complete	7/23/2017	14:00					Cement to Surface/shut down,153sks, 60bbls(2.22yld/12.5ppg/ 12.58gals/sk) of Top Out Used/Job Complete
30	Begin Clean-Up/Rig- down	7/23/2017	14:10					Job Complete/Begin Clean-Up/Rig-down
31	Rig Down Complete	7/23/2017	16:00					Rig Down Completed Safely
32	AAR, Journey Management	7/23/2017	16:10					Discussed job results and hazards driving down the mountain.
33	Depart Location	7/23/2017	16:15					Crew Departed Location, Return to Rifle District Facility

3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	69 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	240	0-1000
Total Hardness	>375 mg/L	0-500 mg/L
Carbonates	215 mg/L	0-100 mg/L
Sulfates	<200 mg/L	0-1500 mg/L
Potassium	1500 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

4 Pump Diagrams

Job Chart



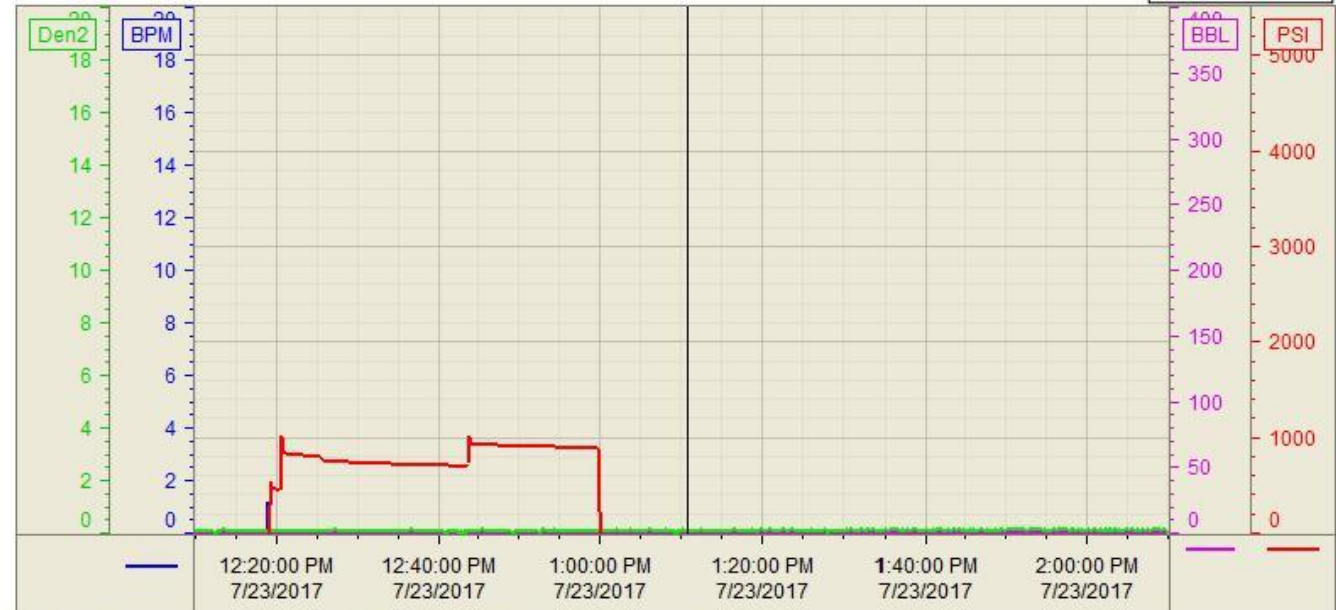


Top Out

Customer: Caerus
Well Number: 34A-23
Lease Info: Puckett



Print Date/Time
7/23/2017 2:55:34 PM



	Name	Y value	X value/time stamp	Tag name Y
1	DS - Press (PSI)	-37.9	7/23/2017 1:10:50 PM	CementerDS_DISCHARGE_PRESS_DIAL
2	Den2 - Discharge Density (F 0 i		7/23/2017 1:10:53 PM i	CementerDENSITY2_ACTUAL_RATE
3	Down Hole Total (BBLs)	0.1	7/23/2017 1:10:52 PM	CementerDOWNHOLE_FLOW_TOTAL
4	Combined Rate	0.00	7/23/2017 1:10:52 PM	CementerFlow_Combined
5				

Source: Control1 2:55:28 PM