Caerus Operating LLC
TWO-STAGE/MULTI-STAGE CEMENT POST JOB REPORT

BJU B26 FED #21B-27-496 05-045-24447
S:26 T:4S R:96W Garfield CO

CallSheet #: 83220
Proposal #: 62888

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@americancementing.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	3019	0
Casing	Inner	9.625	8.921	36	n/a	0	2999.2	0

Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Employee #2
Field Storage Silo	FSS(CTS)-469			
Field Storage Silo	FSS(CTS)-468			
AS Cement Trailer Float	CTF-048	TRC(TRB)-425	Schweitzer, Casey	
Cement Trailer Float	CTF-273	TRC(TRB)-090	Morales, Adrian	Richey, Steven
AS Cement Trailer Float	CTF-019	TRC(TRB)-425	Schweitzer, Casey	
Cement Pump Float	CPF-053	TRH-1140	Carrasco, Joel	
Light Duty Vehicles	LDV-082		Kelsey, John	

Timing

Event	Date/Time
Call Out	8/29/2022 20:00
Depart Facility	8/29/2022 22:45
On Location	8/30/2022 01:00
Rig Up Iron	8/30/2022 01:30
Job Started	8/30/2022 04:57
Job Completed	8/30/2022 21:45
Rig Down Iron	8/30/2022 22:00
Depart Location	8/30/2022 23:15

General Job Information

Metrics	Value
Well Fluid Density	8.9 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	650 bbls
Rig Circulation Time	1 hours
Calculated Displacement	228.2 bbls
Actual Displacement	228.2 bbls
Total Spacer to Surface	0 bbls
Total CMT to Surface	0 bbls
Well Topped Out	Yes
Top Out Volume	137 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	No
Well Fluid Density Into Well	8.9 lb/gal
Well Fluid Density Out of Well	8.9 lb/gal

Job Details (cont.)

Metrics	Value
BHCT	87 °F
BHST	123 °F

Water Analysis

Metrics	Value	Recommended
Water Source	Flat Tank	
Temperature	70 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	180	0-1000
Total Hardness	450 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	Losses into Spacer	Losses into Cement	Losses into Displacement
Yes	0	0	0

Circulation Details

We did not receive returns during the entire job or the first topout job. We did receive returns on the second and third topout job.

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	12.50	2.23	12.56		161.00	63.94	2500
4	Water	DisplacementFinal	8.34			42.00		228.00	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		69.90	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-7P	Accelerator	2.00	lb/sk
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

Fluid	Type	Fluid	Product	Function	Conc.	Uom
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

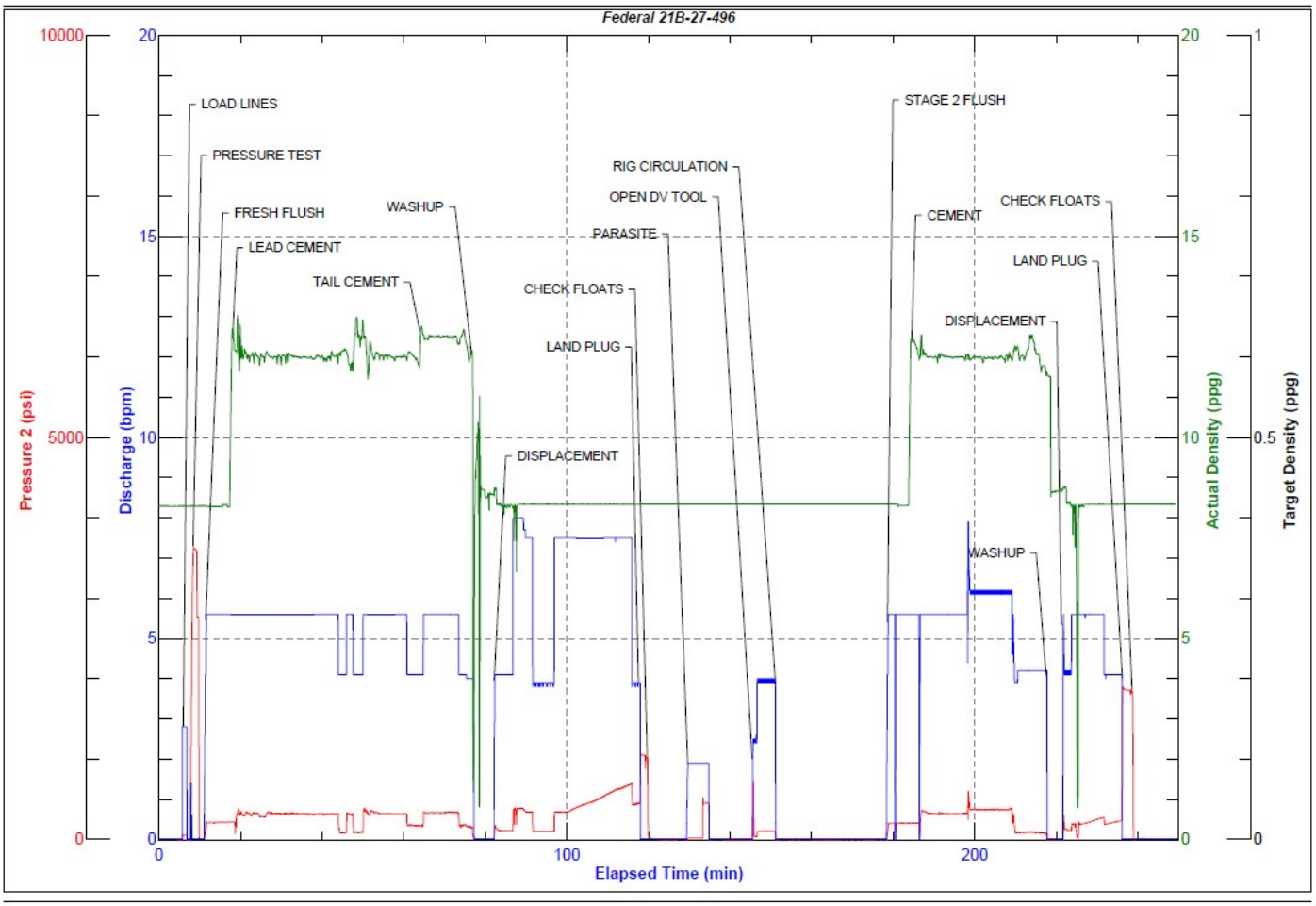
Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	Callout	8/29/2022	20:00					Crew called to prepare for a 2-stage cement job and topout job; rts is 01:00 on 8-30-22
2	Safety meeting	8/29/2022	22:30					Journey management meeting
3	Depart yard	8/29/2022	22:45					Crew departs Rifle, CO for location
4	Arrive on location	8/30/2022	01:00					Arrive on location, verify all proper products, equipment, and job procedures with customer
5	Safety meeting	8/30/2022	01:10					Rig up meeting
6	Spot Units	8/30/2022	01:20					Spot all equipment for rig up
7	Rig up	8/30/2022	01:30					Rig up all equipment
8	Safety meeting	8/30/2022	04:30					Pre job meeting with all crews involved
9	Load lines	8/30/2022	04:57	8.34	3	3	100	Load lines for psi test
10	Pressure test	8/30/2022	04:59	8.34	1	1	3633	Psi test pump, and lines to cement head
11	Fresh spacer	8/30/2022	05:03	8.34	5.6	40	210	40 bbls fresh spacer
12	Lead cement	8/30/2022	05:11	12	5.6	10	340	235 bbls lead CMT – 12 # 2.52 Y 14.8 MW 524 sks 10 bbls away
13	Lead cement	8/30/2022	05:15	12	5.6	10	315	20 bbls away
14	Lead cement	8/30/2022	05:21	12	5.6	30	300	50 bbls away
15	Lead cement	8/30/2022	05:30	12	5.6	50	301	100 bbls away
16	Lead cement	8/30/2022	05:39	12	4	50	58	150 bbls away
17	Lead cement	8/30/2022	05:48	12	5.6	50	180	200 bbls away
18	Lead cement	8/30/2022	05:55	12	4	35	322	235 bbls away, swap to tail cement
19	Tail Cement	8/30/2022	05:56	12.5	5.6	64	330	64 bbls tail CMT – 12.5 # 2.23 Y 12.6 MW 161 sks 64 bbls away
20	Washup	8/30/2022	06:10					Washup pump and load plug
21	Displacement	8/30/2022	06:14	8.34	4	10	100	Send plug, and begin displacement 10 bbls away
22	Displacement	8/30/2022	06:18	8.34	8	10	369	20 bbls away
23	Displacement	8/30/2022	06:20	8.34	7.5	20	343	40 bbls away
24	Displacement	8/30/2022	06:25	8.34	3.8	20	96	60 bbls away
25	Displacement	8/30/2022	06:28	8.34	7.5	15	342	75 bbls away
26	Displacement	8/30/2022	06:32	8.34	7.5	35	347	100 bbls away
27	Displacement	8/30/2022	06:39	8.34	7.5	50	494	150 bbls away
28	Displacement	8/30/2022	06:46	8.34	7.5	60	642	210 bbls away slow rate
29	Land plug	8/30/2022	06:49	8.34	3.9	18.1	457	228.1 bbls away, land plug, we had no returns through first stage.

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
30	Check Floats	8/30/2022	06:51					Check floats, floats held with 1 bbls back
31	Parasite Sugar	8/30/2022	07:01	8.34	2	10	458	Pump 10 bbls sugar water down parasite line, break over at 7 bbls away
32	Drop DV plug	8/30/2022	07:07					Send DV plug and wait for it to reach DV tool
33	Open DV tool	8/30/2022	07:17	8.34	1	20	792	Open DV tool and pump 20 bbls
34	Standby	8/30/2022	07:22					Turn well over to rig to circulate DV tool. We gained returns, no cement to surface
35	Fresh flush	8/30/2022	07:49	8.34	5.5	40	200	Begin 2nd stage with 40 bbls fresh flush
36	Primary Cement	8/30/2022	07:57	12	5.6	10	350	157 BBLS primary CMT – 12 # 2.55 Y 14.9 MW 346 sks 10 bbls away
37	Primary Cement	8/30/2022	08:07	12	5.6	40	341	50 bbls away
38	Primary Cement	8/30/2022	08:15	12	5.6	50	376	100 bbls away
39	Primary Cement	8/30/2022	08:20	12	6	30	360	130 bbls away slow rate
40	Primary Cement	8/30/2022	08:25	12	4	20	136	150 bbls away slow rate
41	Primary Cement	8/30/2022	08:28	12	4	27	90	157 bbls away end cement
42	Washup	8/30/2022	08:29					Washup pump
43	Displacement	8/30/2022	08:32	8.34	4	10	100	Send plug and begin displacement 10 bbls away
44	Displacement	8/30/2022	08:38	8.34	5.6	17	200	25 bbls away
45	Displacement	8/30/2022	08:42	8.34	5.6	23	280	50 bbls away
46	Land plug	8/30/2022	08:46	8.34	4	19.9	190	69.9 bbls away land plug
47	Check Floats	8/30/2022	08:49					Check floats, floats held with .5 bbls back estimated 39 bbls cement to surface
48	Standby	8/30/2022	08:50					Crew on standby, while waiting for topout job.
49	Fresh Flush	8/30/2022	10:45	8.34	2	2	8	Pump 2 bbls fresh flush to verify clean and open topout line
50	Topout Cement	8/30/2022	10:52	15.8	2.5	10	90	Begin pumping topout cement job at 15.8 ppg
51	Topout Cement	8/30/2022	11:24	15.8	3	70	100	Pump 80 BBLS topout cement and shutdown to stage due to no returns
52	Washup	8/30/2022	11:26					Washup pump and lines into cellar with sugar water
53	Standby	8/30/2022	11:40					Crew staging cement and waiting for next topout, due to no returns
54	Fresh Flush	8/30/2022	14:06	8.34	2	3	21	Fresh flush to verify flow through topout iron
55	Topout Cement	8/30/2022	14:21	15.8	3	10	229	Begin 2nd topout at 15.8ppg, 10 bbls away
56	Topout Cement	8/30/2022	14:28	15.8	3	10	258	20 bbls away receive returns of mixed water and cement
57	Topout Cement	8/30/2022	14:38	15.8	3	20	294	Pumped a total of 40 bbls of cement, and ran out, still a mix of water and cement to surface

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
58	Washup	8/30/2022	14:40					Washup pump and lines to cellar
59	Standby	8/30/2022	15:00					Crew on standby, waiting for more cement
60	Topout Cement	8/30/2022	21:38	15.8	2	16	91	Pump topout # 3 with 16 bbls total cement and 4 bbls to surface
61	Washup	8/30/2022	21:45					Washup pump, and lines to cellar
62	Safety Meeting	8/30/2022	21:50					Rig down meeting
63	Rig Down	8/30/2022	22:00					Rig down all equipment
64	Safety Meeting	8/30/2022	23:00					Journey management meeting
65	Depart Location	8/30/2022	23:15					Crew departs location, total topout pumped was 663 sks / 137 BBLS, with 4 BBLS cement to surface

Pump Diagrams

JobMaster Program Version 5.01C1
Job Number: 83220
Customer: Cearus
Well Name: Federal 21B-27-496



Job Start: Tuesday, August 30, 2022

JobMaster Program Version 5.01C1
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Customer: Cearus
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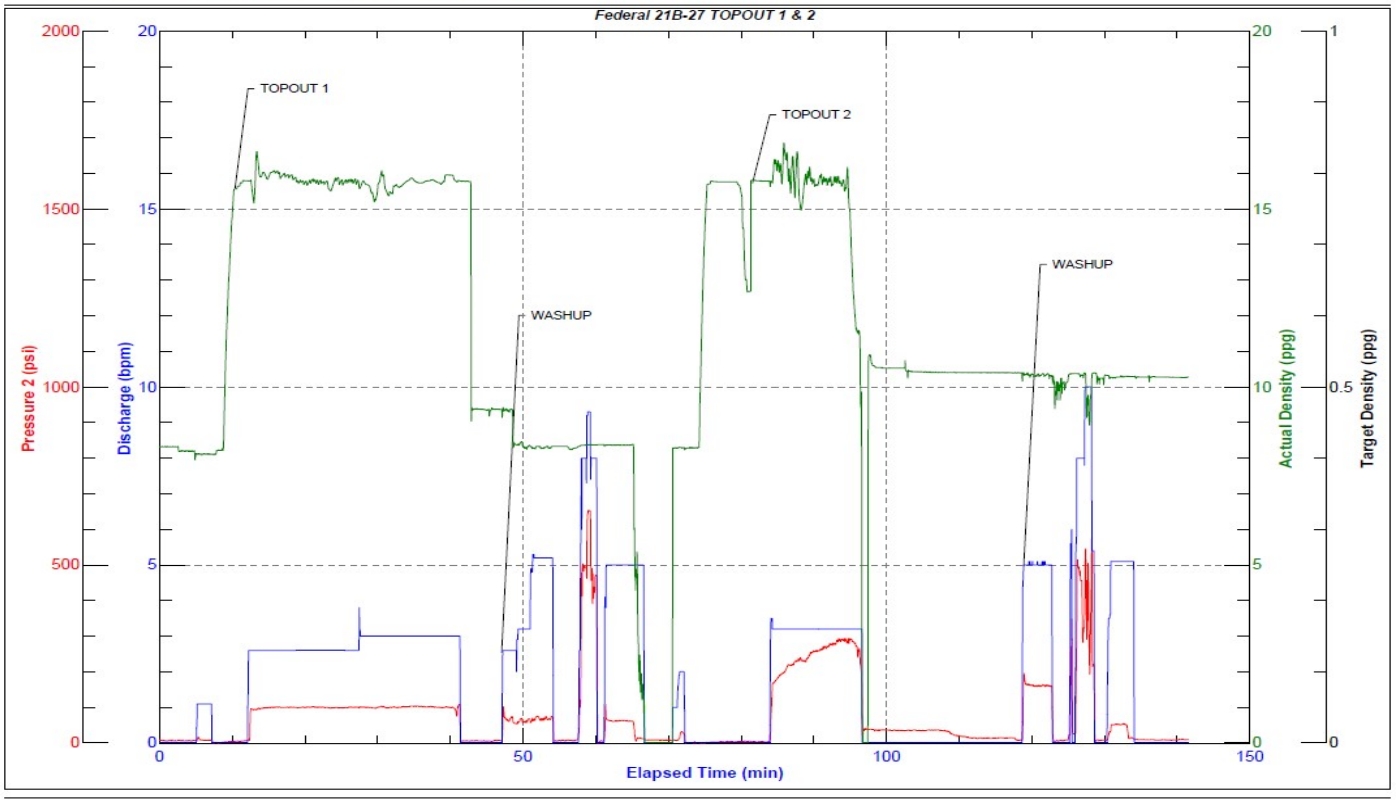

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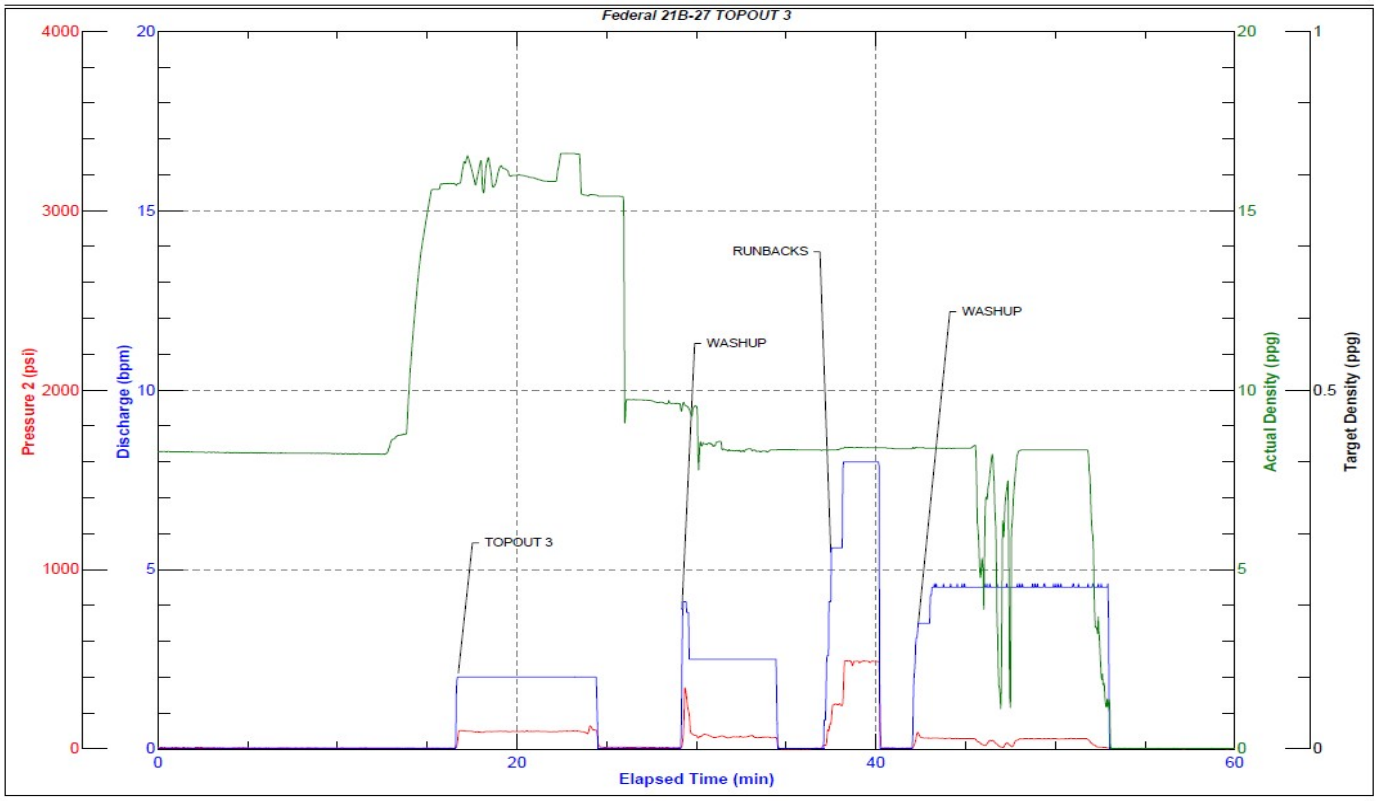

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