



Caerus

Surface Post Job Report

Puckett 23A-10-596 05-045-23789

S:10 T:5S R:96W Garfield CO

Quote #:

I Execution #:



Caerus

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,

Gage Putnam
Field Engineer I | (970) 632-2006 | Gage.Putnam@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

Cementing Treatment



Start Date	1/24/2018	Well	NPR 23A-10-596
End Date	1/24/2018	County	GARFIELD
Client	CAERUS OPERATING, LLC	State/Province	CO
Client Field Rep	Whitey Cottam	API	05-045-23789
Service Supervisor	Javier Castillo	Formation	-
Field Ticket No.	Surface	Rig	H&P 273
District	Rifle, CO	Type of Job	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			864.00	864.00	25.00		
Casing	8.92	9.63	36.00	1,364.00	1,364.00		J-55	LTC
Open Hole	14.75			2,250.00	2,250.00			

Shoe Length (ft): 49

HARDWARE

Bottom Plug Used?	No	Tool Type	Float Collar
Bottom Plug Provided By	-	Tool Depth (ft)	1,315.00
Bottom Plug Size	-	Max Tubing Pressure - Rated (psi)	-
Top Plug Used?	Yes	Max Tubing Pressure - Operated (psi)	-
Top Plug Provided By	Non BJ	Max Casing Pressure - Rated (psi)	3,520.00
Top Plug Size	9.625	Max Casing Pressure - Operated (psi)	2,816.00
Centralizers Used	Yes	Pipe Movement	None
Centralizers Quantity		Job Pumped Through	Manifold
Centralizers Type	Bow	Top Connection Thread	8RD
Landing Collar Depth (ft)	1,274	Top Connection Size	9.625

Cementing Treatment



CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	Solids Present at End of Circulation	No
Circulation Prior to Job	Yes	10 sec SGS	6.00
Circulation Time (min)	-	10 min SGS	8.00
Circulation Rate (bpm)	-	30 min SGS	17.00
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)	8.70	Gas Units	0
Mud Density Out (ppg)	8.70		
PV Mud In	9		
PV Mud Out	9		
YP Mud In	26		
YP Mud Out	26		

TEMPERATURE

Ambient Temperature (°F)	13.00	Slurry Cement Temperature (°F)	55.00
Mix Water Temperature (°F)	58.00	Flow Line Temperature (°F)	76.00

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 / Pre Flush / Flush	Fresh Water	8.33					20.00
Spacer / Pre Flush / Flush	Sodium Silicate	10.00					20.00
Spacer / Pre Flush / Flush	Fresh Water	8.33					20.00
Lead Slurry	S100-12	12.00	2.5298	14.86	704	1,774.00	315.90
Tail Slurry	S100-12	12.50	2.2256	12.59	162	358.00	63.70
Displacement Final	Displacement	8.33				0.00	98.40
Top Out Slurry	S100-12	12.50	2.2256	12.59	276	614.00	109.40

Cementing Treatment



Fluid Type	Fluid Name	Component	Concentration	UOM
Spacer / Pre Flush / Flush	Sodium Silicate	SILICATE, SODIUM, A-3L	21.0000	GPB
Lead Slurry	S100-12	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	LBS/SK
Lead Slurry	S100-12	Foam Preventer, FP-25	0.3000	BWOB
Lead Slurry	S100-12	CEMENT EXTENDER, SODIUM METASILICATE, A-2	2.0000	LBS/SK
Lead Slurry	S100-12	CEMENT, ASTM TYPE III	100.0000	PCT
Lead Slurry	S100-12	IntegraSeal CELLO	0.1300	LBS/SK
Lead Slurry	S100-12	CEMENT EXTENDER, GYPSUM, A-10	5.0000	BWOB
Tail Slurry	S100-12	CEMENT, ASTM TYPE III	100.0000	PCT
Tail Slurry	S100-12	Foam Preventer, FP-25	0.3000	BWOB
Tail Slurry	S100-12	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	LBS/SK
Tail Slurry	S100-12	CEMENT EXTENDER, GYPSUM, A-10	5.0000	BWOB
Tail Slurry	S100-12	IntegraSeal CELLO	0.1300	LBS/SK
Tail Slurry	S100-12	CEMENT EXTENDER, SODIUM METASILICATE, A-2	2.0000	LBS/SK
Top Out Slurry	S100-12	CEMENT, ASTM TYPE III	100.0000	PCT
Top Out Slurry	S100-12	Foam Preventer, FP-25	0.3000	BWOB
Top Out Slurry	S100-12	ACCELERATOR, SALT, CHLORIDE, CALCIUM, A-7P, PELLETS	2.0000	LBS/SK
Top Out Slurry	S100-12	CEMENT EXTENDER, GYPSUM, A-10	5.0000	BWOB
Top Out Slurry	S100-12	IntegraSeal CELLO	0.1300	LBS/SK
Top Out Slurry	S100-12	CEMENT EXTENDER, SODIUM METASILICATE, A-2	2.0000	LBS/SK

Cementing Treatment



TREATMENT SUMMARY

Time	Fluid	Rate (bpm)	Fluid Vol. (bbls)	Pipe Pressure (psi)	Comments
1/24/2018 7:26 AM	Fresh Water	5.00	20.00	198.00	Spacer
1/24/2018 7:30 AM	Sodium Silicate	5.00	20.00	167.00	Spacer
1/24/2018 7:33 AM	Fresh Water	5.00	20.00	153.00	Spacer
1/24/2018 7:37 AM	S100-12	5.00	317.00	187.00	Lead Cement
1/24/2018 8:43 AM	S100-12	2.00	64.00	85.00	Tail Cement
1/24/2018 9:00 AM	Displacement	5.00	98.40	319.00	Displacement
1/24/2018 1:56 PM	S100-12	3.00	107.00	95.00	Top Out

	Min	Max	Avg
Pressure (psi)	85.00	319.00	184.83
Rate (bpm)	2.00	5.00	4.50

DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	BJ	Amount of Cement Returned/Reversed	0.00
Calculated Displacement Volume (bbls)	98.00	Method Used to Verify Returns	Visual
Actual Displacement Volume (bbls)	98.00	Amount of Spacer to Surface	0.00
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0.00
Bump Plug	Yes	Amount Bled Back After Job	0.50
Bump Plug Pressure (psi)	255.00	Total Volume Pumped (bbls)	540.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	Yes
Cement returns During Job	None	Lost Circulation During Cement Job	No

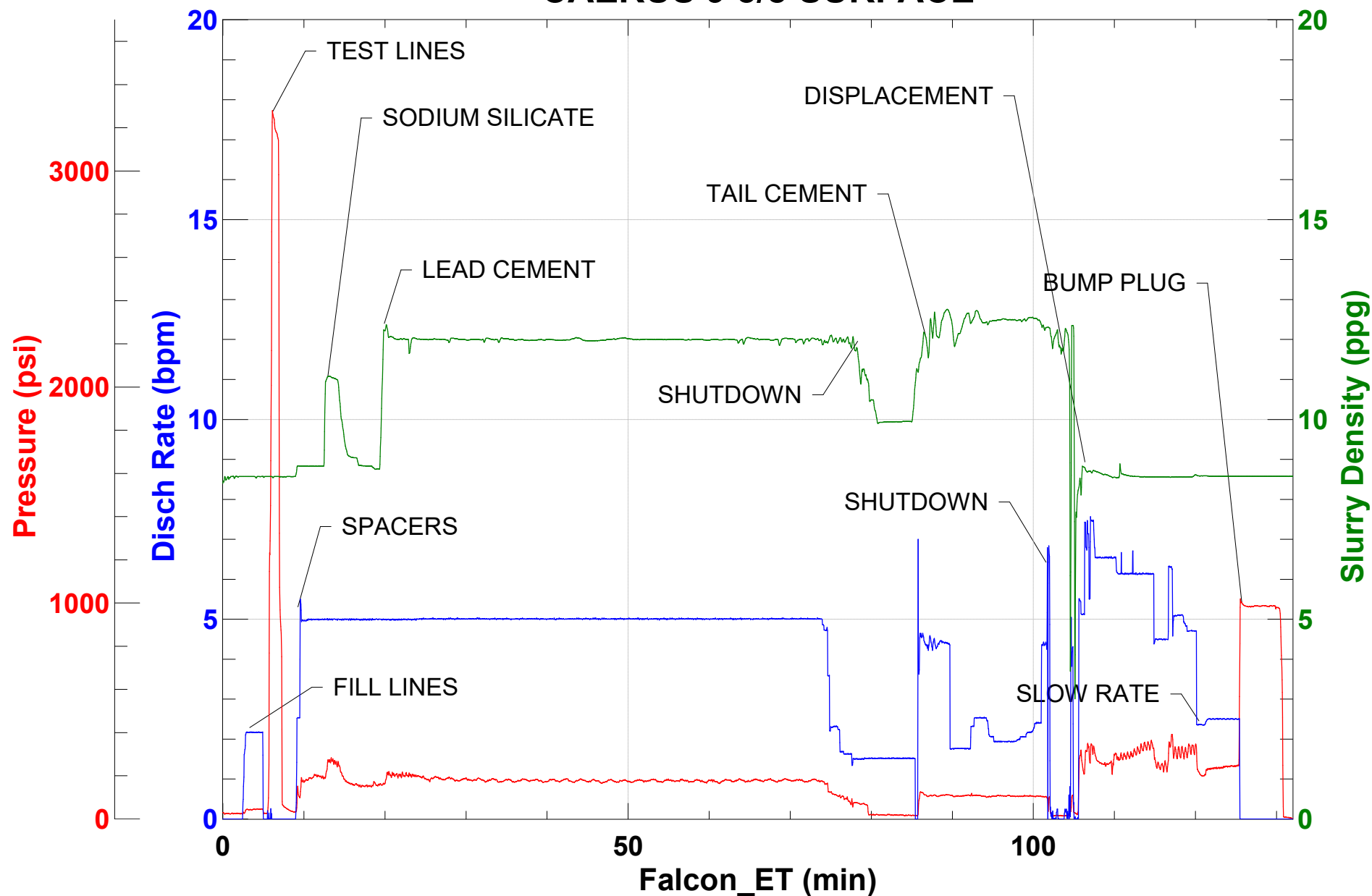
Customer Name CAERUS District RIFLE
 Well Name NPR 23A-10 Supervisor JAVIER CASTILLO
 Job Type SURFACE Engineer GAGE PUTNAM



Seq No.	Start Date	Start Time	Event	Equipment	Density (lb/gal)	Pump Rate (bpm)	Pump Vol (bbls)	Pipe Pressure (psi)	Comments
1	1/23/2018	22:00	CALL OUT						YARD CALL 01:00 HRS, ON LOCATION AT 03:00HRS
2	1/24/2018	1:15	MEETING						STEACS JOURNEY MANAGEMENT MEETING WITH BJ
3	1/24/2018	1:20	LEAVE YARD						BJ CREW LEAVE YARD
4	1/24/2018	2:20	ARRIVE ON LOC.						ARRIVE ON LOCATION, RIG WAS RUNNING CASING
5	1/24/2018	2:45	MEETING						STEACS RIG UP SAFETY MEETING
6	1/24/2018	3:30	RIG UP						PUT UP TARPS AND HEAT ON CEMENT PUMP, RIG UP PUMPING IRON STAYING AWAY FROM RED ZONE, RIG UP WATER HOSES, RIG UP BULK HOSES
7	1/24/2018	4:30	COMPLETE						RIG UP COMPLETE TILL RIG LANDS CASING
8	1/24/2018	5:45	LAND CASING						RIG LANDED CASING
9	1/24/2018	5:55	MEETING						PRE-JOB SAFETY MEETING WITH RIG CREW
10	1/24/2018	7:19	SPACER		8.34	2	5	44	FILL LINES
11	1/24/2018	7:21	TEST LINES					3000	PRESSURE TEST PUMPING IRON
12	1/24/2018	7:26	SPACER		8.34	5	15	198	WATER SPACER
13	1/24/2018	7:30	SPACER		11	5	20	167	SODIUM SILICATE SPACER
14	1/24/2018	7:33	SPACER		8.34	5	20	153	WATER SPACER
15	1/24/2018	7:37	LEAD CEMENT		12				BEGIN LEAD CEMENT, 704SKS/317BBLs, 12.0 PPG, 2.53,
16	1/24/2018	7:46	LEAD CEMENT		12	5	50	187	50BBLs PUMPED LEAD CEMENT
17	1/24/2018	7:56	LEAD CEMENT		12	5	50	177	100BBLs PUMPED LEAD CEMENT
18	1/24/2018	8:06	LEAD CEMENT		12	5	50	175	150 BBLs PUMPED LEAD CEMENT
19	1/24/2018	8:16	LEAD CEMENT		12	5	50	179	200 BBLs PUMPED LEAD CEMENT
20	1/24/2018	8:26	LEAD CEMENT		12	5	50	183	250 BBLs PUMPED LEAD CEMENT
21	1/24/2018	8:36	LEAD CEMENT		12	5	67	181	317 BBLs PUMPED LEAD CEMENT
22	1/24/2018	8:43	TAIL CEMENT		12.5	5	64	150	TAIL CEMENT 64 BBLs/162 SKS, 12.5 PPG, 2.22, 12.62, HAD TO SHUTDOWN AT BEGINNING OF TAIL CAUSE BULK TRUCK COMPRESSOR QUIT WORKING, SWITCHED AT TO COMPRESSOR TRAILER
23	1/24/2018	8:58	SHUTDOWN						SHUTDOWN, DROP PLUG, NO RETURN THROUGH OUT
24	1/24/2018	9:00	DISPLACEMENT		8.34	5	88	319	PUMP DISPLACEMENT, 4 BBLs CEMENT ON TOP OF PLUG
25	1/24/2018	9:15	DISPLACEMENT		8.34	2.5	10	259	SLOW RATE
26	1/24/2018	9:21	LAND PLUG						BUMP PLUG, GOT ABOUT 10BBLs OF MUD RETURNS TO FLOATS HELD, 0.5BBL FLOW BACK
27	1/24/2018	9:26	CHECK FLOATS						
28	1/24/2018	9:27							CASING HAD NO PARASITE LINE
29	1/24/2018	9:28							WAIT 4HRS TO PUMP THE FIRST TOPOUT
30	1/24/2018	13:56	TOPOUT		12.5	3	79	95	TOPOUT 200 SKS/79 BBLs AT 12.5 PPG, 2.22, 12.58 WITH NO 200BLS CACL2, AND NO SODIUM SILICATE
31	1/24/2018	14:25	SHUTDOWN						NO CEMENT TO SURFACE
32	1/24/2018	14:30	WASH UP						WASH UP PUMP AND LINES TO PIT AND PICKLE PUMP, WAIT 4HRS FOR SECOND TOPOUT
33	1/24/2018	18:22	SPACER		9	1.5	2	35	200LBS OF CACL2
34	1/24/2018	18:23	SPACER		8.34	1.5	2	37	WATER SPACER
35	1/24/2018	18:42	TOPOUT		12.5	2.7	28	58	71SKS/28BBLs TOPOUT CEMENT WITH 55GAL SODIUM
36	1/24/2018	18:55	PARASITE		12.5	1	2	19	5SKS/2BBLs PUMPED THROUGH PREVIOUS PARASITE
37	1/24/2018	19:00	SHUTDOWN						TOTAL TOPOUT CEMENT 276SKS/30BBLs AT 12.5PPG
38	1/24/2018	19:05	WASH UP						WASH UP PUMP AND LINES TO PIT AND PICKLE PUMP
39	1/24/2018	19:30	MEETING						RIG DOWN MEETING
40	1/24/2018	19:35	RIG DOWN						RIG DOWN BJ EQUIPMENT
41	1/24/2018	20:30							RIG DOWN COMPLETE
42	1/24/2018	20:35	MEETING						AAR AND JOURNEY SAFETY MEETING WITH BJ CREW
43	1/24/2018	20:50	LEAVE LOCATION						BJ CREW LEAVE LOCATION
44	1/24/2018	20:55							THANK YOU FOR YOUR BUSINESS FROM JAVIER AND

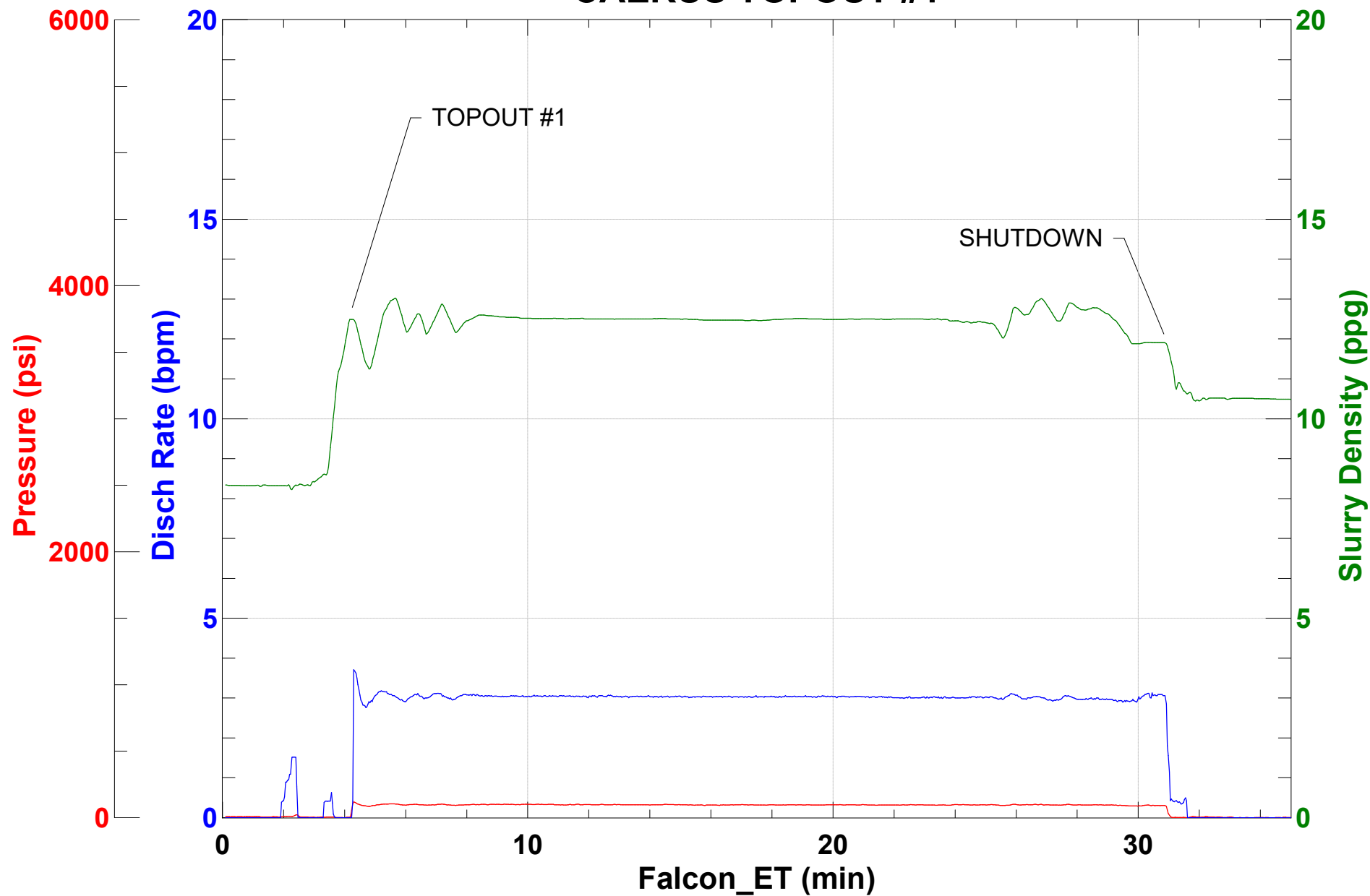


CAERUS 9 5/8 SURFACE





CAERUS TOPOUT #1





CAERUS TOPOUT #2

