



Caerus Operating LLC

TWO-STAGE/MULTI-STAGE CEMENT POST JOB REPORT

BJU B26 FED #23D-26-496 05-045-24453
S:26 T:4S R:96W Garfield CO

CallSheet #: 84405
Proposal #: 64773



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TWO-STAGE/MULTI-STAGE CEMENT Post Job



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

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,

Krystal Schell

Field Engineer I | (719) 992-1830 | krystal.schell@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	3000	0
Casing	Inner	9.625	8.921	36	n/a	0	3000	0

Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Employee #2
Field Storage Silo	FSS-469			
Field Storage Silo	FSS-468			
AS Cement Trailer Float	CTF-148			
AS Cement Trailer Float	CTF-019			
Cement Trailer Float	CTF-286	TRC-201	Bonin, Ryan	
Light Duty Vehicles	LDV-062		Lancaster, Stephen	
Cement Pump Float	CPF-136	TRH-082	Woronovitch, Collin	Morales, Adrian

Timing

Event	Date/Time
Call Out	11/10/2022 23:00
Depart Facility	11/11/2022 01:30
On Location	11/11/2022 04:00
Rig Up Iron	11/11/2022 04:10
Job Started	11/11/2022 07:38
Job Completed	11/11/2022 15:36
Rig Down Iron	11/11/2022 15:45
Depart Location	11/11/2022 17:30

General Job Information

Metrics	Value
Well Fluid Density	9.4 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	582 bbls
Rig Circulation Time	0.5 hours
Calculated Displacement	227 bbls
Actual Displacement	227 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	48 bbls
Well Topped Out	Yes
Top Out Volume	31 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

Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	0 °F	50-80 °F
pH Level	0	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	0	0-1000
Total Hardness	0 mg/L	0-500 mg/L
Carbonates	0 mg/L	0-100 mg/L
Sulfates	0 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 ³ /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

Fluid	Type	Fluid	Product	Function	Conc.	Uom
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

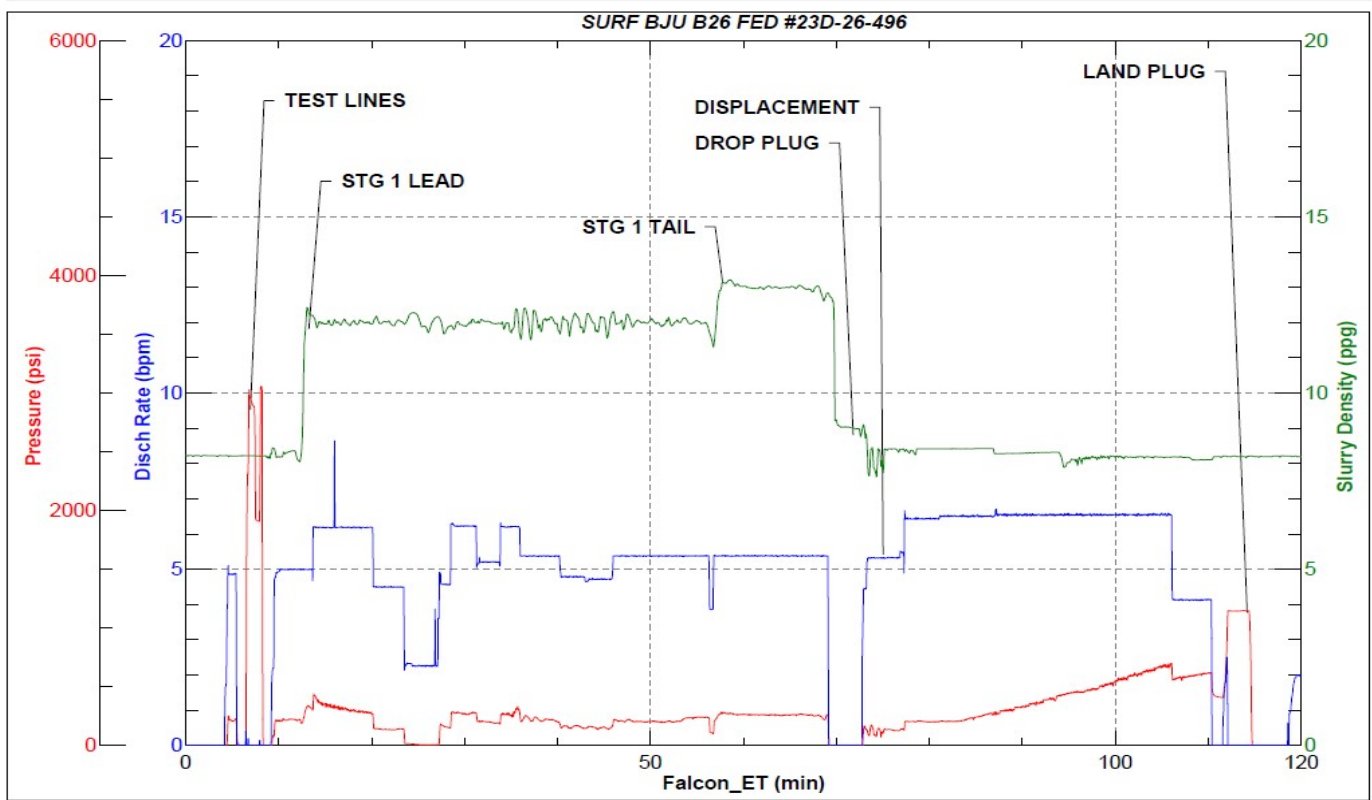
Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	Callout	11/10/2022	23:00					CREW CALLED OUT FOR AN ON LOCATION TIME OF 03:00 11/11/2022
2	Leave for location	11/11/2022	01:30					AC CREW DEPARTS RCO YARD FOR LOCATION
3	Arrive On Location	11/11/2022	04:00					AC CREW ARRIVES AT LOCATION
4	Rig Up Iron	11/11/2022	04:10					RIG UP ALL IRON AND HOSES
5	Standby	11/11/2022	05:45					WAITING ON RIG, RUNNING CASING
6	Safety Meeting	11/11/2022	07:38					JSA PRE JOB SAFETY MEETING WITH AC CREW, RIG HANDS, AND CUSTOMER REP
7	Fill Lines	11/11/2022	08:15	8.34	2.5	5	54	BEGIN STAGE 1. FILL LINES WITH 5 BBLS FRESH WATER
8	Pressure Test Lines	11/11/2022	08:20				3200	PRESSURE TEST LINES TO 3000 PSI
9	Water spacer	11/11/2022	08:29	8.34	5	15	232	PUMP 15 BBLS FRESH WATER SPACER
10	Pump Lead Cement	11/11/2022	08:42	12	6	2	210	BEGIN PUMPING LEAD CEMENT. DENSITY VERIFIED WITH PRESSURIZED MUD SCALE
11	Pump Lead Cement	11/11/2022	08:50	12	4	50	140	50 BBLS LEAD CEMENT PUMPED
12	Pump Lead Cement	11/11/2022	09:02	12	5.2	100	226	100 BBLS LEAD CEMENT PUMPED
13	Pump Lead Cement	11/11/2022	09:12	12	5	150	194	150 BBLS LEAD CEMENT PUMPED
14	Pump Lead Cement	11/11/2022	09:21	12	5.4	200	216	200 BBLS LEAD CEMENT PUMPED
15	Pump Lead Cement	11/11/2022	09:26	12	5.4	235	185	235 BBLS LEAD CEMENT PUMPED
16	Pump Tail Cement	11/11/2022	09:27	13	5.4	2	198	BEGIN PUMPING TAIL CEMENT. DENSITY VERIFIED WITH PRESSURIZED MUD SCALE
17	Pump Tail Cement	11/11/2022	09:37	13	5.4	50	274	50 BBLS TAIL CEMENT PUMPED
18	Pump Tail Cement	11/11/2022	09:40	13	5.4	64	276	64 BBLS TAIL CEMENT PUMPED
19	Shutdown	11/11/2022	09:41		5.4		20	SHUT DOWN, WASHUP PUMP, LOAD PLUG
20	Drop Top Plug	11/11/2022	09:42	8.34	5.3	5	84	DROP PLUG, WITNESSED BY CUSTOMER REP. BEGIN FRESH WATER DISPLACEMENT, WASHED UP ON TOP OF PLUG
21	Pump Displacement	11/11/2022	09:51	8.34	6.5	50	205	50 BBLS FRESH WATER DISPLACEMENT PUMPED (full returns)
22	Pump Displacement	11/11/2022	09:59	8.34	6.5	100	320	100 BBLS FRESH WATER DISPLACEMENT PUMPED
23	Pump Displacement	11/11/2022	10:06	8.34	6.5	150	480	150 BBLS FRESH WATER DISPLACEMENT PUMPED
24	Pump Displacement	11/11/2022	10:14	8.34	6.5	200	680	200 BBLS FRESH WATER DISPLACEMENT PUMPED (full returns)

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
25	Pump Displacement	11/11/2022	10:21	8.34	4	227	610	226 BBLS FRESH WATER DISPLACEMENT PUMPED
26	Land Plug	11/11/2022	10:22	8.34	4	227	622	LAND PLUG, FCP - 622 PSI, BUMPED TO 1184 PSI
27	Check Floats	11/11/2022	10:24	8.34				CHECK FLOATS, FLOATS HELD, 1 BBLS BACK
28	Other	11/11/2022	10:32	8.34		10		PUMP 10 BBLS SUGAR WATER DOWN PARASITE LINE, BROKE OVER AT 6 BBLS PUMPED @ 620 PSI
29	Drop Opening Plug	11/11/2022	10:36	8.34				DROP DV TOOL, OPENING BOMB.
30	Circulate Well	11/11/2022	10:54	8.34	2	10		SHIFT DV TOOL, BEGIN CIRCULATING OFF DV TOOL, OPENED W/ 497 PSI, PUMPED 20 BBLS AND WENT STRAIGHT INTO SECOND STAGE CEMENT
31	BEGIN STAGE 2	11/11/2022	11:00					BEGIN STAGE 2
32	Pump Cement	11/11/2022	11:01	12	5.6	5	270	BEGIN PUMPING PRIMARY CEMENT (Circulated 5 bbls cement off top of dv tool)
33	Pump Cement	11/11/2022	11:09	12	5	50	182	50 BBLS PRIMARY CEMENT PUMPED
34	Pump Cement	11/11/2022	11:19	12	5	100	143	100 BBLS PRIMARY CEMENT PUMPED (full returns)
35	Pump Cement	11/11/2022	11:39	12	5	157	189	157.1 BBLS PRIMARY CEMENT PUMPED
36	Shutdown	11/11/2022	11:40					
37	Drop Top Plug	11/11/2022	11:41	8.34	5.5	5	139	DROP PLUG, WITNESSED BY CUSTOMER REP. BEGIN FRESH WATER DISPLACEMENT, WASHED UP ON TOP OF PLUG
38	Pump Displacement	11/11/2022	11:51	8.34	5.5	50	258	50 BBLS FRESH WATER DISPLACEMENT PUMPED (cement to surface @ 20 bbls pumped, 48 bbls cement circulated to surface)
39	Pump Displacement	11/11/2022	11:55	8.34	4	68	277	68 BBLS FRESH WATER DISPLACEMENT PUMPED
40	Land Plug	11/11/2022	11:55	8.34	4	68	2155	LAND PLUG, FCP - 330 PSI, BUMPED TO 2135 PSI
41	Bleed pressure	11/11/2022	11:58					BLEED OFF FLOATS, HOLDING, GOT 1 BBL BACK
42	Pump Cement	11/11/2022	14:02	13.5	1		67	PUMP THROUGH MODULE PARASITE LINES, (PUMPED 16 BBLS IN 8 PARASITE LINES, 2 BBLS PER LINE)
43	Top Out #1	11/11/2022	14:50	15.6	3	10	98	START TOP OUT #1
44	Pump Cement	11/11/2022	15:36	15.6	3	31	120	CEMENT TO SURFACE (31 BBLS PUMPED, 2 BBLS TO SURFACE 148 SACKS)
45	Cement in Place	11/11/2022	15:36					CEMENT IN PLACE
46	Rig Down Iron	11/11/2022	15:45					RIG DOWN IRON
47	Depart Location	11/11/2022	17:30					DEPART LOCATION FOR RCO
53	Pump Cement	11/11/2022	00:00					START TOPOUT # 1

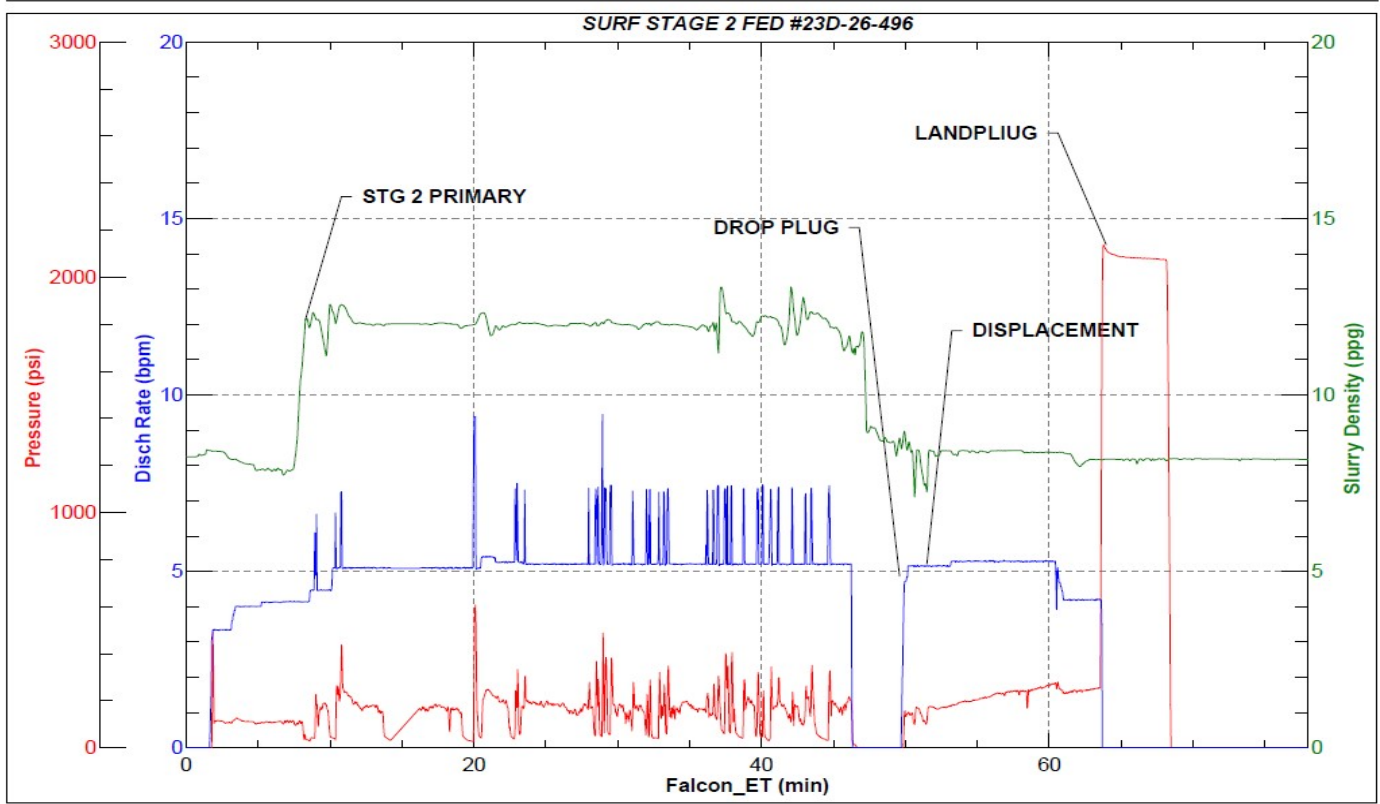
Pump Diagrams



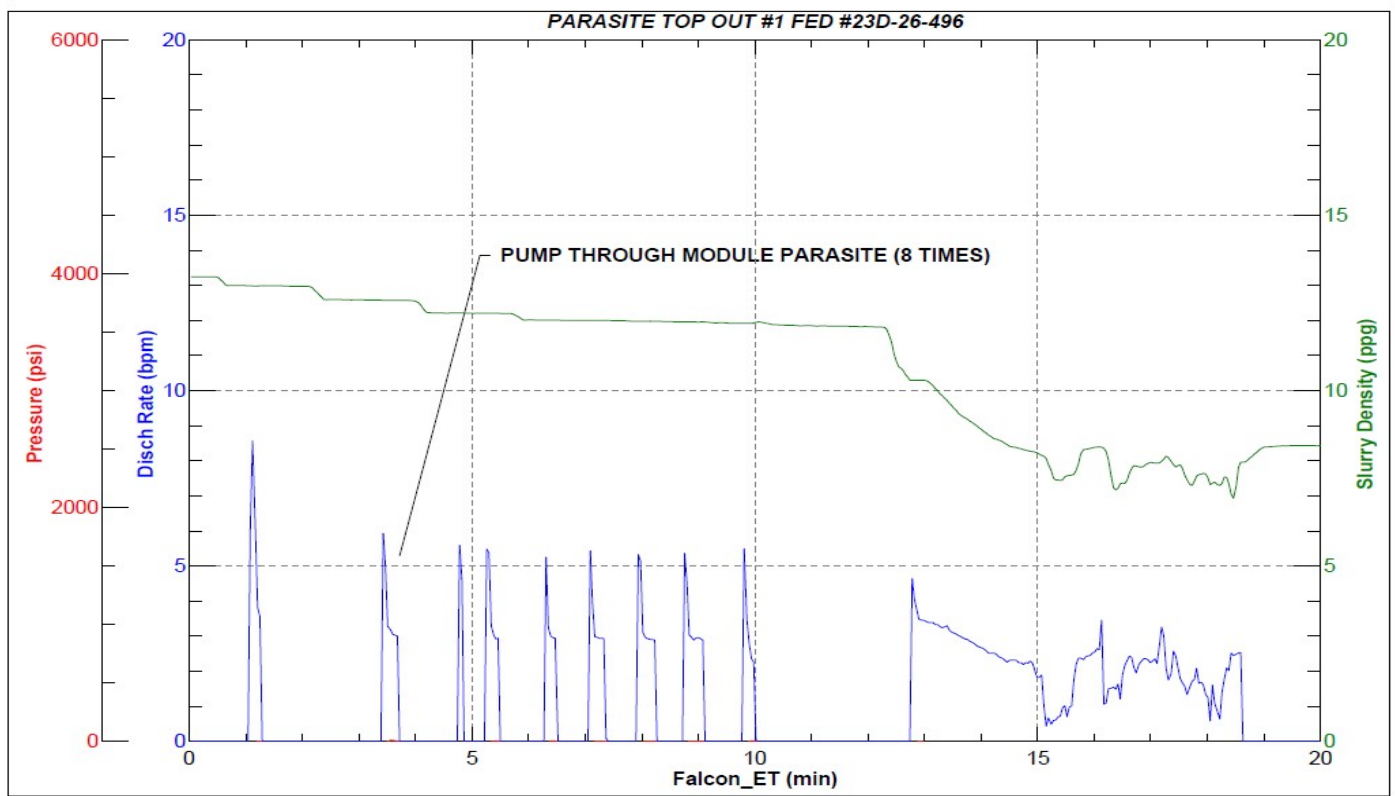
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Well Name: BJU B26 FED #23D-26-496



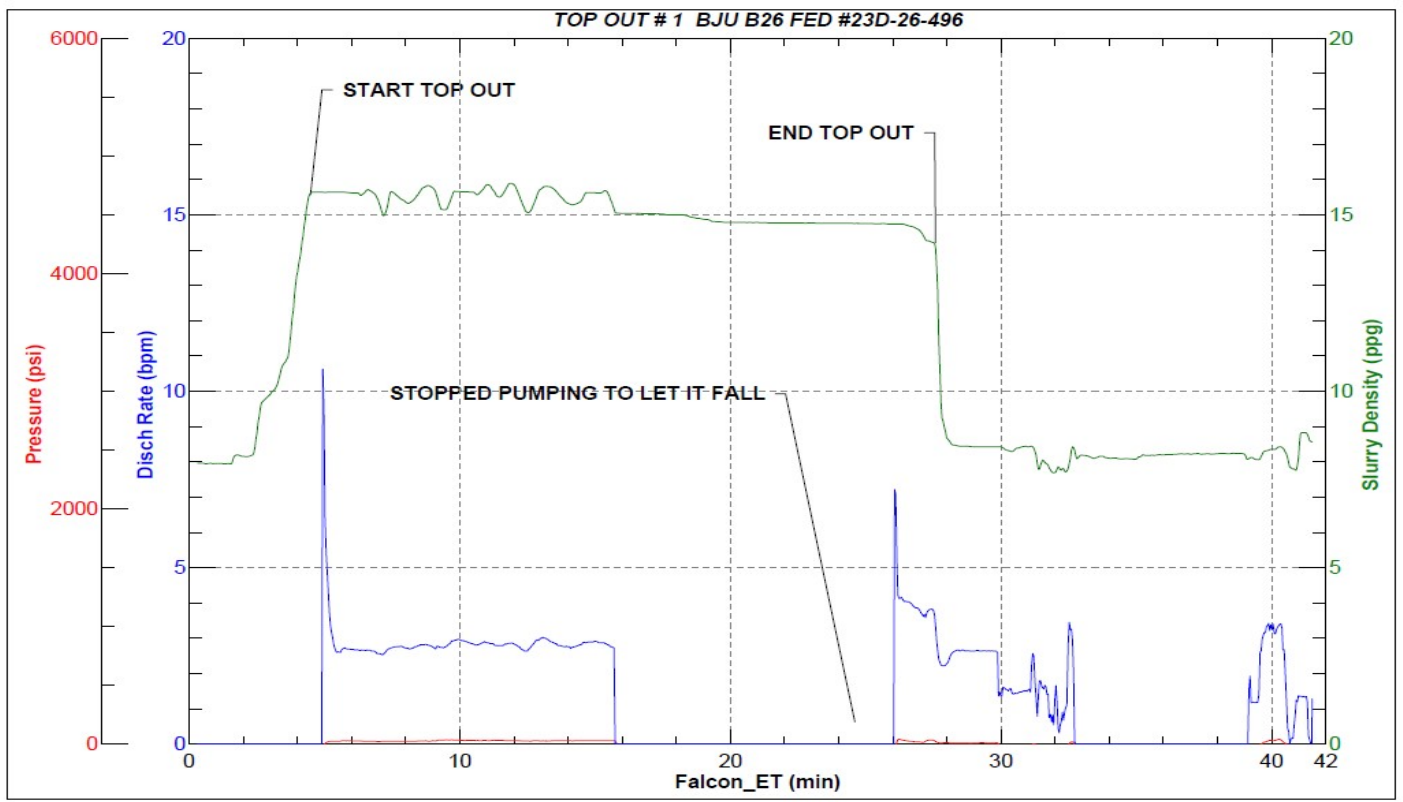
Job Start: Friday, November 11, 2022



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