



Caerus

# Surface Post Job Report

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**Puckett 15C-23 697 05-045-23378**

S:23 T:6S R:97W Garfield, CO

Quote #:

| Execution #:

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# Caerus

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  
Field Engineer II | (307) 757-7178 | [Zen.Keith@bjservices.com](mailto:Zen.Keith@bjservices.com)

Field Office 28730 US-6, Rifle, CO 81650  
Phone: (970) 632-2412

Sales Office 999 18th St. Suite 1200 Denver, CO 80202  
Phone: (281) 408-2361

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# Cementing Treatment



<b>Start Date</b>	11/5//2017	<b>Well</b>	Puckett 15C-23 697
<b>End Date</b>	11/5/2017	<b>County</b>	GARFIELD
<b>Client</b>	CAERUS OPERATING, LLC	<b>State/Province</b>	CO
<b>Client Field Rep</b>		<b>API</b>	05-045-23378
<b>Service Supervisor</b>	JAVIER CASTILLO	<b>Formation</b>	
<b>Field Ticket No.</b>		<b>Rig</b>	H&P 330
<b>District</b>	Rifle, CO	<b>Type of Job</b>	Surface

## WELL GEOMETRY

Type	ID (in)	OD (in)	Wt. (lb/ft)	MD (ft)	TVD (ft)	Excess(%)	Grade	Thread
Previous Casing	19.50	20.00	52.73	100.00	100.00			
Open Hole	14.75			2,000.00	2,000.00	25.00		
Open Hole	14.75			2,527.00	2,527.00			
Casing	8.92	9.63	36.00	2,502.00	2,502.00			

**Shoe Length (ft):** 40

## HARDWARE

<b>Bottom Plug Used?</b>	No	<b>Tool Type</b>	
<b>Bottom Plug Provided By</b>		<b>Tool Depth (ft)</b>	
<b>Bottom Plug Size</b>		<b>Max Tubing Pressure - Rated (psi)</b>	
<b>Top Plug Used?</b>	YES	<b>Max Tubing Pressure - Operated (psi)</b>	
<b>Top Plug Provided By</b>	CUSTOMER	<b>Max Casing Pressure - Rated (psi)</b>	3520
<b>Top Plug Size</b>	9 5/8	<b>Max Casing Pressure - Operated (psi)</b>	2816
<b>Centralizers Used</b>	YES	<b>Pipe Movement</b>	No
<b>Centralizers Quantity</b>		<b>Job Pumped Through</b>	Cement Head
<b>Centralizers Type</b>		<b>Top Connection Thread</b>	8RD
<b>Landing Collar Depth (ft)</b>	2,461.5	<b>Top Connection Size</b>	9 5/8

# Cementing Treatment



## CIRCULATION PRIOR TO JOB

Well Circulated By	RIG	Solids Present at End of Circulation	No
Circulation Prior to Job	NO	10 sec SGS	3
Circulation Time (min)	60	10 min SGS	5
Circulation Rate (bpm)		30 min SGS	13
Circulation Volume (bbls)		Flare Prior to/during the Cement Job	No
Lost Circulation Prior to Cement Job	YES	Gas Present	No
Mud Density In (ppg)	9	Gas Units	0
Mud Density Out (ppg)	9		
PV Mud In	26		
PV Mud Out	26		
YP Mud In	27		
YP Mud Out	27		

## TEMPERATURE

Ambient Temperature (°F)	41	Slurry Cement Temperature (°F)	
Mix Water Temperature (°F)	66	Flow Line Temperature (°F)	

## BJ FLUID DETAILS

Fluid Type	Fluid Name	Density (ppg)	Yield (Cu Ft/sk)	H2O Req. (gals/sk)	Vol (sk)	Vol (Cu Ft)	Vol (bbls)
Spacer	Water	8.3300					20.0000
Spacer	Water	8.3300					20.0000
Spacer	Sodium Silicate	10.0000					20.0000
Lead Slurry	S100-12	12.0000	2.5329	14.89	704	1,774.0000	316.0000
Tail Slurry	S100-12	12.5000	2.2282	12.62	162	358.0000	64.0000
Top-Out	S100-12	12.5000	2.2282	12.62	200	445.0000	79.3000
Displacement Final	Displacement	8.3300				0.0000	190.0000

# Cementing Treatment



Fluid Type	Fluid Name	Component	Concentration	UOM
Spacer / Pre Flush / Flush	Sodium Silicate	SILICATE, SODIUM, A-3L	21.00	GPB
Lead Slurry	S100-12	CEMENT, ASTM TYPE III	100.00	PCT
Lead Slurry	S100-12	CEMENT EXTENDER, GYPSUM, A-10	5.00	BWOB
Lead Slurry	S100-12	FP-25, Dry Foam Preventer (BJS Only)	0.30	BWOB
Lead Slurry	S100-12	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.00	LBS/SK
Lead Slurry	S100-12	CEMENT EXTENDER, SODIUM METASILICATE	2.00	LBS/SK
Lead Slurry	S100-12	IntegraSeal CELLO	0.13	LBS/SK
Tail Slurry	S100-12	CEMENT, ASTM TYPE III	100.00	PCT
Tail Slurry	S100-12	CEMENT EXTENDER, GYPSUM, A-10	5.00	BWOB
Tail Slurry	S100-12	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.00	LBS/SK
Tail Slurry	S100-12	CEMENT EXTENDER, SODIUM METASILICATE	2.00	LBS/SK
Tail Slurry	S100-12	FP-25, Dry Foam Preventer (BJS Only)	0.30	BWOB
Tail Slurry	S100-12	IntegraSeal CELLO	0.13	LBS/SK
Top-Out / Scavenger Slurry	S100-12	CEMENT, ASTM TYPE III	100.00	PCT
Top-Out / Scavenger Slurry	S100-12	CEMENT EXTENDER, GYPSUM, A-10	5.00	BWOB
Top-Out / Scavenger Slurry	S100-12	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.00	LBS/SK
Top-Out / Scavenger Slurry	S100-12	IntegraSeal CELLO	0.13	LBS/SK
Top-Out / Scavenger Slurry	S100-12	FP-25, Dry Foam Preventer (BJS Only)	0.30	BWOB
Top-Out / Scavenger Slurry	S100-12	CEMENT EXTENDER, SODIUM METASILICATE	2.00	LBS/SK

## TREATMENT SUMMARY

# Cementing Treatment



Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)	Annulus Pressure (psi)	Comments
11/5/17 5:17	Water	5.00	20.00			
11/5/17 5:21	Sodium Silicate	5.00	20.00			
11/5/17 5:25	Water	5.00	20.00			
11/5/17 5:32	S100-12	5.00	316.00			
11/5/17 6:27	S100-12	5.00	64.00			
11/5/17 6:46	Displacement	5.00	190.00			
11/5/17 12:19	S100-12	5.00	50.00			Top Out – 127 sks

	Min	Max	Avg
Pressure (psi)	0	1000	200
Rate (bpm)	2.5	5	5

## DISPLACEMENT AND END OF JOB SUMMARY

<b>Displaced By</b>	BJ	<b>Amount of Cement Returned/Reversed</b>	None
<b>Calculated Displacement Volume (bbls)</b>	190	<b>Method Used to Verify Returns</b>	VISUAL
<b>Actual Displacement Volume (bbls)</b>	190	<b>Amount of Spacer to Surface</b>	None
<b>Did Float Hold?</b>	Yes	<b>Pressure Left on Casing (psi)</b>	0
<b>Bump Plug</b>	YES	<b>Amount Bled Back After Job</b>	0.5
<b>Bump Plug Pressure (psi)</b>	489	<b>Total Volume Pumped (bbls)</b>	630
<b>Were Returns Planned at Surface</b>	No	<b>Top Out Cement Spotted</b>	Yes
<b>Cement returns During Job</b>	No	<b>Lost Circulation During Cement Job</b>	Never Had Any

Customer Name CAERUS OPERATING, LLC  
 Well Name PUCKETT 15C-23  
 Job Type Surface

District Rifle  
 Supervisor JAVIER CASTILLO  
 Engineer GAGE PUTNAM



Seq No.	Start Date/Time	Category	Event	Equipment	Event ID	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	11/4/2017 23:45	Mobilization	Callout		1					CALL OUT
2	11/5/2017 1:00	Mobilization								CONVOY MEETING
3	11/5/2017 1:10	Mobilization								LEAVE THE YARD
4	11/5/2017 2:50	Mobilization	Arrive on Location		48					ARRIVE ON LOCATION
5	11/5/2017 3:00	Operational	Safety Meeting		53					RIG UP MEETING
6	11/5/2017 3:10	Operational	Rig Up		50					RIG UP BJ EQUIPMENT
7	11/5/2017 4:30	Operational	Safety Meeting		53					PRE-JOB SAFETY MEETING WITH RIG CREW
8	11/5/2017 5:08	Operational	Pump Spacer		56	8.34	2.5	5	30	FILL LINES
9	11/5/2017 5:11	Operational	Pressure Test		54					TEST LINES
10	11/5/2017 5:17	Operational	Pump Spacer		56	8.34	5	15	200	WATER SPACER
11	11/5/2017 5:21	Operational	Pump Spacer		56	8.5	5	20	202	SODIUM SILICATE SPACER
12	11/5/2017 5:25	Operational	Pump Spacer		56	8.34	5	20	206	WATER SPACER
13	11/5/2017 5:32	Operational	Pump Lead Cement		58	12				LEAD 701SKS/316BBLS, 12.0, 2.53, 14.89
14	11/5/2017 5:42	Operational	Pump Lead Cement		58	12	5.5	50	180	50BBLS PUMPED LEAD CEMENT
15	11/5/2017 5:52	Operational	Pump Lead Cement		58	12	5.5	50	185	100BBLS PUMPED LEAD CEMENT
16	11/5/2017 6:00	Operational	Pump Lead Cement		58	12	5.5	50	189	150BBLS PUMPED LEAD CEMENT
17	11/5/2017 6:09	Operational	Pump Lead Cement		58	12	5.5	50	180	200BBLS PUMPED LEAD CEMENT
18	11/5/2017 6:18	Operational	Pump Lead Cement		58	12	5.5	50	180	250BBLS PUMPED LEAD CEMENT
19	11/5/2017 6:25	Operational	Pump Lead Cement		58	12	5.5	50	195	316BBLS TOTAL PUMPED LEAD CEMENT
20	11/5/2017 6:27	Operational	Pump Tail Cement		60	12.5				TAIL 162SKS/64BBLS, 12.5, 2.22, 12.62
21	11/5/2017 6:39	Operational	Pump Tail Cement		60	12.5	5.5	64	197	64BBLS TOTAL TAIL CEMENT
22	11/5/2017 6:40	Operational	Drop Top Plug		63					SHUTDOWN/DROP LATCH DOWN CMT PLUG
23	11/5/2017 6:46	Operational	Pump Displacement		64	8.34				BEFIN DISPLACEMENT
24	11/5/2017 6:55	Operational	Pump Displacement		64	8.34	5.5	50	171	50BBLS PUMPED OF DISPLACEMENT
25	11/5/2017 7:05	Operational	Pump Displacement		64	8.34	5.5	50	276	100BBLS PUMPED OF DISPLACEMENT
26	11/5/2017 7:14	Operational	Pump Displacement		64	8.34	5.5	50	410	150BBLS PUMPED OF DISPLACEMENT
27	11/5/2017 7:18	Operational	Pump Displacement		64	8.34	2	30	305	SLOW RATE/ 180BBLS PUMPED OF DISPLACEMENT
28	11/5/2017 7:23	Operational	Land Plug		67				870	BUMPED PLUG/NO RETURNS THROUGH OUT THE JOB
29	11/5/2017 7:28	Operational	Check Floats		68					FLOATS HELD, 0.5BBL FLOW BACK
30	11/5/2017 7:30	Operational								CONNECT TO PARASITE LINE
31	11/5/2017 7:39	Operational				8.35	1	10	178	PUMP 10BBLS OF SUGAR WATER THROUGH PARASITE LINES
32	11/5/2017 7:50	Operational								SHUTDOWN
33	11/5/2017 7:55	Operational	Safety Meeting		53					POST JOB MEETING
34	11/5/2017 8:00	Operational								GET READY FOR TOP OUT JOB
35	11/5/2017 12:00	Operational	Safety Meeting		53					PRE-JOB SAFETY MEETING
36	11/5/2017 12:15	Operational	Pump Spacer		56	8.7	3.8	2	403	PUMP 200LBS OF CACL2
37	11/5/2017 12:17	Operational	Pump Spacer		56	8.34	3.8	2	309	WATER SPACER
38	11/5/2017 12:19	Operational	Start Pumping		55	12.5	2	48	417	PUMP TOPOUT CEMENT
39	11/5/2017 12:43	Operational	Cement Back to Surface		66					SHUTDOWN/CEMENT TO SURFACE



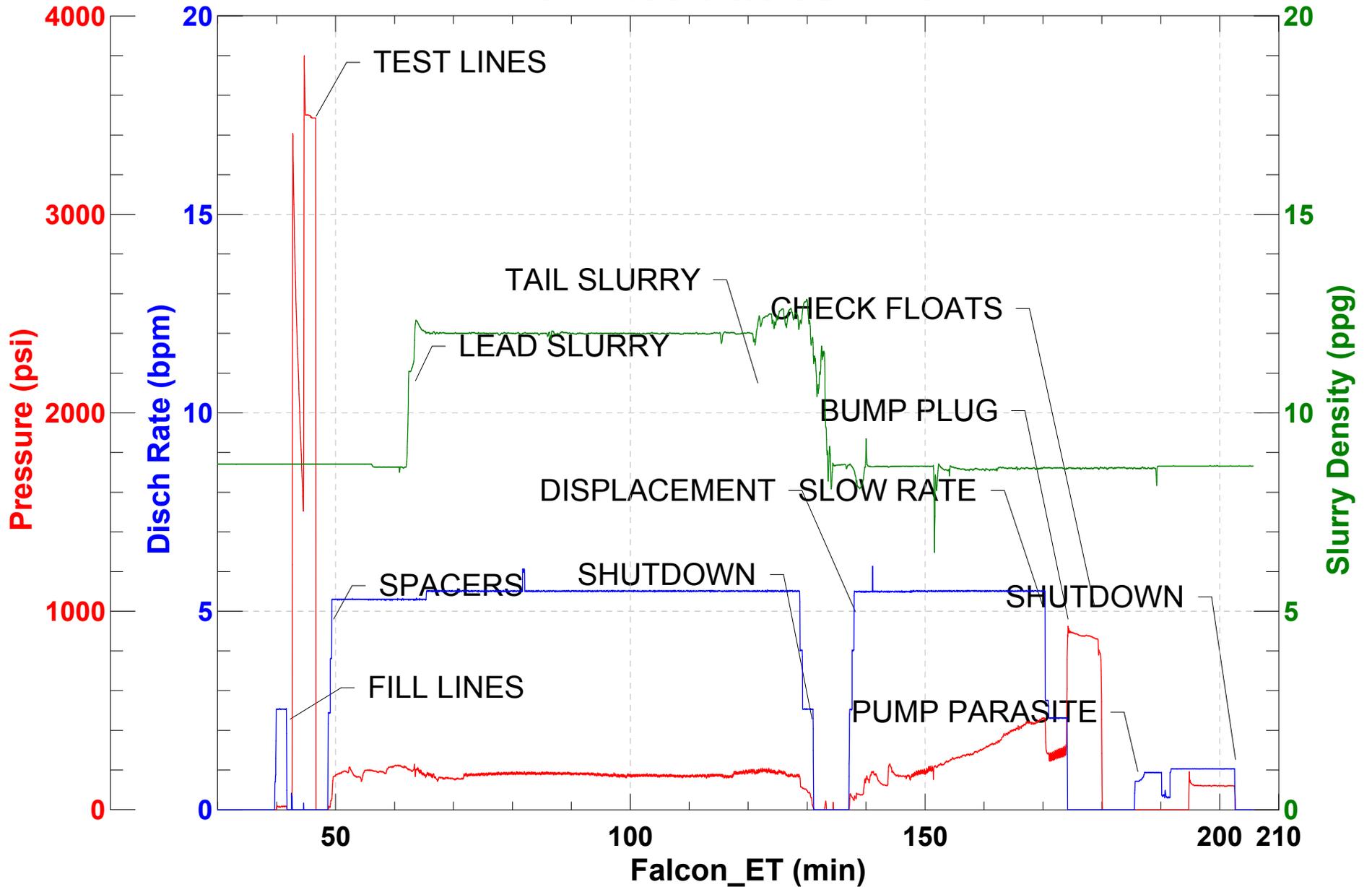
Customer Name CAERUS OPERATING, LLC  
 Well Name PUCKETT 15C-23  
 Job Type Surface

District Rifle  
 Supervisor JAVIER CASTILLO  
 Engineer GAGE PUTNAM

Seq No.	Start Date/Time	Category	Event	Equipment	Event ID	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
40	11/5/2017 12:45	Operational								SWITCH TO PREVIOUS PARASITE/PUCKETT 15B-23
41	11/5/2017 12:55	Operational	Start Pumping		55	12.5	1	2	0	PUMPED 2BBLs OF CEMENT
42	11/5/2017 12:58	Operational								SHUTDOWN/SWAP PUMP TO THE PIT TO WASH UP PUMP
43	11/5/2017 13:00 PM	Operational	Safety Meeting		53					RIG DOWN SAFETY MEETING
44	11/5/2017 13:01 PM	Operational								50BBLs TOTAL OF CEMENT PUMPED
45	11/5/2017 14:30 PM	Operational								RIG DOWN COMPLETE
46	11/5/2017 14:35 PM	Operational								AAR MEETING/CONVOY MEETING
47	11/5/2017 14:40PM	Mobilization	Leave Location		74					DEPART LOCATION
48										
49										THANK YOU FOR YOU BUSINESS FROM JAVIER CASTILLO AND CREW



# CAERUS 9 5/8 SURFACE





### CAERUS 9 5/8 SURFACE TOPOUT

