



Caerus Operating LLC

TWO-STAGE/MULTI-STAGE CEMENT POST JOB REPORT

BJU B26 FED 12B-26-496 05-045-24433
S:26 T:4S R:96W Garfield CO

CallSheet #: 83366
Proposal #: 63109



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,

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	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	3043	0
Casing	Inner	9.625	8.921	36	n/a	0	2993	0

Equipment / People

Unit Type	Unit	Power Unit	Employee #1
Field Storage Silo	FSS-469		
Field Storage Silo	FSS-468		
AS Cement Trailer Float	CTF-901	TRC-201	Richey, Steven
AS Cement Trailer Float	CTF-048	TRC-053	Wall, Lynn
Cement Trailer Float	CTF-246	TRC-054	Hutchinson, Michael
Cement Trailer Float	CTF-579	TRC-424	Burton, Devin
Cement Pump Float	CPF-058	TRH-959	Hale, Jason
Light Duty Vehicles	LDV-082		Kelsey, John

Timing

Event	Date/Time
Call Out	9/6/2022 22:00
Depart Facility	9/7/2022 01:30
On Location	9/7/2022 03:00
Rig Up Iron	9/7/2022 03:30
Job Started	9/7/2022 12:54
Job Completed	9/7/2022 20:00
Rig Down Iron	9/7/2022 20:15
Depart Location	9/7/2022 21:00

General Job Information

Metrics	Value
Well Fluid Density	8.9 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	50 bbls
Rig Circulation Time	0.25 hours
Calculated Displacement	68.9 bbls
Actual Displacement	68.9 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	70 bbls
Well Topped Out	YES
Top Out Volume	20 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	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	60 °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	400 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

No returns upon beginning the 1st stage. We recieved returns at 135 bbls away on 1st stage displacement. We had returns the remainder of the 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		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
4	Top Out	Topout	15.80	1.15	5.00		117.00	24.00	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-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
2	Primary	Stage-2 Primary	IntegraSeal POLI	LostCirculation	0.25	lb/sk
2	Primary	Stage-2 Primary	STATIC FREE	Other	0.01	lb/sk
4	Topout	Top Out	CLASS G	Cement	100.00	%

Job Logs

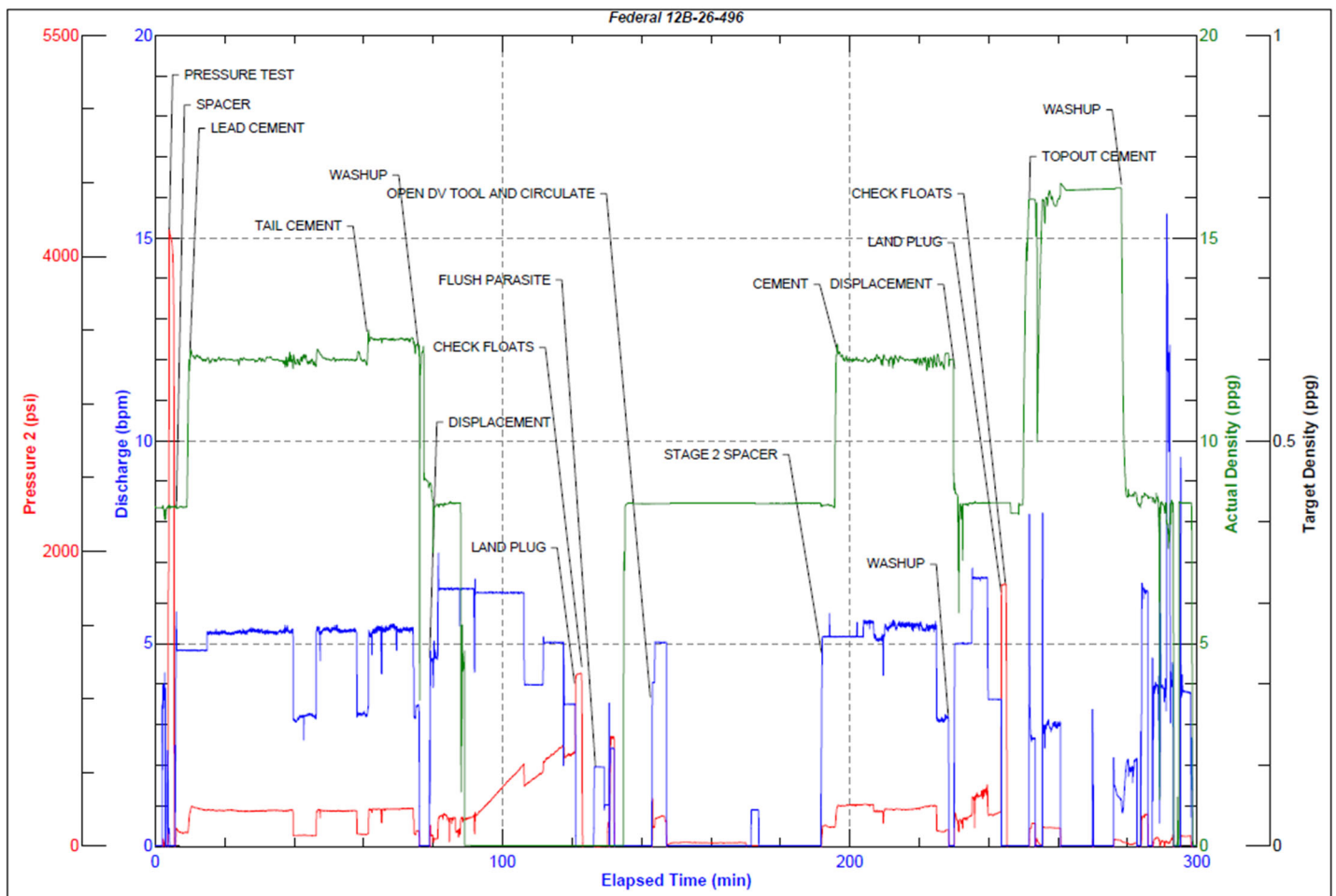
Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	CALLOUT	9/6/2022	22:00					CREW CALLED TO PREPARE FOR A 2 STAGE SURFACE CEMENT JOB. RTS IS 08:00
2	SAFETY MEETING	9/7/2022	01:15					JOURNEY MANAGEMENT MEETING
3	DEPART YARD	9/7/2022	01:30					CREW DEPARTS RIFLE, CO YARD FOR LOCATION
4	ARRIVE ON LOCATION	9/7/2022	03:00					CREW ARRIVES ON LOCATION, VERIFY ALL PROPER EQUIPMENT, PRODUCTS AND JOB PROCEDURES WITH CUSTOMER
5	SAFETY MEETING	9/7/2022	03:10					RIG UP MEETING
6	SPOT UNITS	9/7/2022	03:20					SPOT ALL EQUIPMENT FOR RIG UP
7	RIG UP	9/7/2022	03:30					RIG UP ALL EQUIPMENT
8	STANDBY	9/7/2022	04:30					CREW ON STANDBY WHILE RIG RUNS CASING
9	SAFETY MEETING	9/7/2022	12:45					PRE JOB-MEETING WITH ALL CREWS INVOLVED
10	LOAD LINES	9/7/2022	12:54	8.34	3	3	80	LOAD LINES WITH 3 BBLS FRESH
11	PRESSURE TEST	9/7/2022	12:55	8.34	1	1	4100	PRESSURE TEST PUMP AND LINES TO CEMENT HEAD
12	SPACER	9/7/2022	12:58	8.34	5.3	20	140	20 BBLS FRESH SPACER
13	LEAD CEMENT	9/7/2022	13:01	12	5.3	10	260	235 BBLS Lead CMT – 12 # 2.52 Y 14.8 MW 524 sks 10 BBLS AWAY
14	LEAD CEMENT	9/7/2022	13:12	12	5.3	40	220	50 BBLS AWAY
15	LEAD CEMENT	9/7/2022	13:21	12	5.3	50	220	100 BBLS AWAY
16	LEAD CEMENT	9/7/2022	13:30	12	5.3	50	220	150 BBLS AWAY
17	LEAD CEMENT	9/7/2022	13:42	12	5.3	50	220	200 BBLS AWAY
18	LEAD CEMENT	9/7/2022	13:53	12	3.5	35	80	235 BBLS AWAY SWAP TO TAIL CEMENT
19	TAIL CEMENT	9/7/2022	13:54	12.5	5.3	10	230	64 BBLS Tail CMT – 12.5 # 2.23 Y 12.6 MW 161 sks 10 BBLS AWAY
20	TAIL CEMENT	9/7/2022	14:08	12.5	3.2	54	80	64 BBLS AWAY SHUTDOWN FOR WASHUP AND LOAD PLUG
21	WASHUP	9/7/2022	14:09					WASHUP PUMP MIX SYSTEM
22	DISPLACEMENT	9/7/2022	14:11	8.34	4	10	130	SEND PLUG AND BEGIN DISPLACEMENT 10 BBLS AWAY
23	DISPLACEMENT	9/7/2022	14:21	8.34	6.3	40	180	50 BBLS AWAY
24	DISPLACEMENT	9/7/2022	14:29	8.34	6.3	50	320	100 BBLS AWAY, RECEIVED RETURNS AT 135 BBLS AWAY AT 6.3 BPM AND 500 PSI
25	DISPLACEMENT	9/7/2022	14:37	8.34	6.3	50	530	150 BBLS AWAY SLOW TO 4 BPM AND 415 PSI
26	DISPLACEMENT	9/7/2022	14:49	8.34	6.3	50	650	200 BBLS AWAY
27	LAND PLUG	9/7/2022	14:53	8.34	3.5	27.8	648	227.8 BBLS AWAY LAND PLUG UP TO 1160 PSI
28	CHECK FLOATS	9/7/2022	14:54					CHECK FLOATS, FLOATS HELD WITH .5 BBLS BACK ESTIMATED TOP OF TAIL AT 2494'
29	PARASITE	9/7/2022	14:55	8.34	2	10	180	PUMP 10 BBLS SUGAR WATER DOWN PARASITE LINE BROKE OVER AT 7 BBLS AWAY
30	DROP DV PLUG	9/7/2022	15:06					DROP DV PLUG AND WAIT 10 MINS
31	OPEN DV	9/7/2022	15:16	8.34	4	20	190	OPEN DV TOOL AND CIRCULATE WELL 20 BBLS
32	STANDBY	9/7/2022	15:20					SWAP OVER TO RIG TO CIRCULATE WELL, ESTIMATED 30 BBLS CEMENT TO SURFACE ON STAGE ONE
33	SPACER	9/7/2022	16:15	8.34	5	20	150	BEGIN PUMPING STAGE 2 SPACER 20 BBLS FRESH

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
34	CEMENT	9/7/2022	16:19	12	5	10	250	157 BBLS Primary CMT – 12 # 2.55 Y 14.9 MW 346 sks 10 BBLS AWAY
35	CEMENT	9/7/2022	16:29	12	5.5	40	280	50 BBLS AWAY
36	CEMENT	9/7/2022	16:38	12	5.5	50	251	100 BBLS AWAY
37	CEMENT	9/7/2022	16:52	12	5.5	57	270	157 BBLS AWAY
38	WASHUP	9/7/2022	16:53					WASHUP PUMP MIX SYSTEM
39	DISPLACEMENT	9/7/2022	16:55	8.34	4	10	150	SEND PLUG AND BEGIN DISPLACEMENT 10 BBLS AWAY
40	DISPLACEMENT	9/7/2022	17:00	8.34	6.6	20	320	30 BBLS AWAY
41	LAND PLUG	9/7/2022	17:08	8.34	3.5	38.9	207	68.9 BBLS AWAY LAND PLUG UP TO 1790 PSI ESTIMATED 70 BBLS CEMENT TO SURFACE
42	CHECK FLOATS	9/7/2022	17:10					CHECK FLOATS, FLOATS HELD WITH .5 BBLS BACK
43	STANDBY	9/7/2022	17:15					CREW ON STANDBY FOR TOP OUT JOB WHILE RIG NIPPLES UP
44	TOPOUT CEMENT	9/7/2022	19:30	15.8	3	24	120	TOPOUT CEMENT JOB. 20 BBLS PUMPED TO GET CEMENT TO SURFACE, 24 TOTAL BBLS / 117 SKS OF TOPOUT CEMENT PUMPED WITH 4 BBLS TO SURFACE
45	WASHUP	9/7/2022	20:00					WASHUP PUMP MIX SYSTEM AND SEND SUGAR WATER BEHIND TO CLEAN OUT CELLAR AND PUMP
46	SAFETY MEETING	9/7/2022	20:10					RIG DOWN SAFETY MEETING
47	RIG DOWN	9/7/2022	20:15					RIG DOWN ALL EQUIPMENT
48	SAFETY MEETING	9/7/2022	20:50					JOURNEY MANAGEMENT MEETING
49	DEPART LOCATION	9/7/2022	21:00					CREW DEPARTS LOCATION

Pump Diagrams



JobMaster Program Version 5.01C1
Job Number: 83366
Customer: Cearus
Well Name: Federal 12B-26-496



Job Start: Wednesday, September 07, 2022