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# **Caerus Operating LLC**

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

**BJU B26 FED #14D-26-496 05-045-24434**  
**S:26 T:4S R:96W Garfield CO**

CallSheet #: 84928  
Proposal #: 65581



**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,

**Holly Mbugua**

Field Engineer II | (720) 505-1300 | holly.mbugua@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	120	0
Open Hole	Outer	n/a	14.75	n/a	n/a	120	2500	25
Open Hole	Outer	n/a	14.75	n/a	n/a	2500	2997	0
Casing	Inner	9.625	8.921	36	n/a	0	2981.8	0

### Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Employee #2
Field Storage Silo	FSS-469			
Field Storage Silo	FSS-468			
Cement Trailer Float	CTF-242	TRB-421	Fleck, Jameson	
Cement Pump Float	CPF-052	TRH-957	Brady, Shawn	Gonzales, Ivan
Light Duty Vehicles	LDV-061		Woronovitch, Collin	
Cement Utility Float	CUF-164	LDV-088	Hansen, James	

### Timing

Event	Date/Time
Call Out	12/13/2022 09:00
Depart Facility	12/13/2022 15:15
On Location	12/13/2022 17:30
Rig Up Iron	12/13/2022 17:45
Job Started	12/14/2022 01:00
Job Completed	12/14/2022 08:06
Rig Down Iron	12/14/2022 08:30
Depart Location	12/14/2022 11:00

### General Job Information

Metrics	Value
Well Fluid Density	9.6 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	1350 bbls
Rig Circulation Time	1.5 hours
Calculated Displacement	225/70 bbls
Actual Displacement	225/70 bbls
Total Spacer to Surface	60 bbls
Total CMT to Surface	49 bbls
Well Topped Out	Yes
Top Out Volume	19 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	9.6 lb/gal
Well Fluid Density Out of Well	9.6 lb/gal

### Job Details (cont.)

Metrics	Value
BHCT	87 °F
BHST	123 °F

### Water Analysis

Metrics	Value	Recommended
Water Source	None	
Temperature	40 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	340 mg/L	0-3000 mg/L
Total Alkalinity	200	0-1000
Total Hardness	100 mg/L	0-500 mg/L
Carbonates	na mg/L	0-100 mg/L
Sulfates	220 mg/L	0-1500 mg/L
Potassium	180 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		225.00	0
1	Water	Flush	8.34			42.00		20.00	0
2	Stage-2 Primary	Primary	12.00	2.55	14.95		346.00	157.14	0
3	Water	DisplacementFinal	8.34			42.00		70.00	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

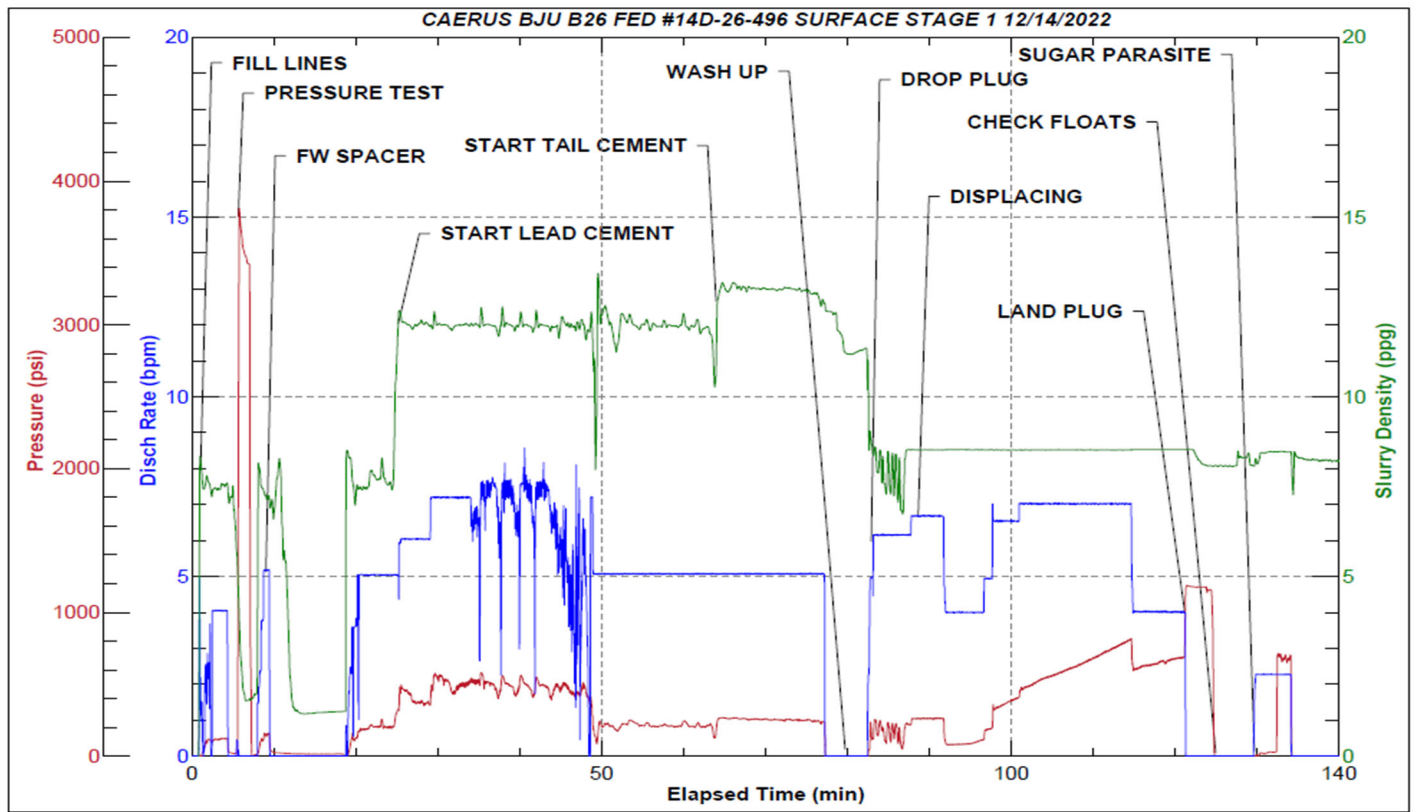
Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	Callout	12/13/2022	09:00					CREW CALLED OUT FOR ON LOCATION TIME OF 17:30
2	Depart Location	12/13/2022	15:15					CREW DEPARTS RCO YARD AND HEADS TO RIG LOCATION
3	Arrive On Location	12/13/2022	17:30					CREW AND EQUIPMENT ARRIVE ON RIG LOCATION
4	Rig Up Iron	12/13/2022	17:45					PRE-RIG UP SAFETY MEETING, RIG UP ALL IRON, HOSES, AND EQUIPMENT
5	Waiting	12/13/2022	20:00					IRON RIG UP IS COMPLETE WAITING ON RIG TO FINISH RUNNING CASING
6	Other	12/13/2022	23:45					RIG CIRCULATED FOR 1.5 HOURS @ 15 BPM 1350 BBLS
7	Safety Meeting	12/14/2022	01:00					PRE JOB-SAFETY MEETING WITH COMPANY MAN AND RIG CREW
8	Fill Lines	12/14/2022	01:45	8.34	3	10	127	FILL LINES WITH 10 BBLS FRESHWATER, FULL RETURNS @ 3 BBLS PUMPED
9	Pressure Test Lines	12/14/2022	01:49	8.34			3800	PRESSURE TEST LINES AND EQUIPMENT TO 3000 PSI
10	Pump Spacer	12/14/2022	01:52	8.34	5	30	308	FINISH PUMPING 40 BBL FRESHWATER SPACER, FULL RETURNS
11	Pump Lead Cement	12/14/2022	02:18	12	5	0	314	BEGIN PUMPING 12.0 PPG LEAD CEMENT. WEIGHT VERIFIED BY MUD SCALE
12	Pump Lead Cement	12/14/2022	02:26	12	6	50	508	50 BBLS LEAD CEMENT PUMPED. FULL RETURNS
13	Pump Lead Cement	12/14/2022	02:33	12	7	50	463	100 BBLS LEAD CEMENT PUMPED
14	Pump Lead Cement	12/14/2022	02:40	12	6	50	455	150 BBLS LEAD CEMENT PUMPED
15	Pump Lead Cement	12/14/2022	02:51	12	5	50	230	200 BBLS LEAD CEMENT PUMPED
16	Pump Lead Cement	12/14/2022	02:57	12	5	35	275	235 BBLS (524 SKS) LEAD CEMENT PUMPED. FULL RETURNS
17	Pump Tail Cement	12/14/2022	02:57	13	5	0	280	BEGIN PUMPING 13.0 PPG TAIL CEMENT. WEIGHT VERIFIED BY MUD SCALE
18	Pump Tail Cement	12/14/2022	03:07	13	5	50	255	50 BBLS TAIL CEMENT PUMPED
19	Pump Tail Cement	12/14/2022	03:11	13	5	14	238	64 BBLS (175 SKS) TAIL CEMENT PUMPED. FULL RETURNS
20	Drop Top Plug	12/14/2022	03:16					DROPPED TOP PLUG, VERIFIED WITH CUSTOMER AND TOOL HAND
21	Pump Displacement	12/14/2022	03:16	8.34	5	0	176	BEGIN PUMPING FRESHWATER DISPLACEMENT
22	Pump Displacement	12/14/2022	03:25	8.34	6.5	50	300	50 BBLS DISPLACEMENT PUMPED. FULL RETURNS
23	Pump Displacement	12/14/2022	03:35	8.34	7	50	470	100 BBLS DISPLACEMENT PUMPED
24	Pump Displacement	12/14/2022	03:41	8.34	7	50	635	150 BBLS DISPLACEMENT PUMPED
25	Pump Displacement	12/14/2022	03:49	8.34	4	50	636	200 BBLS DISPLACEMENT PUMPED
26	Pump Displacement	12/14/2022	03:55	8.34	4	25	738	225 BBLS DISPLACEMENT PUMPED

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
27	Land Plug	12/14/2022	03:55				1190	PLUG LANDED; FCP-738 PSI BUMPED TO 1190 PSI
28	Check Floats	12/14/2022	03:58					BLEED PRESSURE OFF. FLOATS HELD 1 BBL BACK
29	Open Parasite	12/14/2022	04:03	8.34	2	10	738	PUMPING SUGAR WATER DOWN PARASITE LINE. PRESSURE BROKE OVER @ 738 PSI
30	Drop Opening Plug	12/14/2022	04:10					DROP DV TOOL OPENING PLUG
31	Waiting	12/14/2022	04:10					WAITING FOR PLUG TO FALL
32	Other	12/14/2022	04:22	8.34	2	2	544	PUMPING AGAINST TOOL TO OPEN, SHIFTED OPEN @ 544 PSI
33	Pump Spacer	12/14/2022	04:22	8.34	5	20	310	STAGE 2. PUMP 20 BBL FRESHWATER SPACER. FULL RETURNS
34	Pump Cement	12/14/2022	04:26	12	6	0	420	BEGIN PUMPING 12.0 PPG PRIMARY CEMENT. WEIGHT VERIFIED BY MUD SCALE
35	Pump Cement	12/14/2022	04:37	12	5	50	275	50 BBLS PRIMARY CEMENT PUMPED. CEMENT TO SURFACE OFF DV TOOL @ 26 BBLS PUMPED. 52 BBLS CIRCULATED OFF DV TOOL.
36	Pump Cement	12/14/2022	04:47	12	5	50	240	100 BBLS PRIMARY CEMENT PUMPED
37	Pump Cement	12/14/2022	04:59	12	5	57	255	157 BBLS (346 SKS) PRIMARY CEMENT PUMPED.
38	Drop Top Plug	12/14/2022	05:04					DROPPED TOP PLUG, VERIFIED WITH CUSTOMER AND TOOL HAND
39	Pump Displacement	12/14/2022	05:04	8.34	5	0	150	BEGIN PUMPING FRESH WATER DISPLACEMENT
40	Pump Displacement	12/14/2022	05:14	8.34	4	30	231	30 BBLS DISPLACEMENT PUMPED. CEMENT TO SURFACE @ 22 BBLS. 48 BBLS CEMENT TO SURFACE STAGE 2
41	Pump Displacement	12/14/2022	05:23	8.34	4	40	310	70 BBLS DISPLACEMENT PUMPED
42	Land Plug	12/14/2022	05:23				1870	PLUG LANDED FCP-310 PSI BUMPED TO 1870 PSI
43	Check Floats	12/14/2022	05:26					BLEED PRESSURE OFF. FLOATS HELD .5 BBL BACK
44	Waiting	12/14/2022	05:27					CREW IS WAITING TO TOP OUT WELL
45	Pump Top Out Cement	12/14/2022	07:57	15.8	2	19	80	BEGIN PUMPING 15.8# TOP OUT CEMENT. TOTAL TOP OUT CEMENT PUMPED 19 BBLS (93 SKS) WITH 1 BBL TO SURFACE
46	Safety Meeting	12/14/2022	08:15					PRE-RIG DOWN SAFTEY MEETING
47	Rig Down Iron	12/14/2022	08:30					CREW RIGS DOWN ALL IRON, HOSES, AND EQUIPMENT
48	Depart Location	12/14/2022	11:00					CREW DEPARTS RIG LOCATION FOR RCO YARD

## Pump Diagrams



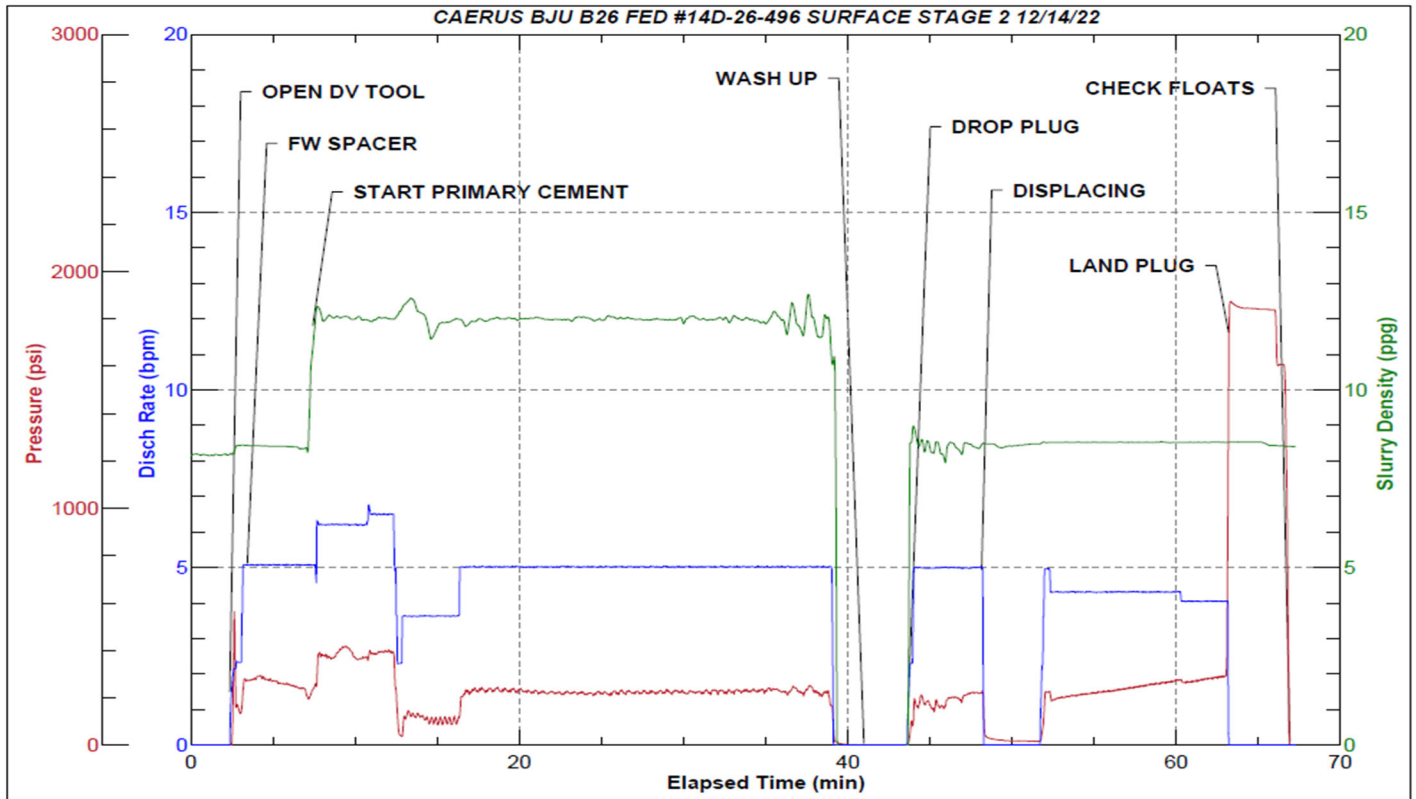
JobMaster Program Version 5.01C1  
Job Number: 84928  
Customer: CAERUS OPERATING LLC  
Well Name: BJU B26 FED 14D-26-496



Job Start: Wednesday, December 14, 2022

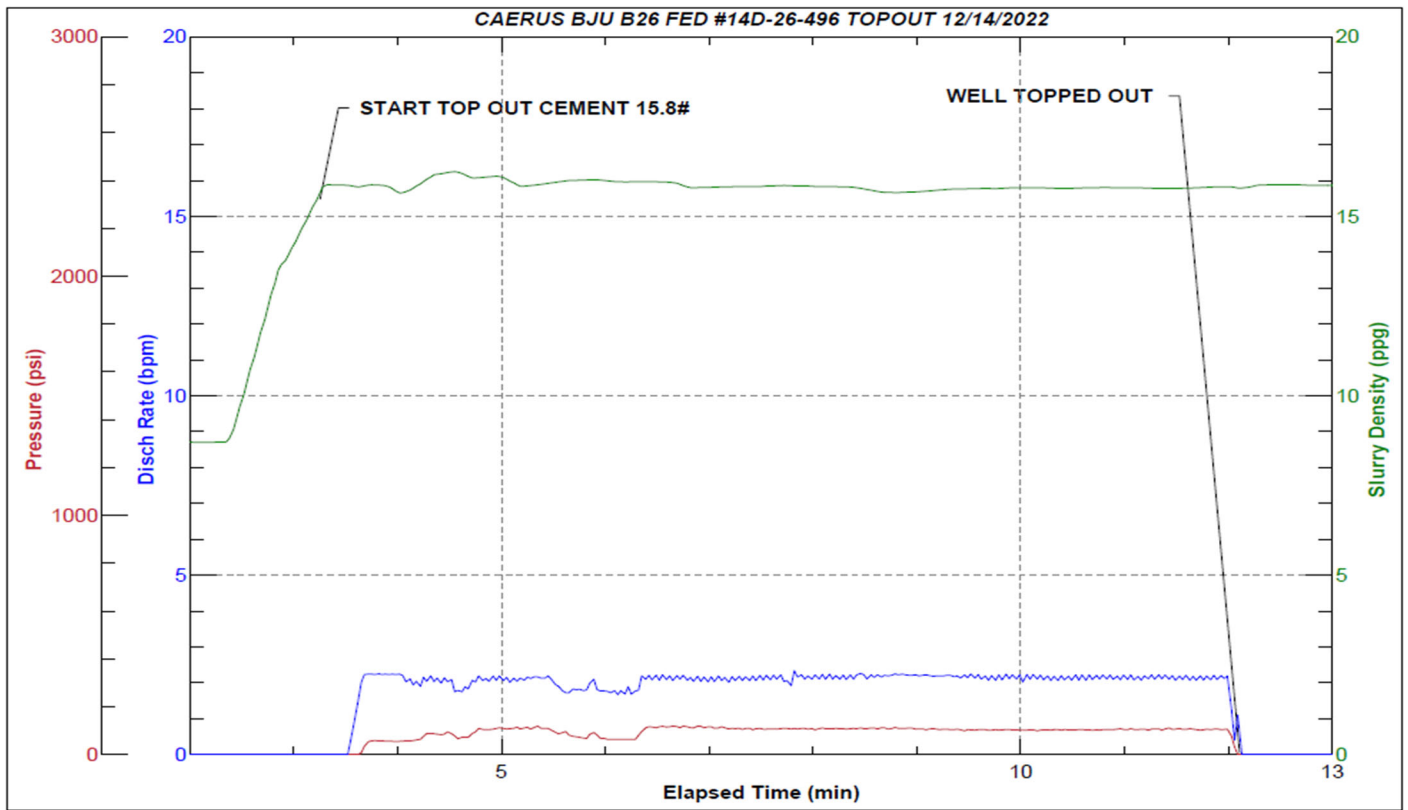


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