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# Caerus

## PRODUCTION POST JOB REPORT

Puckett 13C-23 697 05-045-23375  
S:23 T:6S R:97W Garfield CO

CallSheet #: 1386  
Proposal #: 13996



**PRODUCTION 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)

**Field Office**      28730 US-6, Rifle, CO 81650  
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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	8.75	n/a	n/a	2500	6991	20
Open Hole	Outer	n/a	8.75	n/a	n/a	6991	9519	0
Casing	Inner	4.5	4	11.6	n/a	0	9504	0
Casing	Outer	9.625	8.921	36	LTC	0	2500	0

### 1.2 Equipment / People

Unit Type	Unit	Employee #1	Mileage
Silo	11		
Silo	652		
Cement Chemical	403	Velazquez, Damien	35
Cement Pump	PPC11250	McNeal, Lawrence	35
Light Duty Pickups	2	Gilliam, Glen	35

### 1.3 Timing

Event	Date/Time
Call Out	9/24/2017 05:00
Depart Facility	9/24/2017 09:30
On Location	9/24/2017 11:00
Rig Up Iron	9/24/2017 11:30
Job Started	9/24/2017 18:35
Job Completed	9/24/2017 21:30
Rig Down Iron	9/24/2017 20:50
Depart Location	9/24/2017 22:15

### 1.4 General Job Information

Metrics	Value
Well Fluid Density	9 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	600 bbls
Rig Circulation Time	1 hours
Calculated Displacement	147 bbls
Actual Displacement	147 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls

### 1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	22
Yield Point	16
10 sec. SGS	10
10 min. SGS	21
30 min. SGS	49
Filtrate	3.4
Flow Line Temp.	89

### 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 lb/gal
Well Fluid Density Out of Well	9 lb/gal

### 1.7 Job Details (cont.)

Metrics	Value
BHCT	183 °F
BHST	255 °F



## 1.8 Circulation

Lost Circulation Experienced
Yes

### Circulation Details:

DID NOT SEE RETURNS THROUGHOUT ENTIRE 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	39
1	2	Sodium Silicate	Flush	9.16			31.50		20.00	386
1	3	Water	Flush	8.33			42.00		180.00	733
1	4	P100-X2	Lead	12.70	1.98	11.07		615.00	216.64	3691
1	5	P70-X1	Tail	13.50	1.90	9.55		326.00	110.29	6991
1	6	3% KCl	DisplacementFinal	8.33			42.00		140.00	0

## 1.10 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Flush	Sodium Silicate	ASF-10	Extender	10.50	gal/bbl
1	4	Lead	P100-X2	AC3-10	Cement	100.00	%
1	4	Lead	P100-X2	ABX-30	BondEnhancer	0.30	%BWOB
1	4	Lead	P100-X2	ADF-11	Defoamer	0.30	%BWOB
1	4	Lead	P100-X2	ADS-10	Dispersant	0.10	%BWOB
1	4	Lead	P100-X2	AFL-50	FluidLoss	0.50	%BWOB
1	4	Lead	P100-X2	AR-10	Retarder	0.50	%BWOB
1	4	Lead	P100-X2	AVS-10	Viscosifier	0.10	%BWOB
1	5	Tail	P70-X1	ACG-10	Cement	70.00	%
1	5	Tail	P70-X1	AFA-10	Extender	20.00	%
1	5	Tail	P70-X1	AXE-20	Extender	10.00	%
1	5	Tail	P70-X1	ABX-30	BondEnhancer	0.20	%BWOB
1	5	Tail	P70-X1	ADF-11	Defoamer	0.30	%BWOB
1	5	Tail	P70-X1	AFL-10	FluidLoss	0.40	%BWOB
1	5	Tail	P70-X1	AR-10	Retarder	0.30	%BWOB
1	5	Tail	P70-X1	ASR-20	StrengthRetrogression	25.00	%BWOB
1	5	Tail	P70-X1	AVS-50	Viscosifier	6.00	%BWOB



## 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	BJ CREW CALLED OUT	9/24/2017	05:00					RTS- 13:00
2	Safety Meeting	9/24/2017	09:15					STEACS/ JOURNEY WITH BJ CREW
3	BJ CREW DEPARTS	9/24/2017	09:30					BJ CREW DEPARTS TO LOCATION
4	BJ ARRIVES	9/24/2017	11:00					BJ ARRIVES ON LOCATION
5	RIG UP MEETING	9/24/2017	11:15					RIG UP MEETING WITH BJ CREW
6	RIG UP EQUIPMENT	9/24/2017	11:30					BJ CREW RIGS UP EQUIPMENT
7	BJ CREW DOWN	9/24/2017	12:00					BJ CREW DOWN, RIG RUNNING CASING
8	PIPE ON BOTTOM	9/24/2017	17:15					PIPE ON BOTTOM, RIG CIRCULATING BOTTOMS UP
9	STAB HEAD	9/24/2017	18:15					BJ CREW STABS HEAD
10	SAFETY MEETING	9/24/2017	18:25					SAFETY MEETING WITH RIG CREW
11	BREAK CIRCULATION	9/24/2017	18:35	8.34	5	5	166	BROKE CIRCULATION
12	TEST LINES	9/24/2017	18:37					TEST LINES 5000 PSI
13	FRESH WATER	9/24/2017	18:39		5.5	15	216	15 BBLS FRESH WATER
14	SODIUM SILICATE	9/24/2017	18:42	9	5.5	20	217	20 BBLS SODIUM SILICATE
15	FRESH WATER SPACER	9/24/2017	18:45	8.34	8		365	START 180 FRESH WATER SPACER
16	50 BBLS GONE	9/24/2017	18:52	8.34	8	50	366	50 BBLS GONE FRESH WATER
17	100 BBLS GONE	9/24/2017	18:58	8.34	8	100	488	100 BBLS GONE FRESH WATER
18	150 BBLS GONE	9/24/2017	19:04	8.34	8	150	529	150 BBLS GONE FRESH WATER
19	BATCH UP LEAD	9/24/2017	19:09	12.7				BATCH UP LEAD AT 12.7 PPG
20	LEAD DOWN HOLE	9/24/2017	19:12	12.7	6		460	LEAD DOWN HOLE
21	50 BBLS GONE	9/24/2017	19:19	12.7	7	50	643	50 BBLS LEAD CEMENT GONE
22	100 BBLS GONE	9/24/2017	19:28	12.7	7.5	100	643	100 BBLS LEAD CEMENT GONE
23	150 BBLS GONE	9/24/2017	19:34	12.7	6	150	460	150 BBLS LEAD CEMENT GONE
24	BATCH UP TAIL	9/24/2017	19:40	13.5				BATCH UP TAIL CEMENT AT 13.5 PPG
25	TAIL DOWN HOLE	9/24/2017	19:41	13.5	3		200	TAIL CEMENT DOWN HOLE
26	50 BBLS GONE	9/24/2017	19:49	13.5	6	50	916	50 BBLS TAIL CEMENT GONE



27	100 BBLS GONE	9/24/2017	19:58	13.5	3	100	215	100 BBLS TAIL CEMENT GONE
28	SHUT DOWN	9/24/2017	20:00					SHUT DOWN WASH LINES
29	DROP TOP PLUG	9/24/2017	20:08		3		174	DROP TOP PLUG/ START DISPLACEMENT
30	50 BBLS GONE	9/24/2017	20:18		7	50	300	50 BBLS GONE
31	100 BBLS GONE	9/24/2017	20:24		7	100	587	100 BBLS GONE
32	SHUT DOWN	9/24/2017	20:38				650	SHUT DOWN, DISPLACED 147 BBLS, DID NOT BUMP PLUG, TALKED WITH COMPANY MAN. FCP- 650 AT 2 bpm CHECK FLOATS
33	BLED PRESSURE	9/24/2017	20:42					BLED PRESSURE WITH 405 PSI, FLOATS HELD, ONLY .5 BBLS BACK
34	RIG DOWN MEETING	9/24/2017	20:45					RIG DOWN MEETING WITH BJ CREW
35	BJ CREW RIGS DOWN	9/24/2017	20:50					BJ CREW RIGS DOWN EQUIPMENT
36	JOB COMPLETE	9/24/2017	21:30					JOB COMPLETE
37	Safety Meeting	9/24/2017	22:00					STEACS/ JOURNEY WITH BJ CREW
38	BJ CREW DEPARTS	9/24/2017	22:15					BJ CREW DEPARTS LOCATION



### 3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	51 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	75	0-1000
Total Hardness	70 mg/L	0-500 mg/L
Carbonates	140 mg/L	0-100 mg/L
Sulfates	<200 mg/L	0-1500 mg/L
Potassium	450 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L



## 4 Pump Diagrams

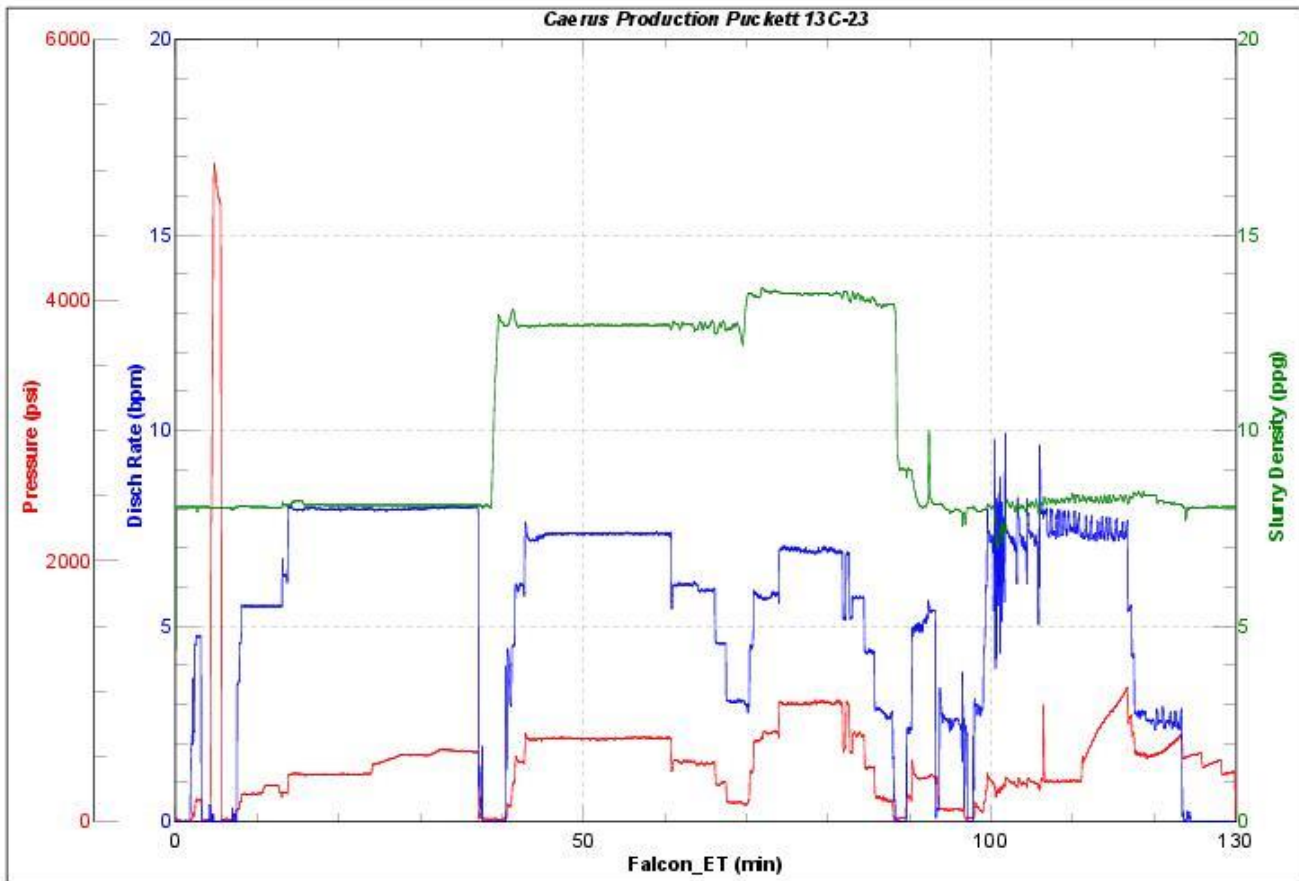


JobMaster Program Version 4.02C1

Job Number: 1386

Customer: Caerus

Well Name: Puckett 13C-23



BJ Services

Job Start: Sunday, September 24, 2017