



Caerus

SURFACE POST JOB REPORT

Puckett 15A-23 697 05-045-23389
S:23 T:6S R:97W Garfield CO

CallSheet #: 1174
Proposal #: 13768



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 475 17th St. Suite 460 Denver Co., 80202
Phone: (303) 296-1158



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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	0	2025	25
Open Hole	Outer	n/a	14.75	n/a	n/a	2025	2525	0
Casing	Outer	20	19.5	53	-	0	100	0
Casing	Inner	9.625	8.921	36	-	0	2523.5	0

1.2 Equipment / People

Unit Type	Unit	Employee #1	Employee #2	Mileage
Silo	651			
Silo	25			
Cement Pump	104	Linn III, Paul		75
Cement Chemical	403	Ham, Robert		75
Light Duty Pickups	4	Tippetts, Allen	Turek, Chad	75

1.3 Timing

Event	Date/Time
Call Out	8/15/2017 01:40
Depart Facility	8/15/2017 03:00
On Location	8/15/2017 04:30
Rig Up Iron	8/15/2017 04:45
Job Started	8/15/2017 07:45
Job Completed	8/15/2017 15:10
Rig Down Iron	8/15/2017 15:15
Depart Location	8/15/2017 17:10

1.4 General Job Information

Metrics	Value
Well Fluid Density	8.6 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	292.5 bbls
Rig Circulation Time	0.75 hours
Calculated Displacement	191.6 bbls
Actual Displacement	191.6 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	Yes
Top Out Volume	35 bbls

1.5 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	8.6 lb/gal
Well Fluid Density Out of Well	8.6 lb/gal

1.6 Job Details (cont.)

Metrics	Value
BHCT	94 °F
BHST	128 °F



1.7 Circulation

Lost Circulation Experienced
Yes

Circulation Details:

No circulation throughout job

1.8 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	2025
1	6	Water	DisplacementFinal	8.33			42.00		191.00	0
1	7	S100-12	Topout	12.50	2.22	12.58		88.00	35.00	0

1.9 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	4	Lead	S100-12	ADF-20	Defoamer	1.00	
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	5	Tail	S100-12	ADF-20	Defoamer	1.00	
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	8/15/2017	01:00					BJ cement crew called out
2	STEACS Safety Meeting	8/15/2017	02:45					STEACS meeting with BJ cement crew. Discuss nighttime driving, road conditions, wildlife, and route
3	Depart	8/15/2017	03:00					Depart Rifle yard for H&P 330
4	Arrive	8/15/2017	04:30					Arrive on location
5	STEACS Safety Meeting	8/15/2017	04:30					STEACS with BJ crew. Discuss rig up procedure, equipment placement, job assignments and safety concerns
6	Rig-up	8/15/2017	04:45					BJ crew perform rig-up of ground equipment
7	STEACS Safety Meeting	8/15/2017	06:20					STEACS with rig crew, company rep, and BJ cement crew
8	Rig-up	8/15/2017	06:45					Final rig-up of ground equipment
9	Fill pumps and lines	8/15/2017	07:47		2	5	0	Pump 5 bbls fresh water ahead to fill pumps and lines
10	Pressure test	8/15/2017	07:49				3000	Pressure test ground lines from cement unit to cement head
11	Release Pressure	8/15/2017	07:50					Pressure test good, release pressure
12	Pump spacer	8/15/2017	07:51		2	15	0	Pump remaining 15bbls fresh water spacer
13	Pump sodium silicate	8/15/2017	07:54		2	20	0	Pump 20bbls sodium silicate spacer
14	Pump Fresh water	8/15/2017	07:58		2	5	0	Pump 5 bbls fresh water spacer
15	Mix and pump lead cement	8/15/2017	08:01		7	317	0-165	Mix and pump 317bbls Lead cement @12.0ppg, 703sks, 2.53yld, 14.85gal/sk
16	Shut Down	8/15/2017	08:28					Shutdown to correct density. Cement head packing off, ADC not responding. Clean cement head.
17	Pump remaining lead cement	8/15/2017	08:35	12	7			Pump remaining lead cement
18	Mix and pump tail cement	8/15/2017	08:55	12.5	7	64.05	170	Mix and pump 64.05bbls tail cement @12.5ppg, 162sks, 2.22yld, 14.85gal/sk
19	Shut down	8/15/2017	09:17					Shutdown, drop plug. Plug witnessed by company rep
20	Pump displacement	8/15/2017	09:23		7	191.6	0	Pump 191.6bbls fresh water displacement

21	Slow rate	8/15/2017	09:51		2	180	415	Slow rate to 2bbls/min with 180bbls displacement away
22	Land plug	8/15/2017	10:01					Land plug. Final circulating pressure 440psi. Pressure up to 1,100psi and hold for 5 min
23	Release Pressure	8/15/2017	10:06					Release pressure and check floats. Floats holding with 1bbl back to unit
24	Pump fresh water	8/15/2017	10:08		1	10	0	Pump 10bbls fresh water down parasite line. Pressure with 6bbls away. Break over pressure 204psi
25	STEACS Safety Meeting	8/15/2017	10:11					STEACS to cover rig-down of surface equipment
26	Rig-down	8/15/2017	10:12					Rig-down surface lines at cement head. Pull cement head and landing collar. Cement head placed on BOP deck in rig sub
27	Waiting	8/15/2017	10:30					Waiting 4 hours on cement.
28	Pump CC water	8/15/2017	02:30	8.48	1	2	0	Pump 2bbls 2% CC water
29	Pump SS	8/15/2017	02:32	11.6	1	4.2	0	Pump 170 gal Sodium Silicate water
30	Mix and pump top-out cement / SS	8/15/2017	02:37	12.5	1.5	5	0	Mix and pump top-out cement @12.5ppg, 13sks, 2.22yld, 12.58gal/sk. While pumping SS.
31	Shut down, pump SS	8/15/2017	02:41					Shut down and pump 45 gal SS
32	Pump Top-out	8/15/2017	02:58	12.5	1.5	30	0	Mix and pump top-out cement @12.5ppg, 175sks, 2.22yld, 12.58gal/sk. While pumping SS
33	Pump cement	8/15/2017	03:01	12.5	0.5	2		Pump top out cement down 2 previous parasite lines
34	shut down	8/15/2017	03:10					Shut down. End cement job
35	STEACS Safety Meeting	8/15/2017	03:15					STEACS with BJ crew discuss rig down procedures and assign tasks
36	STEACS Safety Meeting	8/15/2017	04:30					STEACS journey management. Discuss driving conditions and route
37	Depart Location	8/15/2017	05:10					Depart location for Rifle yard



3 Water Analysis

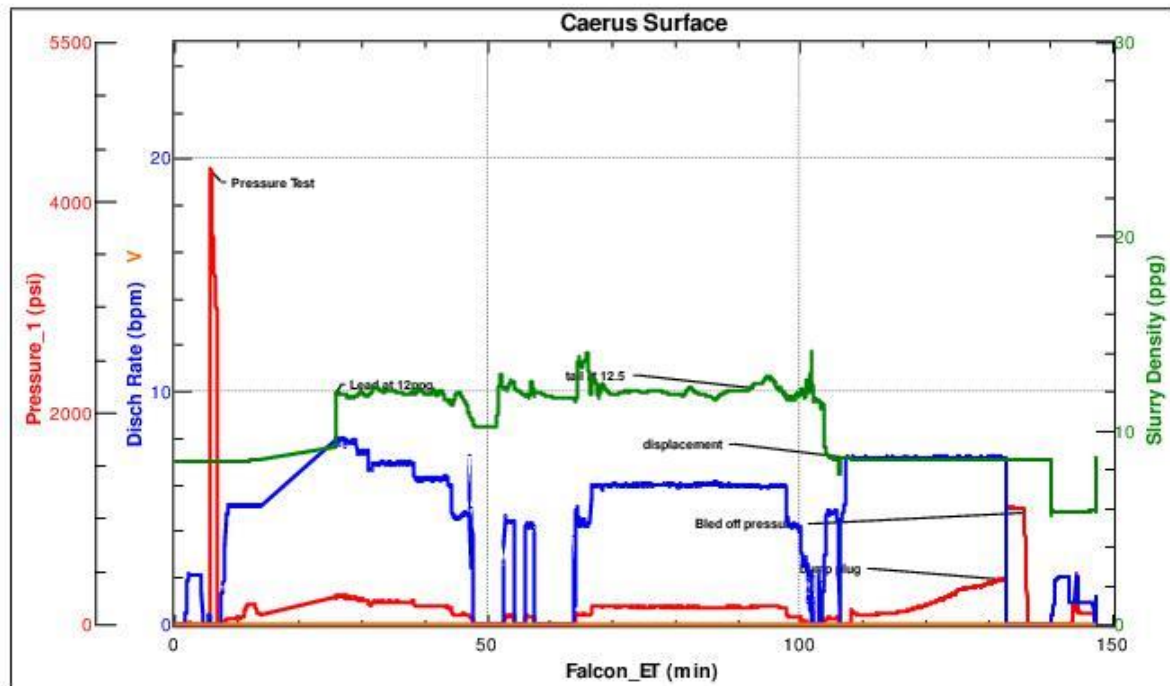
Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	60 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	950 mg/L	0-3000 mg/L
Total Alkalinity	240	0-1000
Total Hardness	250 mg/L	0-500 mg/L
Carbonates	16 mg/L	0-100 mg/L
Sulfates	1200 mg/L	0-1500 mg/L
Potassium	1500 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

4 Pump Diagrams

Job Chart



Baker Hughes JobMaster Program Version 4.02
Job Number: 1174
Customer: Caerus
Well Name: puckett



Baker Hughes

Job Start: Tuesday, August 15, 2017

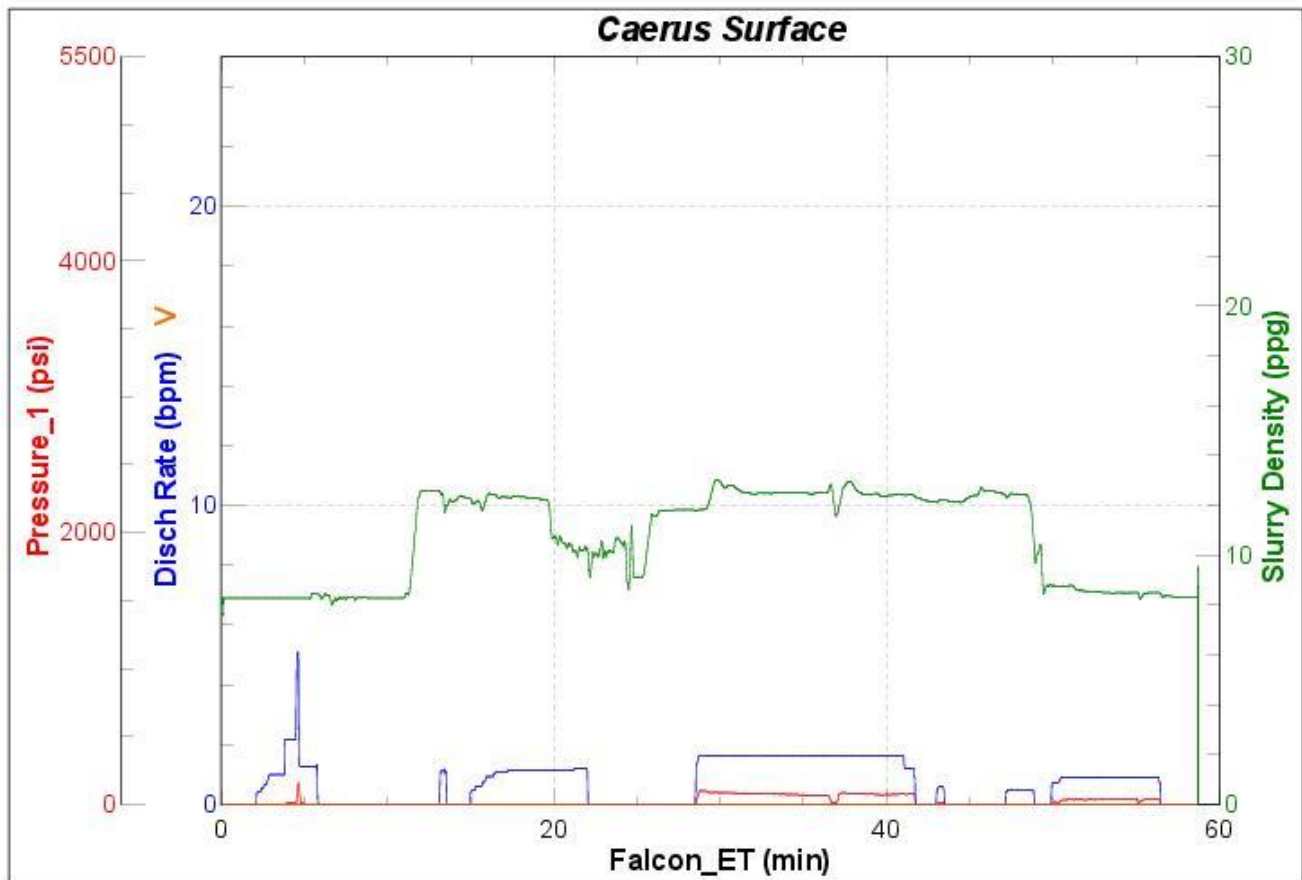


Top Out



JobMaster Program Version 4.02C1

Job Number: 1174
Customer: Caerus
Well Name: puckett



BJ Services

Job Start: Tuesday, August 15, 2017