



# **Caerus Operating LLC**

## **TWO-STAGE/MULTI-STAGE CEMENT POST JOB REPORT**

**BJU B26 FED #14A-26-496 05-045-24444**  
**S:26 T:4S R:96W Garfield CO**

CallSheet #: 85130  
Proposal #: 65848



**TWO-STAGE/MULTI-STAGE CEMENT Post Job Report**

**Attention:** Mr. Cole Walton | (720) 880-6325 | cwalton@caerusoilandgas.com

Caerus Operating LLC

1001 17TH STREET | DENVER, CO 80202

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Dear Mr. Cole Walton,

Thank you for the opportunity to provide cementing services on this well. American Cementing strives to achieve complete customer satisfaction. If you have any questions regarding the services or data provided, please contact American Cementing at any time.

Sincerely,

**Zen Keith**

SME North | (307) 757-7178 | zen.keith@americacementing.com

**Field Office**      28730 US-6, Rifle, CO 81650  
Phone: (970) 657-1157

## Job Details & Summary

### Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Thread	Top (ft)	Bottom (ft)	Excess (%)
Casing	Outer	20	19.5	53	n/a	0	100	0
Open Hole	Outer	n/a	14.75	n/a	n/a	100	2500	25
Open Hole	Outer	n/a	14.75	n/a	n/a	2500	3030	0
Casing	Inner	9.625	8.921	36	n/a	0	3014	0

### Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Employee #2
Cement Trailer Float	CTF-246	TRC-180	Schiro, Aaron	
Field Storage Silo	FSS-469			
Field Storage Silo	FSS-468			
Cement Pump Float	CPF-058	TRH-959	Burton, Devin	Carrasco, Joel
Light Duty Vehicles	LDV-088		Lancaster, Stephen	

### Timing

Event	Date/Time
Call Out	12/30/2022 08:00
Depart Facility	12/30/2022 11:00
On Location	12/30/2022 12:52
Rig Up Iron	12/30/2022 12:53
Job Started	12/30/2022 14:15
Job Completed	12/30/2022 23:14
Rig Down Iron	12/30/2022 23:40
Depart Location	12/31/2022 01:45

### General Job Information

Metrics	Value
Well Fluid Density	9.4 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	732 bbls
Rig Circulation Time	1.5 hours
Calculated Displacement	227 / 68 bbls
Actual Displacement	227 / 68 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	39 / 71 bbls
Well Topped Out	Yes
Top Out Volume	8 bbls

### Job Details

Metrics	Value
Flare Prior to Job	No
Flare Prior to Job	0 units
Flare During Job	No
Flare During Job	0 units
Flare at End of Job	No
Flare at End of Job	0 units
Well Full Prior to Job	Yes
Well Fluid Density Into Well	9.4 lb/gal
Well Fluid Density Out of Well	9.4 lb/gal

### Job Details (cont.)

Metrics	Value
BHCT	87 °F
BHST	123 °F
Initial ISIP	psi
Final ISIP	psi
Sks in Formation	sks
Injection #1	bpm
Injection #1	psi
Injection #2	bpm
Injection #2	psi

### Water Analysis

Metrics	Value	Recommended
Water Source	None	
Temperature	55 °F	50-80 °F
pH Level	6	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	170	0-1000
Total Hardness	300 mg/L	0-500 mg/L
Carbonates	0 mg/L	0-100 mg/L
Sulfates	200 mg/L	0-1500 mg/L
Potassium	0 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

### Circulation

Lost Circulation Experienced
No

## Job Execution Information

Fluid	Product	Function	Density (lb/gal)	Yield (ft <sup>3</sup> /sk)	Water Rq. (gal/sk)	Water Rq. (gal/bbl)	Volume (sks)	Volume (bbl)	Designed Top (ft)
1	Water	Flush	8.34			42.00		40.00	686
2	Stage-1 Lead	Lead	12.00	2.52	14.80		524.00	235.42	950
3	Stage-1 Tail	Tail	13.00	2.06	11.21		175.00	64.08	2500
4	Water	DisplacementFinal	8.34			42.00		229.00	0
1	Water	Flush	8.34			42.00		40.00	0
2	Stage-2 Primary	Primary	12.00	2.55	14.95		346.00	157.14	0
3	Water	DisplacementFinal	8.34			42.00		74.00	0

## Job Fluid Details

Fluid	Type	Fluid	Product	Function	Conc.	Uom
2	Lead	Stage-1 Lead	ASTM TYPE I/II	Cement	100.00	%
2	Lead	Stage-1 Lead	A-10	Accelerator	5.00	%BWOB
2	Lead	Stage-1 Lead	A-2	Accelerator	3.00	lb/sk
2	Lead	Stage-1 Lead	FP-24	Defoamer	0.30	%BWOB
2	Lead	Stage-1 Lead	IntegraSeal PHENO	LostCirculation	0.50	lb/sk
2	Lead	Stage-1 Lead	IntegraSeal POLI	LostCirculation	0.25	lb/sk
2	Lead	Stage-1 Lead	R-7C	Retarder	0.30	%BWOB
2	Lead	Stage-1 Lead	STATIC FREE	Other	0.01	lb/sk
3	Tail	Stage-1 Tail	ASTM TYPE I/II	Cement	100.00	%
3	Tail	Stage-1 Tail	A-10	Accelerator	5.00	%BWOB
3	Tail	Stage-1 Tail	A-2	Accelerator	2.00	lb/sk
3	Tail	Stage-1 Tail	A-5	Accelerator	5.00	%BWOW
3	Tail	Stage-1 Tail	FP-24	Defoamer	0.30	%BWOB
3	Tail	Stage-1 Tail	IntegraSeal PHENO	LostCirculation	0.50	lb/sk
3	Tail	Stage-1 Tail	IntegraSeal POLI	LostCirculation	0.25	lb/sk
3	Tail	Stage-1 Tail	STATIC FREE	Other	0.01	lb/sk
2	Primary	Stage-2 Primary	ASTM TYPE I/II	Cement	100.00	%
2	Primary	Stage-2 Primary	A-10	Accelerator	5.00	%BWOB
2	Primary	Stage-2 Primary	A-2	Accelerator	3.00	lb/sk
2	Primary	Stage-2 Primary	A-7P	Accelerator	2.00	lb/sk
2	Primary	Stage-2 Primary	FP-24	Defoamer	0.30	%BWOB
2	Primary	Stage-2 Primary	IntegraSeal POLI	LostCirculation	0.25	lb/sk
2	Primary	Stage-2 Primary	STATIC FREE	Other	0.01	lb/sk

## Job Logs

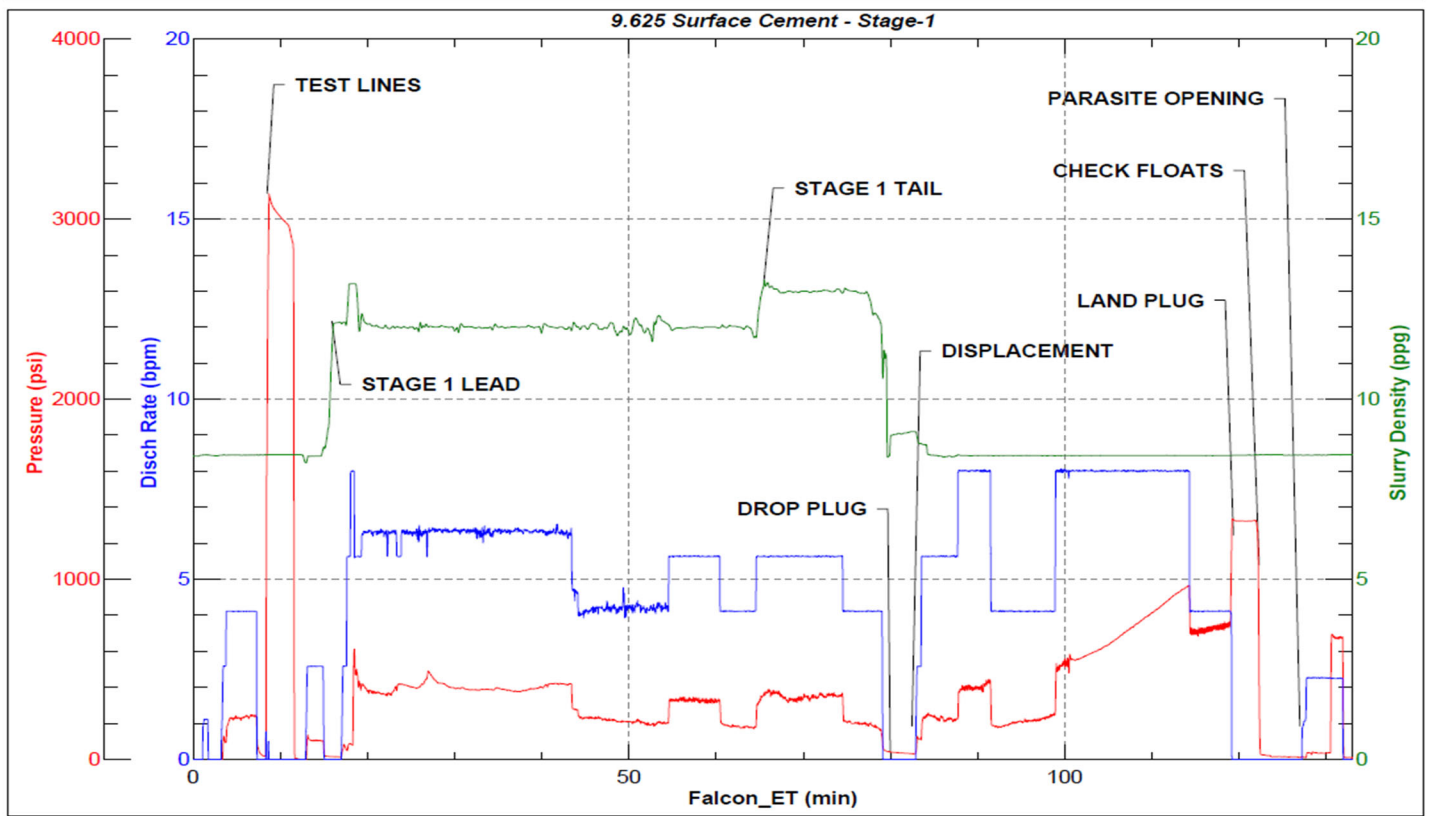
Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	Callout	12/30/2022	08:00					CREW CALLED OUT FOR AN ON LOCATION TIME OF 12:00 12/30/2022
2	Leave for location	12/30/2022	11:00					AC CREW DEPART RCO YARD FOR LOCATION
3	Arrive On Location	12/30/2022	12:52					AC CREW ARRIVES AT LOCATION
4	Rig Up Iron	12/30/2022	12:53					RIG UP ALL IRON AND HOSES
5	Done rigging up	12/30/2022	14:49					FINISH RIGGING UP
6	Safety Meeting	12/30/2022	14:50					JSA PRE JOB SAFETY MEETING WITH AC CREW, RIG HANDS, AND CUSTOMER REP
7	Fill Lines	12/30/2022	15:07	8.34	2.5	15	54	BEGIN STAGE 1. FILL LINES WITH 20 BBLS FRESH WATER
8	Pressure Test Lines	12/30/2022	15:10				3100	PRESSURE TEST LINES TO 3000 PSI
9	Water spacer	12/30/2022	15:17	8.34	5	5	232	PUMP 5 BBLS FRESH WATER SPACER
10	Pump Lead Cement	12/30/2022	15:20	12	3	2	210	BEGIN PUMPING LEAD CEMENT. DENSITY VERIFIED WITH PRESSURIZED MUD SCALE
11	Pump Lead Cement	12/30/2022	15:29	12	6.3	50	491	50 BBLS LEAD CEMENT PUMPED
12	Pump Lead Cement	12/30/2022	15:37	12	6.3	100	390	100 BBLS LEAD CEMENT PUMPED
13	Pump Lead Cement	12/30/2022	15:44	12	6.3	150	421	150 BBLS LEAD CEMENT PUMPED
14	Pump Lead Cement	12/30/2022	15:56	12	4.1	200	196	200 BBLS LEAD CEMENT PUMPED
15	Pump Lead Cement	12/30/2022	16:08	12	4.1	235	175	235 BBLS LEAD CEMENT PUMPED
16	Pump Tail Cement	12/30/2022	16:09	13	5.4	2		BEGIN PUMPING TAIL CEMENT. DENSITY VERIFIED WITH PRESSURIZED MUD SCALE
17	Pump Tail Cement	12/30/2022	16:15	13	5.6	50	361	50 BBLS TAIL CEMENT PUMPED
18	Pump Tail Cement	12/30/2022	16:18	13	5.6	64	341	64 BBLS TAIL CEMENT PUMPED
19	Shutdown	12/30/2022	16:22	13	5.6	64	371	SHUT DOWN, WASHUP PUMP, LOAD PLUG
20	Drop Top Plug	12/30/2022	16:26	8.34	5.3	5	228	DROP PLUG, WITNESSED BY CUSTOMER REP. BEGIN FRESH WATER DISPLACEMENT, WASHED UP ON TOP OF PLUG
21	Pump Displacement	12/30/2022	16:35	8.34	6.5	50	425	50 BBLS FRESH WATER DISPLACEMENT PUMPED ( full returns )
22	Pump Displacement	12/30/2022	16:45	8.34	6.5	100	566	100 BBLS FRESH WATER DISPLACEMENT PUMPED
23	Pump Displacement	12/30/2022	16:51	8.34	6.5	150	735	150 BBLS FRESH WATER DISPLACEMENT PUMPED
24	Pump Displacement	12/30/2022	16:58	8.34	6.5	200	965	200 BBLS FRESH WATER DISPLACEMENT PUMPED, ( full returns )
25	Pump Displacement	12/30/2022	17:03	8.34	4	227	760	227 BBLS FRESH WATER DISPLACEMENT PUMPED
26	Land Plug	12/30/2022	17:03	8.34	4	227	1325	LAND PLUG, FCP - 760 PSI, BUMPED TO 1325 PSI
27	Check Floats	12/30/2022	17:06	8.34				CHECK FLOATS, FLOATS HELD. 1.5 BBLS BACK
28	Other	12/30/2022	17:11	8.34	2.2	10		PUMP 10 BBLS SUGAR WATER DOWN PARASITE LINE, BROKE OVER AT 7 BBLS pumped @ 765 psi,
29	Drop Opening Plug	12/30/2022	17:17	8.34				DROP DV TOOL OPENING BOMB.
30	Circulate Well	12/30/2022	17:28	8.34	2	10	506	SHIFT DV TOOL, BEGIN CIRCULATING OFF DV TOOL, OPENED W/ 506 Psi, PUMPED 20 BBLS AND WENT STRAIGHT INTO SECOND STAGE CEMENT

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
31	Pump Cement	12/30/2022	17:50	12	5.6	5	382	BEGIN PUMPING PRIMARY CEMENT, DENSITY ( circulated 39 bbls cement off top of dv tool )
32	Pump Cement	12/30/2022	17:56	12	5	50	294	50 BBLS PRIMARY CEMENT PUMPED
33	Pump Cement	12/30/2022	18:06	12	5	100	191	100 BBLS PRIMARY CEMENT PUMPED ( full returns )
34	Pump Cement	12/30/2022	18:17	12	5	157	197	157.1 BBLS PRIMARY CEMENT PUMPED,
35	Shutdown	12/30/2022	18:18					
36	Drop Top Plug	12/30/2022	18:20	8.34	5.5	5	139	DROP PLUG, WITNESSED BY CUSTOMER REP. BEGIN FRESH WATER DISPLACEMENT, WASHED UP ON TOP OF PLUG
37	Pump Displacement	12/30/2022	18:30	8.34	5.5	50	330	50 BBLS FRESH WATER DISPLACEMENT PUMPED (71 bbls cement circulated to surface )
38	Pump Displacement	12/30/2022	18:32	8.34	4	65	289	65 BBLS FRESH WATER DISPLACEMENT PUMPED
39	Land Plug	12/30/2022	18:34	8.34	4	68	2155	LAND PLUG, FCP - 289 PSI, BUMPED TO 1880 PSI
40	Bleed pressure	12/30/2022	18:38					BLEED OFF FLOATS HOLDING GOT .75 BBL BACK
41	Pump Cement	12/30/2022	23:09	15.8	2	8	120	CEMENT TO SURFACE 8 BBLS PUMPED 4 BBLS TO SURFACE 37 SACKS
42	Cement in Place	12/30/2022	23:14					CEMENT IN PLACE
43	Wash up and Pickle pump	12/30/2022	23:15					Wash pump and pickle, then blow air through lines
44	Rig down iron and hoses	12/30/2022	23:40					Rig down iron and hoses
45	Depart Location	12/31/2022	01:45					Depart location for RCO AC Yard

## Pump Diagrams

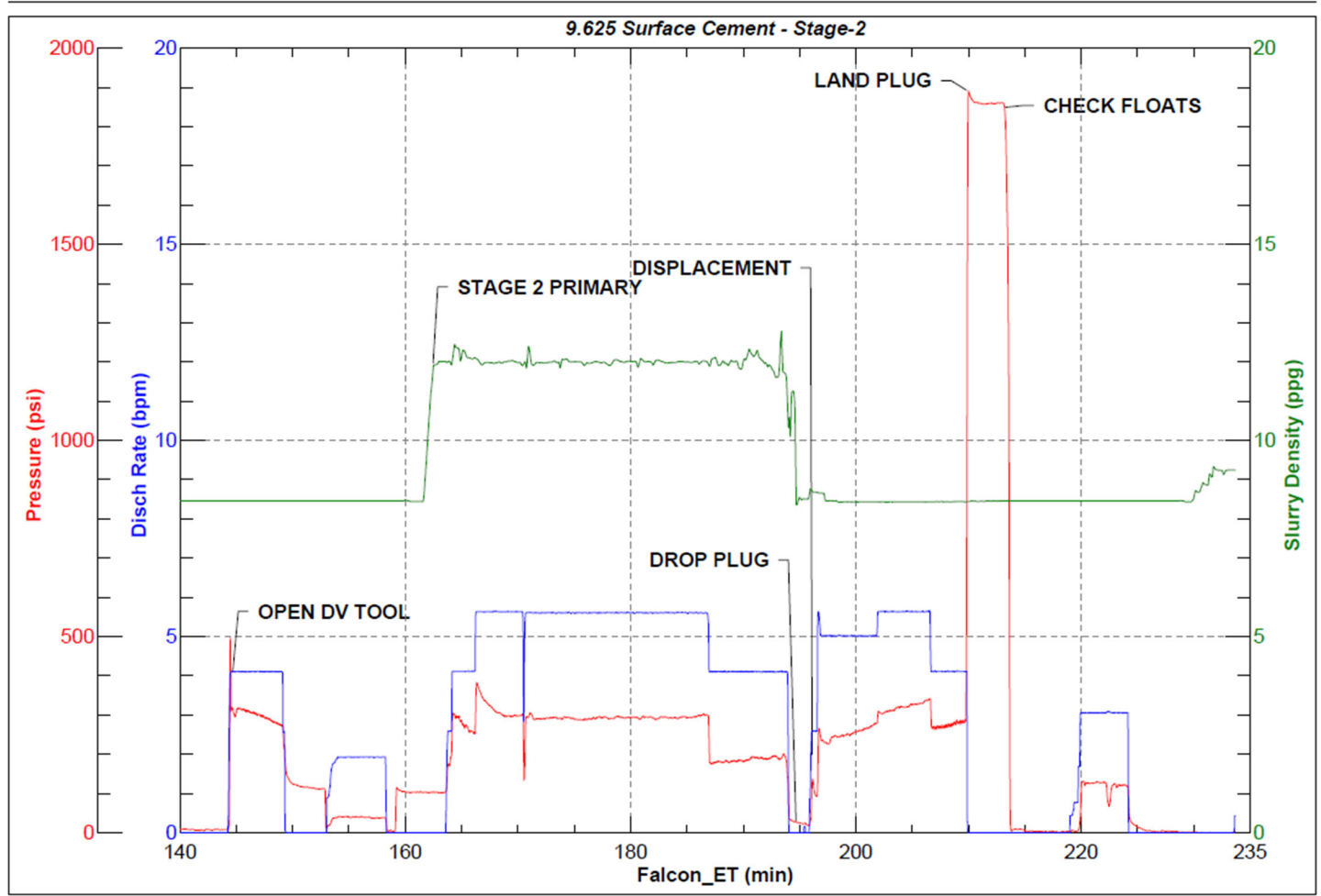


JobMaster Program Version 5.01C1  
Job Number: 85130  
Customer: CAERUS  
Well Name: BJU B26 FED #14A-26-496



Job Start: Friday, December 30, 2022

Stage-1



Job Start: Friday, December 30, 2022

Stage-2



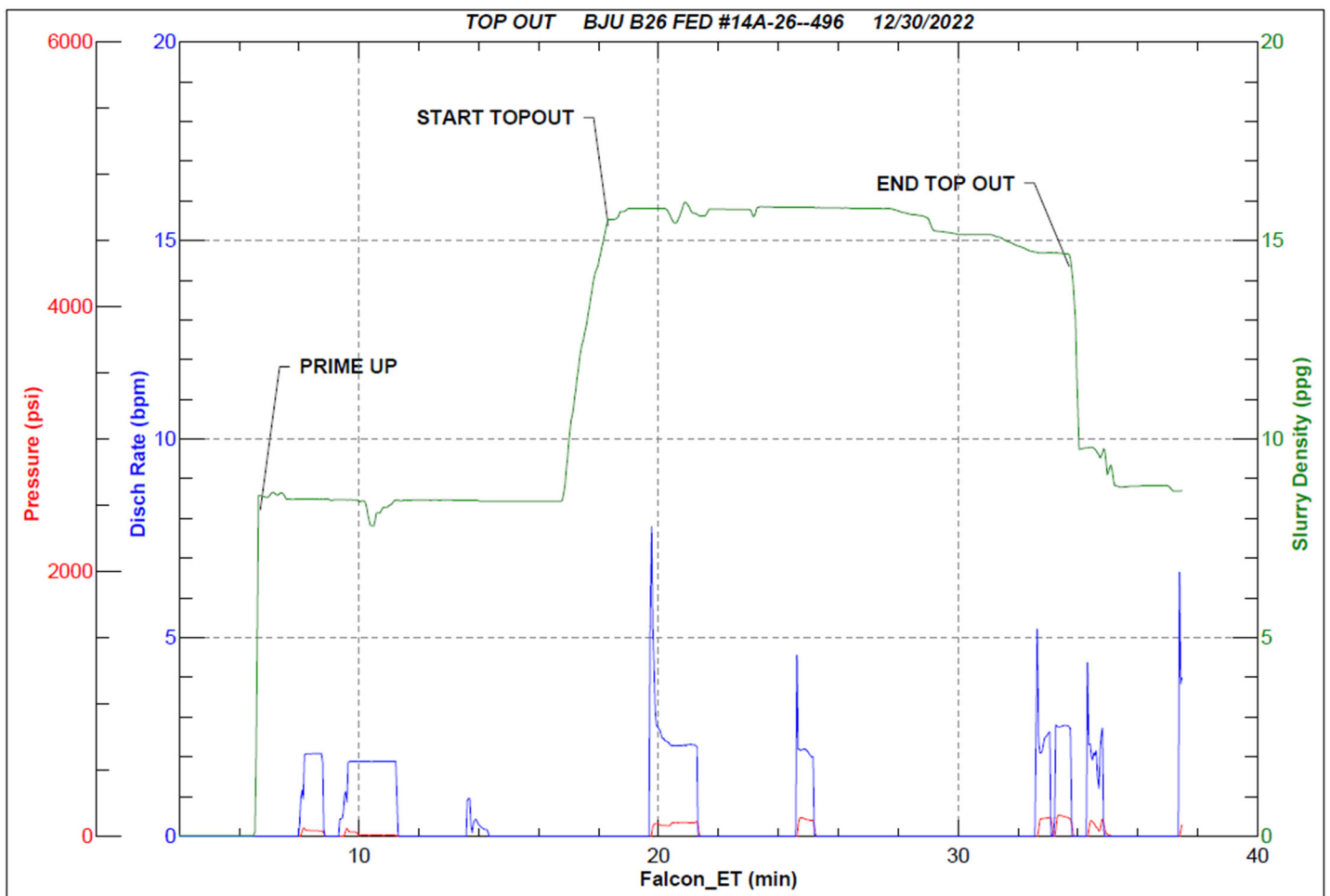


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