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# Caerus

## SURFACE POST JOB REPORT

Puckett 14B-23 697 05-045-23383  
S:23 T:6S R:97W Garfield CO

CallSheet #: 1492  
Proposal #: 14104



**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,

**Gage Putnam**

Field Engineer I | (970) 632-2006 | [Gage.Putnam@Bjservices.com](mailto:Gage.Putnam@Bjservices.com)

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

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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	2556	0
Casing	Outer	20	19.5	53	n/a	0	100	0
Casing	Inner	9.625	8.921	36	LTC	0	2478	0

### 1.2 Equipment / People

Unit Type	Unit	Employee #1	Employee #2	Mileage
Silo	25 Silo			
Silo	11			
Cement Chemical	401	Aden, Alan		65
Cement Pump	PPC11250	Turek, Chad	Ham, Robert	65
Light Duty Pickups	2	Linn III, Paul		65

### 1.3 Timing

Event	Date/Time
Call Out	10/10/2017 00:30
Depart Facility	10/9/2017 20:00
On Location	10/9/2017 22:00
Rig Up Iron	10/9/2017 22:30
Job Started	10/10/2017 10:58
Job Completed	10/10/2017 18:45
Rig Down Iron	10/10/2017 19:40
Depart Location	10/10/2017 20:30

### 1.4 General Job Information

Metrics	Value
Well Fluid Density	9 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	191 bbls
Rig Circulation Time	1 hours
Calculated Displacement	188.24 bbls
Actual Displacement	185 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	Yes
Top Out Volume	14.98 bbls

### 1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	8
Yield Point	9
10 sec. SGS	10
10 min. SGS	18
30 min. SGS	35
Filtrate	16
Flow Line Temp.	73

### 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	8.33 lb/gal
Well Fluid Density Out of Well	9 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	0	50

### Circulation Details:

ONCE THE RIG SHUT DOWN LOST RETURNS UNTIL 200 BBLS OF LEAD CEMENT WHEN FULL RETURNS STARTED, HAD FULL RETURNS THROUGH TAIL CEMENT, HAD FULL RETURNS UNTIL 50 BBLS OF DISPLACEMENT, THEN THEY BECAME INTERMITTENT UNTIL 70 BBLS AWAY WHEN THEY WERE LOST ALL THE WAY.

## 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		550.00	217.80	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	STEACS	10/9/2017	19:30					PRE-CONVOY SAFETY MEETING/ JOURNEY MANAGEMENT
2	DEPART YARD	10/9/2017	20:00					DEPART RIFLE YARD FOR H&P 330
3	ARRIVE ON LOCATION	10/9/2017	22:00					ARRIVE ON LOCATION
4	STEACS	10/9/2017	22:15					PRE-RIG UP SAFETY MEETING
5	RIG UP	10/9/2017	22:30					SPOT EQUIPMENT AND RIG UP EQUIPMENT
6	CALL OUT	10/10/2017	00:30					CALL OUT ON LOCATION TIME OF 10:00 A.M
7	STEACS	10/10/2017	10:15					PRE-JOB SAFETY MEETING WITH COMPANY MAN, RIG CREW, AND ALL BJ SERVICES CREW.
8	RIG UP	10/10/2017	10:30					STAB PLUG CONTAINER ON CASING, LOAD PLUG VERIFIED BY COMPANY MAN, HOOK UP LINES.
9	SPACER	10/10/2017	10:58	8.33	2	5	22	FILL LINES WITH 5 BBLS. OF FRESH WATER
10	PRESSURE TEST	10/10/2017	11:01				4215	PRESSURE TEST TO 4215 PSI. PRESSURE HELD
11	SPACER	10/10/2017	11:07	8.33	4	20	205	FINISHED PUMPING 20 BBLS. OF FRESH WATER
12	SPACER	10/10/2017	11:11	10	4	20	225	PUMPED 20 BBLS. OF SODIUM SILICATE
13	SPACER	10/10/2017	11:15	8.33	4	20	276	PUMPED 20 BBLS OF FRESH WATER.
14	LEAD	10/10/2017	11:29	12	4	10	80	PUMPED LEAD CEMENT, 703 SKS, 2.53 FT3/SK, 14.85 GAL/SK, 12 PPG, FOR A TOTAL OF 316.77 BBLS OF LEAD. REQUIRING 248.56 BBLS OF WATER. WEIGHT VERIFIED WITH MUD SCALES.
15	LEAD	10/10/2017	11:37	12	5.5	45	121	PUMPED LEAD CEMENT.
16	LEAD	10/10/2017	11:39	12	6	60	202	PUMPED LEAD CEMENT.
17	LEAD	10/10/2017	11:47	12	5.5	100	157	PUMPED LEAD CEMENT.
18	LEAD	10/10/2017	12:00	12	4.5	180	95	PUMPED LEAD CEMENT.
19	LEAD	10/10/2017	12:25	12	4	280	71	PUMPED LEAD CEMENT.
20	LEAD	10/10/2017	12:33	12	4	334	62	FINISHED PUMPING LEAD CEMENT WITH 334 BBLS AWAY
21	SHUT DOWN	10/10/2017	12:34					SHUT DOWN DUE TO NOT GETTING CEMENT.



22	TAIL	10/10/2017	12:38	12.5	4	20	56	PUMPED TAIL CEMENT, 162 SKS, 2.22 FT3/SK, 12.58 GAL/SK, 12.5 PPG, FOR A TOTAL OF 64.05 BBLS OF TAIL. REQUIRING 48.52 BBLS OF WATER. WEIGHT VERIFIED WITH MUD SCALES.
23	TAIL	10/10/2017	12:52	12.5	5.5	30	159	PUMPED TAIL CEMENT
24	TAIL	10/10/2017	12:55	12.5	4.5	40	69	PUMPED TAIL CEMENT
25	TAIL	10/10/2017	13:00	12.5	4.5	61	62	FINISHED PUMPING TAIL CEMENT WITH 61 BBLS AWAY
26	SHUT DOWN	10/10/2017	13:01					SHUT DOWN
27	DROP PLUG	10/10/2017	13:05					DROPPED TOP PLUG VERIFIED BY COMPANY MAN
28	PUMPED 2 BBLS OF CEMENT	10/10/2017	13:08	12.5	2.5	2	131	STARTED DISPLACEMENT WITH 2 BBLS OF TAIL CEMENT ON TOP OF THE PLUG
29	DISPLACEMENT	10/10/2017	13:10	8.33	2.5	10	134	PUMPED FRESH WATER DISPLACEMENT
30	DISPLACEMENT	10/10/2017	13:12	8.33	4	20	238	PUMPED FRESH WATER DISPLACEMENT
31	DISPLACEMENT	10/10/2017	13:15	8.33	5	30	309	PUMPED FRESH WATER DISPLACEMENT
32	DISPLACEMENT	10/10/2017	13:19	8.33	5.5	50	363	PUMPED FRESH WATER DISPLACEMENT
33	DISPLACEMENT	10/10/2017	13:23	8.33	7	100	425	PUMPED FRESH WATER DISPLACEMENT
34	DISPLACEMENT	10/10/2017	13:32	8.33	4	121	218	PUMPED FRESH WATER DISPLACEMENT
35	DISPLACEMENT	10/10/2017	13:40	8.33	4	170	315	PUMPED FRESH WATER DISPLACEMENT
36	DISPLACEMENT	10/10/2017	13:42	8.33	2	171	208	PUMPED FRESH WATER DISPLACEMENT
37	DISPLACEMENT	10/10/2017	13:45	8.33	2	185	346	FINISHED PUMPING DISPLACEMENT WITH 185 BBLS AWAY.
38	LAND PLUG	10/10/2017	13:47				1132	LANDED THE PLUG. FINAL CIRCULATING PRESSURE WAS 346 PSI. TOOK TO 1132 PSI.
39	CHECK FLOATS	10/10/2017	13:50					CHECK FLOATS, FLOATS HELD 1 BBL BACK
40	STEACS	10/10/2017	13:51					PRE-RIG DOWN/UP SAFETY MEETING TO PUMP ON PARASITE STRING
41	RIG DOWN/ RIG UP	10/10/2017	13:52					BREAK OFF PLUG CONTAINER AND HOOK UP TO PARASITE STRING
42	PUMP ON PARASITE STRING	10/10/2017	13:54	8.33	1.5	0	0	PUMP ON PARASITE STRING WITH 100 LBS OF SUGAR



43	BREAK CIRCULATION ON PARASITE STRING	10/10/2017	13:58	8.33	1.5	7	165	AT 7 BBLS AWAY BROKE PRESSURE ON PARASITE STRING
44	SHUT DOWN	10/10/2017	14:00					SHUT DOWN
45	WASH PUMPS AND LINES	10/10/2017	14:05					WASH PUMPS AND LINES INTO CELLAR RING
46	STEACS	10/10/2017	14:20					PRE-RIG DOWN/UP SAFETY MEETING TO RIG UP FOR TOP OUT
47	RIG DOWN/ RIG UP	10/10/2017	14:25					RIG DOWN FROM PARASITE STRING AND RIG UP TO TOP OUT.
48	STEACS	10/10/2017	17:30					PRE-TOP OUT SAFETY MEETING WITH RIG CREW
49	RIG UP	10/10/2017	17:50					RIG UP FOR TOP OUT
50	SPACER	10/10/2017	18:18					200 LBS OF CALCIUM CHLORIDE IN 2.5 BBLS OF WATER
51	SPACER	10/10/2017	18:23					SODIUM SILICATE
52	TOP OUT	10/10/2017	18:33					PUMPED TOP OUT CEMENT, 50 SKS, 2.22 FT3/SK, 12.58 GAL/SK, 12.5 PPG, FOR A TOTAL OF 19.77 BBLS OF TOP OUT. REQUIRING 14.98 BBLS OF WATER. WEIGHT VERIFIED WITH MUD SCALES.
53	CEMENT TO SURFACE	10/10/2017	18:38					CEMENT TO SURFACE
54	SHUT DOWN	10/10/2017	18:39					SHUT DOWN
55	PUMP CEMENT	10/10/2017	18:41					SWAPPED OVER TO LAST PARASITE STRING AND PUMPED 3 BBLS OF CEMENT
56	SHUT DOWN	10/10/2017	18:43					SHUT DOWN
57	WASH UP LINES	10/10/2017	18:45					WASH LINES CLEAN INTO CELLAR RING
58	WASH UP PUMPS AND LINES	10/10/2017	19:00					SWAPPED OVER TO 3-SIDED TANK AND WASHED PUMPS AND LINES
59	STEACS	10/10/2017	19:30					PRE-RIG DOWN SAFETY MEETING
60	RIG DOWN	10/10/2017	19:40					RIG DOWN ALL EQUIPMENT
61	AAR	10/10/2017	20:10					AFTER ACTION REVIEW WITH ALL BJ CEMENT CREW
62	DEPART LOCATION	10/10/2017	20:30					THANK YOU FOR USING BJ SERVICES, ANDREW LINN AND CREW





### 3 Water Analysis

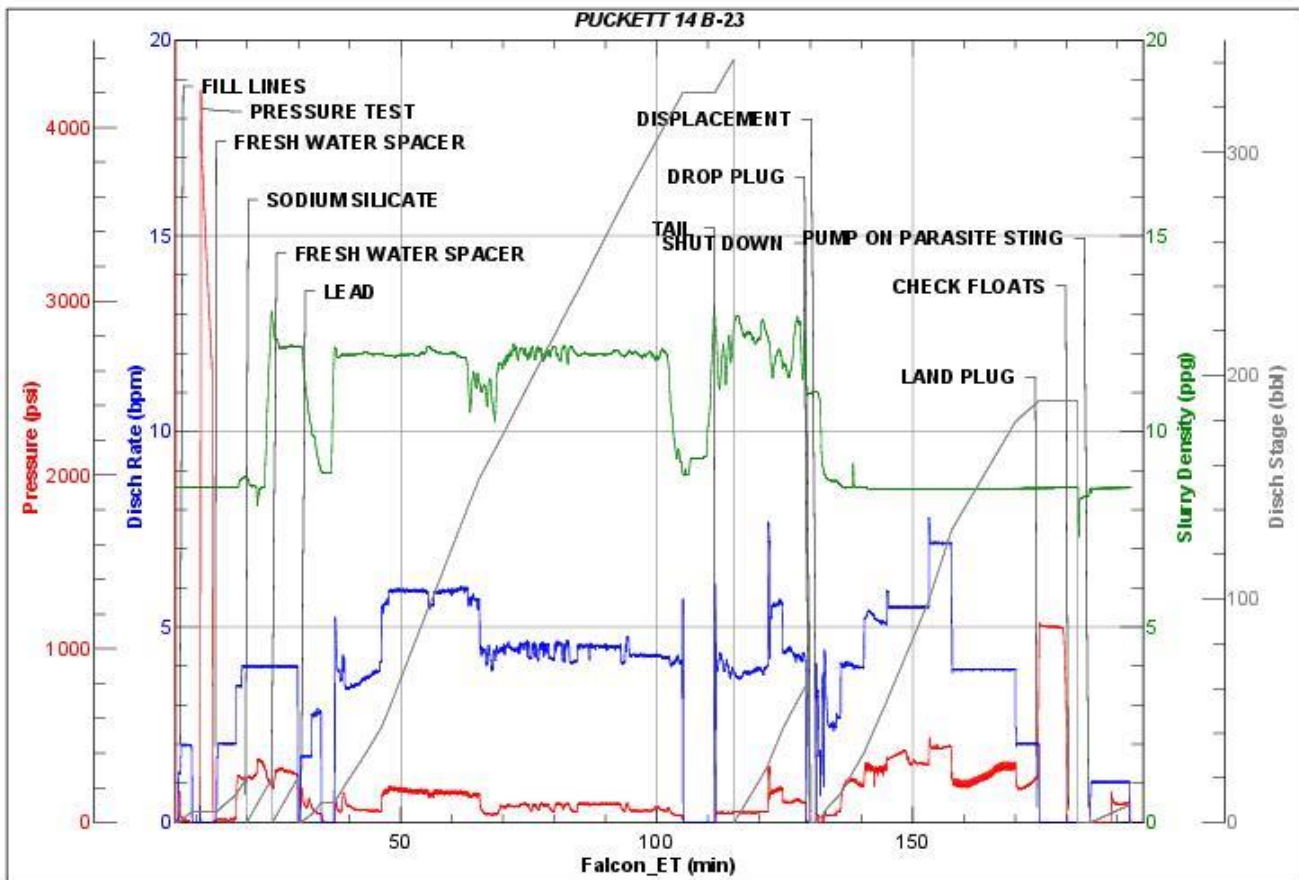
Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	69.8	50-80 °F
pH Level	7	5.5-8.5
Chlorides	<289	0-3000 mg/L
Total Alkalinity	240	0-1000
Total Hardness	<250	0-500 mg/L
Carbonates	N/A	0-100 mg/L
Sulfates	<200	0-1500 mg/L
Potassium	250	0-3000 mg/L
Iron	0	0-300 mg/L

## 4 Pump Diagrams

Job Chart



**JobMaster Program Version 4.02C 1**  
Job Number: 1492  
Customer: CAERUS  
Well Name: PUCKETT 14B-23



BJ Services

Job Start: Tuesday, October 10, 2017



Top Out

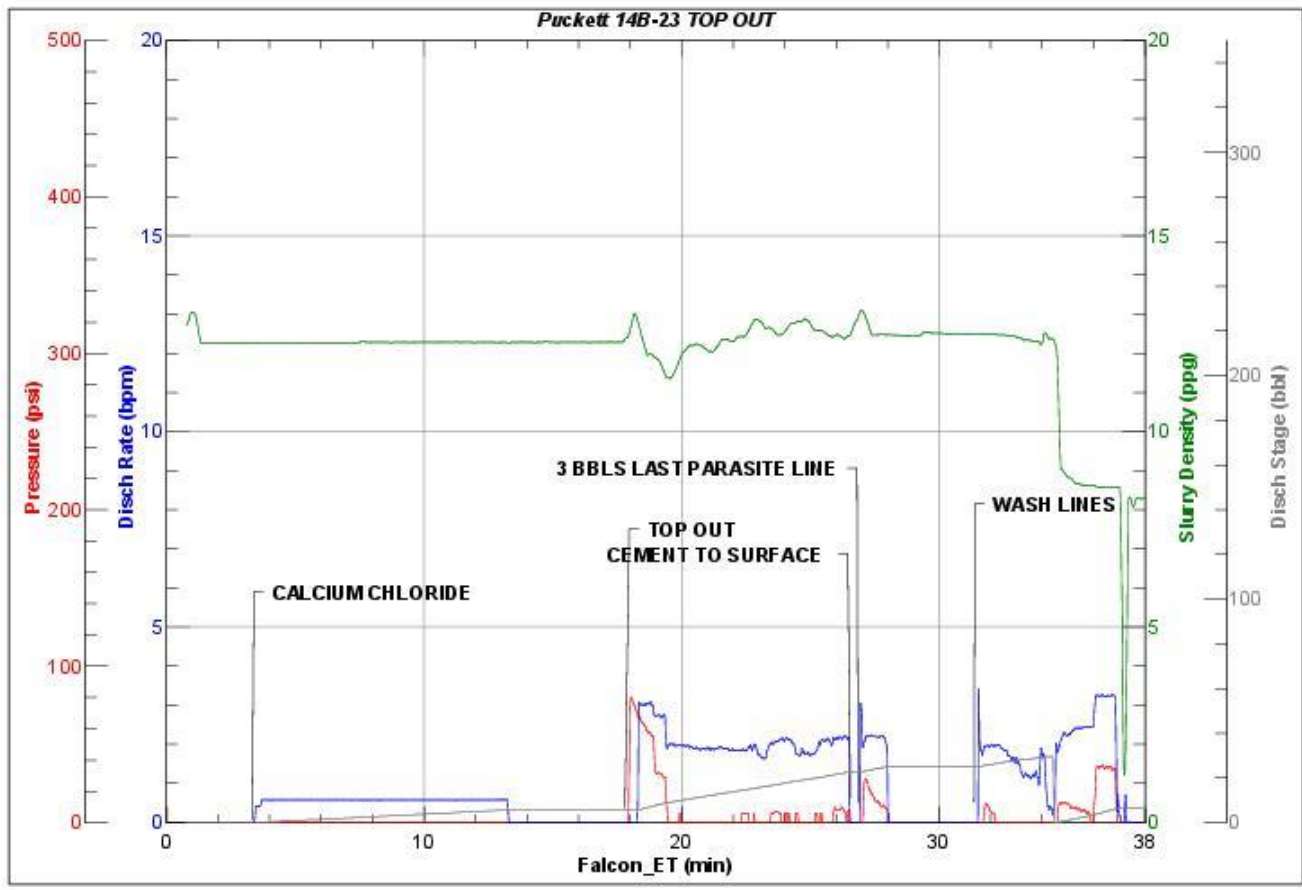


JobMaster Program Version 4.02C 1

Job Number: 1326

Customer: CAERUS

Well Name: PUCKETT 24D-23



BJ Services

Job Start: Tuesday, October 10, 2017