



Caerus Operating LLC

TWO-STAGE/MULTI-STAGE CEMENT POST JOB REPORT

BJU B26 FED #15B-26-496 05-045-24443
S:26 T:4S R:96W Garfield CO

CallSheet #: 86203
Proposal #: 67707



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,

Zen Keith

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

Field Office 28730 US-6, Rifle, CO 81650
Phone: (970) 657-1187

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	3046	0
Casing	Inner	9.625	8.921	36	n/a	0	3026.9	0

Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Employee #2
Field Storage Silo	FSS-478			
Field Storage Silo	FSS-468			
Cement Trailer Float	CTF-161	TRC-112	Ridgeway, Danny	Morales, Adrian
Light Duty Vehicles	LDV-061		Woronovitch, Collin	
Cement Pump Float	CPF-052	TRH-957	Brady, Shawn	

Timing

Event	Date/Time
ERTS	00/16/2023 00:00
Call Out	3/15/2023 20:15
Depart Facility	3/16/2023 09:15
On Location	3/16/2023 11:50
Rig Up Iron	3/16/2023 12:00
Job Started	3/16/2023 19:15
Job Completed	3/17/2023 00:45
Rig Down Iron	3/17/2023 01:00
Depart Location	3/17/2023 03:00

General Job Information

Metrics	Value
Well Fluid Density	9.6 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	300 bbls
Rig Circulation Time	0.5 hours
Calculated Displacement	228/71 bbls
Actual Displacement	228/71 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	88 bbls
Well Topped Out	No

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
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	Flat Tank	
Temperature	69 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	300 mg/L	0-3000 mg/L
Total Alkalinity	140	0-1000
Total Hardness	120 mg/L	0-500 mg/L
Carbonates	NA mg/L	0-100 mg/L
Sulfates	200 mg/L	0-1500 mg/L
Potassium	260 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	212

Circulation Details

NO RETURNS DURING STAGE 1 40 BBL FRESHWATER FLUSH. CAUGHT RETURNS @ 25 BBLS INTO LEAD. LOST RETURNS @ 212 DISPLACED.
 CAUGHT RETURNS @ 218 DISPLACED. FULL RETURNS DURING STAGE 2

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		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		71.00	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

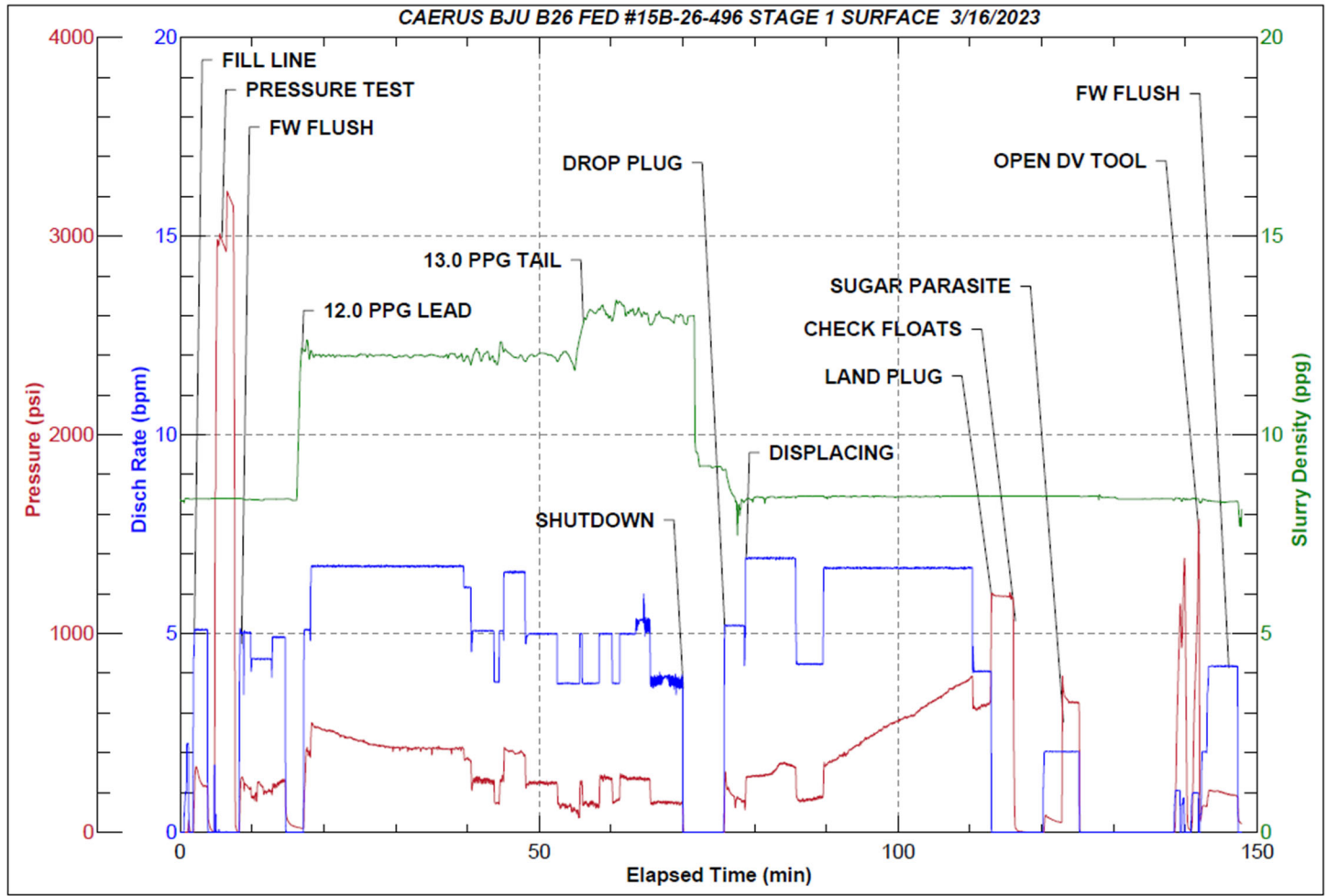
Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	Callout	3/15/2023	20:15					CREW CALLED OUT FOR ON LOCATION TIME OF 14:00 3/16/23
2	Depart Location	3/16/2023	09:15					CREW DEPARTS RCO YARD AND HEADS TO RIG LOCATION
3	Arrive On Location	3/16/2023	11:50					CREW AND EQUIPMENT ARRIVE ON RIG LOCATION
4	Rig Up Iron	3/16/2023	12:00					PRE-RIG UP SAFETY MEETING, RIG UP ALL IRON, HOSES, AND EQUIPMENT
5	Waiting	3/16/2023	14:00					IRON RIG UP IS COMPLETE WAITING ON RIG TO FINISH RUNNING CASING
6	Other	3/16/2023	18:45					CASING ON BOTTOM @ 18:00 RIG CIRCULATED 30 MIN. 300 BBLs. FINISH RIGGING UP HEAD AND LINES
7	Safety Meeting	3/16/2023	19:15					PRE-JOB SAFETY MEETING WITH COMPANY MAN AND RIG CREW
8	Fill Lines	3/16/2023	19:29	8.34	5.5	10	327	FILL LINES WITH 10 BBLs FRESHWATER, NO RETURNS
9	Pressure Test Lines	3/16/2023	19:32	8.34			3267	PRESSURE TEST LINES AND EQUIPMENT TO 3000 PSI
10	Pump Spacer	3/16/2023	19:35	8.34	5	30	288	FINISH PUMPING 40 BBL FRESHWATER SPACER, NO RETURNS
11	Pump Lead Cement	3/16/2023	19:44	12	5.1	0	420	BEGIN PUMPING 12.0 PPG LEAD CEMENT. WEIGHT VERIFIED BY MUD SCALE
12	Pump Lead Cement	3/16/2023	19:52	12	6.7	50	475	50 BBLs LEAD CEMENT PUMPED. CAUGHT RETURNS @ 25 BBLs LEAD PUMPED
13	Pump Lead Cement	3/16/2023	19:59	12	6.7	50	435	100 BBLs LEAD CEMENT PUMPED
14	Pump Lead Cement	3/16/2023	20:07	12	6.1	50	383	150 BBLs LEAD CEMENT PUMPED. FULL RETURNS
15	Pump Lead Cement	3/16/2023	20:16	12	5	50	265	200 BBLs LEAD CEMENT PUMPED
16	Pump Lead Cement	3/16/2023	20:22	12	3.8	35	138	235 BBLs (524 SKS) LEAD CEMENT PUMPED. FULL RETURNS
17	Pump Tail Cement	3/16/2023	20:22	13	5	0	253	BEGIN PUMPING 13.0 PPG TAIL CEMENT. WEIGHT VERIFIED BY MUD SCALE
18	Pump Tail Cement	3/16/2023	20:29	13	5	30	290	30 BBLs TAIL CEMENT PUMPED
19	Pump Tail Cement	3/16/2023	20:37	13	3.7	34	156	64 BBLs (175 SKS) TAIL CEMENT PUMPED. FULL RETURNS
20	Drop Top Plug	3/16/2023	20:42					DROPPED TOP PLUG, VERIFIED WITH CUSTOMER AND TOOL HAND
21	Pump Displacement	3/16/2023	20:42	8.34	5.2	0	240	BEGIN PUMPING FRESHWATER DISPLACEMENT
22	Pump Displacement	3/16/2023	20:51	8.34	6.6	50	375	50 BBLs DISPLACEMENT PUMPED. CAUGHT RETURNS @ 9 BBLs DISPLACED
23	Pump Displacement	3/16/2023	20:59	8.34	6.6	50	430	100 BBLs DISPLACEMENT PUMPED. FULL RETURNS
24	Pump Displacement	3/16/2023	21:07	8.34	6.6	50	598	150 BBLs DISPLACEMENT PUMPED
25	Pump Displacement	3/16/2023	21:15	8.34	6.6	50	773	200 BBLs DISPLACEMENT PUMPED. LOST RETURNS @ 212 BBLs. CAUGHT RETURNS @ 218 BBLs DISPLACED

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
26	Pump Displacement	3/16/2023	21:20	8.34	4	28	689	228 BBLS CALCULATED DISPLACEMENT PUMPED, MAX LIFT PRESSURE 798 PSI MAX RATE 6.6 BPM @ 210 BBLS DISPLACED SLOW TO 4 BPM @ 215 BBLS DISPLACED
27	Land Plug	3/16/2023	21:20				1200	PLUG LANDED; FCP-689 PSI BUMPED TO 1200 PSI
28	Check Floats	3/16/2023	21:23					BLEED PRESSURE OFF. FLOATS HELD 1 BBL BACK
29	Open Parasite	3/16/2023	21:26	8.34	2	10	780	PUMPING SUGAR WATER DOWN PARASITE LINE. PRESSURE BROKE OVER @ 6 BBLS PUMPED-780 PSI
30	Drop Opening Plug	3/16/2023	21:34					DROP DV TOOL OPENING PLUG
31	Waiting	3/16/2023	21:34					WAITING FOR PLUG TO FALL
32	Other	3/16/2023	21:45	8.34	2	20	1557	PUMPING AGAINST TOOL TO OPEN, SHIFTED OPEN @ 1557 PSI, 20 BBLS TOTAL PUMPED. HANDED OVER TO RIG TO CIRCULATE @ 21:54 RIG CIRCULATED 197 BBLS AFTER CATCHING RETURNS. NO CEMENT RECOVERED
33	Pump Spacer	3/16/2023	22:47	8.34	5	20	230	STAGE 2. PUMP 20 BBL FRESHWATER SPACER. FULL RETURNS
34	Pump Cement	3/16/2023	22:54	12	6	0	437	BEGIN PUMPING 12.0 PPG PRIMARY CEMENT. WEIGHT VERIFIED BY MUD SCALE
35	Pump Cement	3/16/2023	23:02	12	6	50	384	50 BBLS PRIMARY CEMENT PUMPED. FULL RETURNS.
36	Pump Cement	3/16/2023	23:10	12	6	50	370	100 BBLS PRIMARY CEMENT PUMPED. CEMENT TO SURFACE @ 140 BBLS PRIMARY PUMPED.
37	Pump Cement	3/16/2023	23:23	12	3.5	57	152	157 BBLS (346 SKS) PRIMARY CEMENT PUMPED. 17 TOTAL BBLS OF CEMENT TO SURFACE DURING STAGE 2 PRIMARY.
38	Drop Top Plug	3/16/2023	23:25					DROPPED TOP PLUG, VERIFIED WITH CUSTOMER AND TOOL HAND
39	Pump Displacement	3/16/2023	23:25	8.34	5	0	303	BEGIN PUMPING FRESH WATER DISPLACEMENT
40	Pump Displacement	3/16/2023	23:32	8.34	5	30	289	30 BBLS DISPLACEMENT PUMPED. FULL CEMENT RETURNS
41	Pump Displacement	3/16/2023	23:40	8.34	3.8	41	333	71 BBLS (CALCULATED) DISPLACEMENT PUMPED. 71 BBLS CEMENT TO SURFACE DURING STAGE 2 DISPLACEMENT. 88 BBLS TOTAL CEMENT TO SURFACE.
42	Land Plug	3/16/2023	23:40				1905	PLUG LANDED FCP-333 PSI BUMPED TO 1905 PSI
43	Check Floats	3/16/2023	23:43					BLEED PRESSURE OFF. FLOATS HELD 1 BBL BACK
44	Waiting	3/16/2023	23:45					CREW IS WAITING 1 HOUR TO SEE IF TOP OUT IS NEEDED.
45	End Job	3/17/2023	00:45					NO TOP OUT NEEDED CREW CAN RIG DOWN
46	Safety Meeting	3/17/2023	00:50					PRE-RIG DOWN SAFETY MEETING
47	Rig Down Iron	3/17/2023	01:00					CREW RIGS DOWN ALL IRON, HOSES, AND EQUIPMENT
48	Depart Location	3/17/2023	03:00					CREW DEPARTS RIG LOCATION FOR RCO YARD

Pump Diagrams

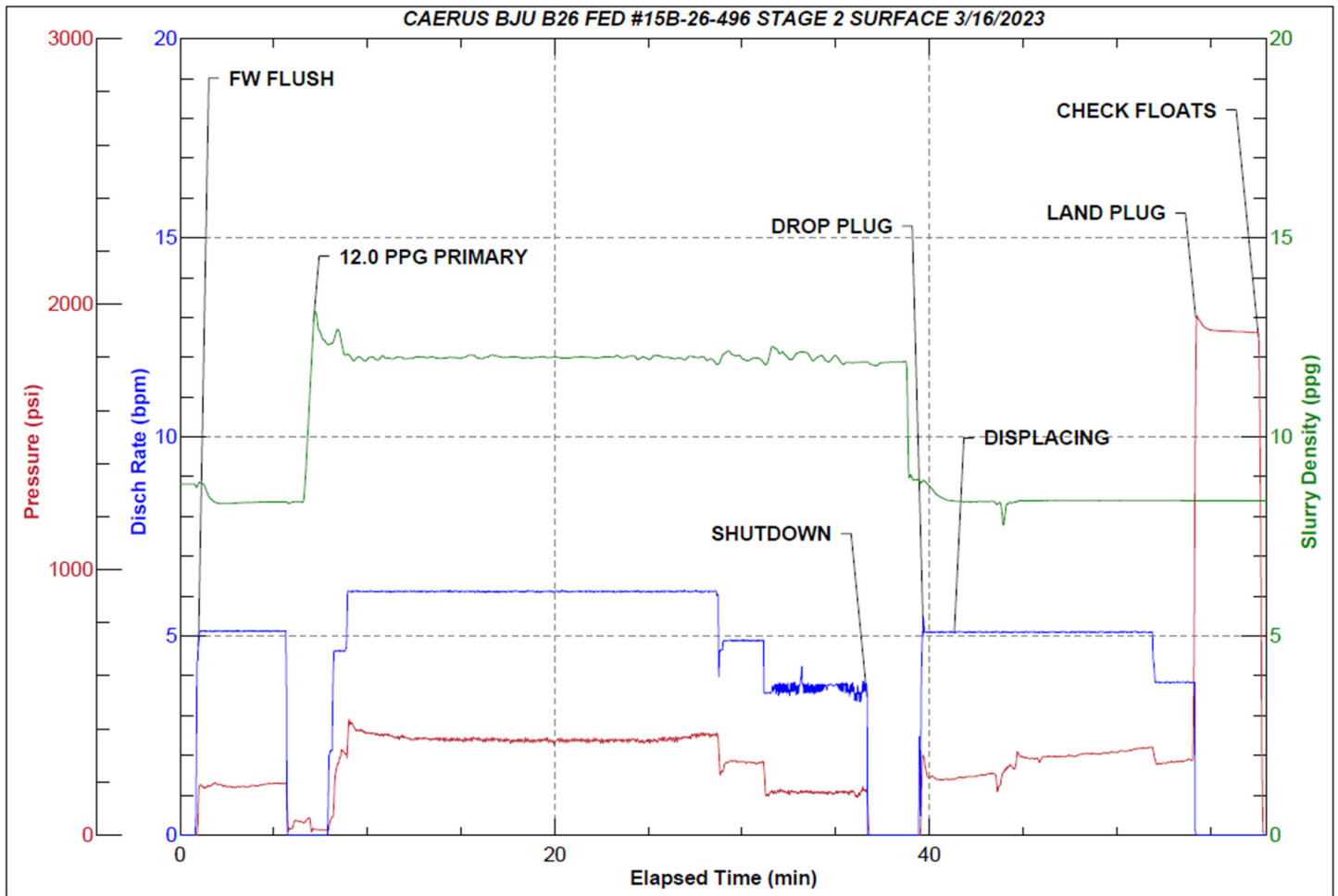


JobMaster Program Version 5.01C1
Job Number: 86203
Customer: CAERUS
Well Name: BJU B26 FED #15B-26-496



Job Start: Thursday, March 16, 2023

Stage-1



Job Start: Thursday, March 16, 2023

Stage-2