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## **Caerus**

# **SURFACE POST JOB REPORT**

**Puckett 24D-23 697 05-045-23379**  
**S:23 T:6S R:97W Garfield CO**

CallSheet #: 1326  
Proposal #: 13955



**SURFACE Post Job Report**

**Attention:** Mr. Steve Schmitz | (720) 880-6412 | [sschmitz@caerusoilandgas.com](mailto: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 | [Zen.Keith@bjservices.com](mailto: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 (%)
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	2525	0
Casing	Outer	20	19.5	53	n/a	0	100	0
Casing	Inner	9.625	8.921	36	LTC	0	2517	0

### 1.2 Equipment / People

Unit Type	Unit	Employee #1	Mileage
Field Storage Silo	11		
Silo	Silo 25		
Bulk Trailer	E529	Aden, Alan	65
Cement Pump	C992	Turek, Chad	65
Light Duty Pickups	4	Linn III, Paul	65
Cement Chemical	401	Ham, Robert	65

### 1.3 Timing

Event	Date/Time
Call Out	9/13/2017 15:45
Depart Facility	9/13/2017 20:00
On Location	9/13/2017 21:00
Rig Up Iron	9/13/2017 21:15
Job Started	9/14/2017 13:05
Job Completed	9/14/2017 20:45
Rig Down Iron	9/14/2017 21:00
Depart Location	9/14/2017 22:15

### 1.4 General Job Information

Metrics	Value
Well Fluid Density	9.3 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	200 bbls
Rig Circulation Time	1 hours
Calculated Displacement	191.2 bbls
Actual Displacement	181 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	Yes
Top Out Volume	41 bbls

### 1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	12
Yield Point	9
10 sec. SGS	3
10 min. SGS	6
30 min. SGS	11
Filtrate	14.8
Flow Line Temp.	82

### 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	9.3 lb/gal
Well Fluid Density Out of Well	9.3 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 at the start of pumping. No returns throughout the job

## 1.9 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	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		800.00	316.80	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	9/13/2017	15:45					Called out on location time 01:00
2	Safety Meeting	9/13/2017	19:45					Pre convoy safety meeting
3	Depart Rifle yard	9/13/2017	20:00					Depart rifle yard for H&P 330
4	Arrive on location	9/13/2017	21:00					Arrive on location. Rig still had 300 ft. to drill
5	Safety Meeting	9/13/2017	21:05					Pre rig up STEACS meeting
6	Rig up	9/13/2017	21:15					Spot in equipment and rig up pump
7	Safety Meeting	9/14/2017						Pre job STEACS meeting. With rig crew and BJ cement crew
8	Rig up	9/14/2017						Load plug, stab plug container, hook lines to plug container
9	Fill lines	9/14/2017	13:05	8.33	2	5	207	Fill lines with 5 BBLS. Fresh water
10	Pressure test	9/14/2017	13:08				3665	Pressure tested to 3665 PSI.
11	Spacer	9/14/2017	13:12	8.33	5	15	249	Pumped the remaining 15 BBLS. Of fresh water spacer for a total of 20 BBLS.
12	Spacer	9/14/2017	13:16	10	5	20	227	Pumped 20 BBLS. Sodium Silicate
13	Spacer	9/14/2017	13:20	8.33	5	20	126	Pumped 20 BBLS. Fresh water
14	Lead	9/14/2017	13:26	12	4		79	Pumped Lead cement. 12 PPG. 703 SKS. 2.53 FT3/SK. 14.85 GAL./SK. For a total of 316.77 BBLS. Of Lead cement. Verified weight with mud scales
15	Lead	9/14/2017		12	5.5		223	Picked rate up to 5.5 BBLS./MIN
16	Lead	9/14/2017		12	6		292	Picked rate up to 6 BBLS./MIN
17	Lead	9/14/2017		12	5.5		272	Slowed rate to keep density
18	Lead	9/14/2017		12	5.5	309	250	Finished Lead with 309 BBLS. Away
19	Tail	9/14/2017	14:02	12.5	5.5		262	Pumped Tail cement. 12.5 PPG. 162 SKS. 2.22 FT3/SK. 12.58 GAL./SK. For a total of 64.05 BBLS. Of Tail cement. Verified weight with mud scales
20	Tail	9/14/2017		12.5	4.5		167	Slowed rate to keep density
21	Tail	9/14/2017		12.5	4	65.9	156	Finished Tail with 65.9 BBLS. Away
22	Shut down	9/14/2017						Shut down
23	Drop plug	9/14/2017						Drop plug. Verified by driller
24	Displacement	9/14/2017	14:39	12.5	5		124	2 BBLS. Of tail cement on top of the plug.
25	Displacement	9/14/2017		8.33	7		212	Picked up rate to 7 BBLS./MIN to lower pressure on formation



26	Displacement	9/14/2017		8.33	6		254	Slowed rate to 6 BBLS./MIN to lower pressure on formation
27	Displacement	9/14/2017		8.33	5		331	Slowed rate to 5 BBLS./MIN to lower pressure on formation
28	Displacement	9/14/2017		8.33	4		365	Slowed rate to 4 BBLS./MIN to lower pressure on formation
29	Slow rate	9/14/2017		8.33	2	181	407	Slowed rate to land plug
30	Land plug	9/14/2017	15:12				407	Landed plug as slowing rate to 2 BBLS./MIN. meaning landed 10 BBLS. Early
31	Check floats	9/14/2017	15:17				1062	Took to 1062, held for 5 mins. Check floats, floats held 1 BBL. Back
32	Tie into parasite string	9/14/2017	15:20					Tied into parasite sting to pump 10 BBLS. Of sugar water
33	Break circulation	9/14/2017	15:25	8.33	2	10	502	Broke circulation with 7 BBLS. Away pressure was 502
34	Rig Down Iron	9/14/2017	15:30					Rigged down plug container
35	Wash up pumps and lines	9/14/2017	15:35					Washed up pumps and lines into cellar ring
36	Wait to top out	9/14/2017	15:30					Wait 4 hours to pump top out
37	Safety Meeting	9/14/2017	19:15					Pre top out safety meeting
38	Rig up	9/14/2017	19:30					Rig up to top out well
39	Spacer	9/14/2017	19:40	8.5				200 LBS. of Calcium Chloride in 2 BBLS fresh water
40	Spacer	9/14/2017	19:43	10				175 Gallons of Sodium Silicate
41	Top out	9/14/2017	19:50	12.5				Pumped Top out cement. 105 SKS. 12.5 PPG. 2.22 FT3/SK. 12.58 GAL./SK. For a total of 41 BBLS. Verified weight with mud scales
42	Filled parasite line	9/14/2017	20:30					Pumped 5 BBLS. Of cement down the parasite line on 24C-23
43	Wash up pumps and lines	9/14/2017	20:40					Washed up pumps and lines into cellar ring with sugar water
44	Safety Meeting	9/14/2017	20:55					Pre rig down safety meeting
45	Rig down	9/14/2017	21:00					Rig down all equipment
46	Safety Meeting	9/14/2017	21:30					After Action Review with BJ crew
47	Safety Meeting	9/14/2017	22:00					Pre convoy safety meeting. ALL SEMIS LEFT ON LOCATION DUE TO WEATHER AS PER CO-REP
48	Depart location	9/14/2017	22:15					Thank you for using BJ services, Andrew Linn and crew



### 3 Water Analysis

Metrics	Value	Recommended
Water Source	Flat Tank	
Temperature	63.7 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	<299 mg/L	0-3000 mg/L
Total Alkalinity	240	0-1000
Total Hardness	425 mg/L	0-500 mg/L
Carbonates	N/A mg/L	0-100 mg/L
Sulfates	<200 mg/L	0-1500 mg/L
Potassium	1500 mg/L	0-3000 mg/L
Iron	0.2 mg/L	0-300 mg/L



## 4 Pump Diagrams

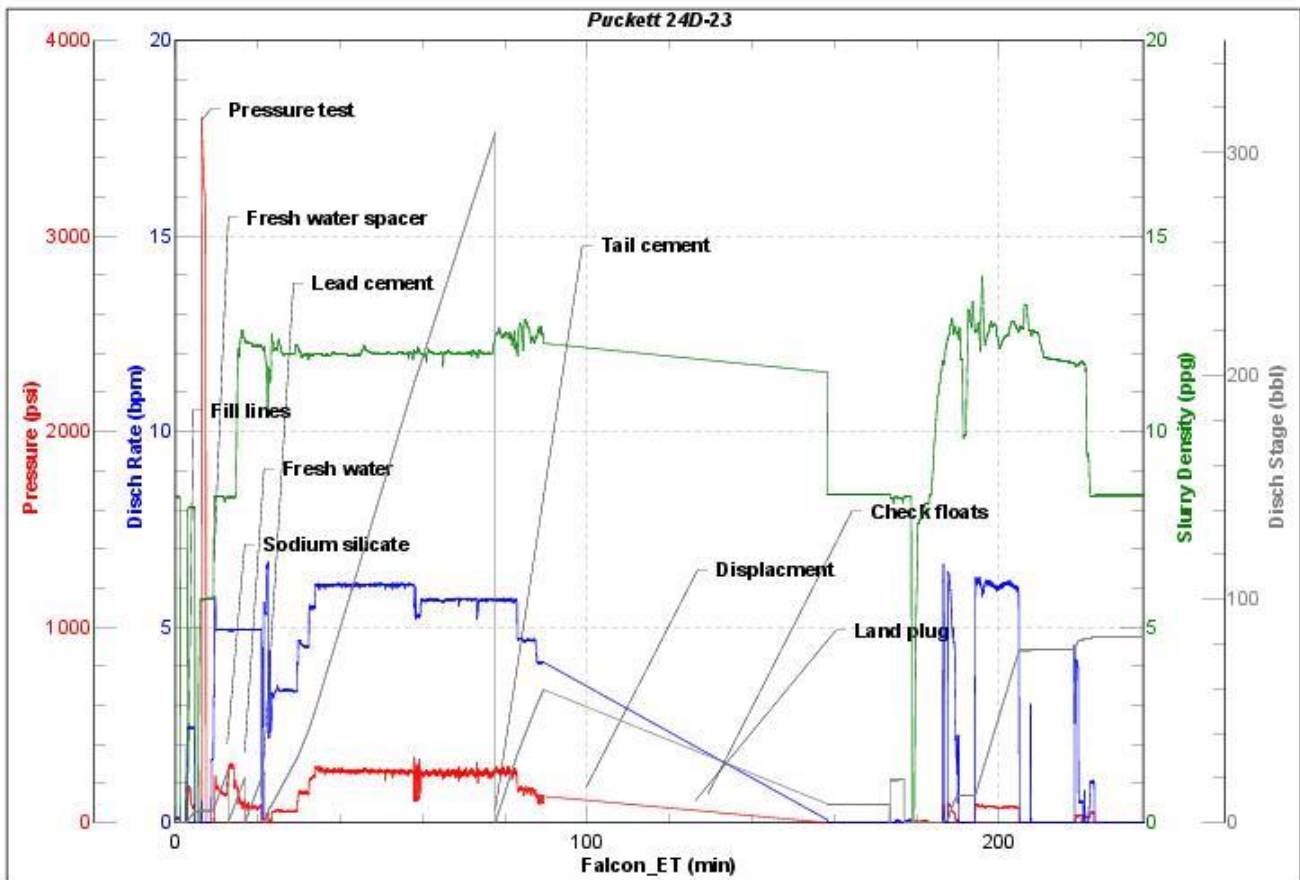


JobMaster Program Version 4.02C1

Job Number: 1326

Customer: CAERUS

Well Name: PUCKETT 24D-23



BJ Services

Job Start: Thursday, September 14, 2017