

HALLIBURTON

iCem[®] Service

CRESTONE PEAK RESOURCES-EBUS

Ft. Lupton District, Colorado

For: Sam Mares

Date: Saturday, March 18, 2023

COSSLETT EAST

Weld County

COSSLETT EAST 1J-22H-H16 13.375' CONDUCTOR

Job Date: Saturday, March 18, 2023

Sincerely,

Cody Haley

Legal Notice

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the COSSLETT EAST 1J-22H-H16 13.375' CONDUCTOR. A pre-job safety meeting was held before the job where details of the job were discussed, potential safety hazards were reviewed, and environmental compliance procedures were outlined.

Approximately 25 bbls of cement were returned to surface.

Halliburton maintains a continuous quality improvement process and appreciates any comments or suggestions that you may have. Halliburton again thanks you for the opportunity to perform service work on this well. We hope to be your solutions provider for future projects.

Respectfully,

Halliburton Rockies Cement Team

1.2 Job Overview

Job Details	
API #:	05-123-51947
County:	Weld
Field:	Wattenberg
Legal Discription:	SENE SEC 22 TOWN 1N RANGE 68W

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	3/18/2023	02:30
Called Out Time:	03/17/2023	20:30
Arrived On Location:	03/17/2023	22:25
Job Started:	03/18/2023	2:23
Job Completed:	3/18/2023	5:11
Departed Location:	03/18/2023	6:30

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	22
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	WBM
3	Mud density	ppg	8.8
4	Casing set depth (shoe)	ft	606
5	TVD	ft	606
6	Float collar depth	ft	559.8
7	Length of rate hole	ft	10

8	Previous casing shoe depth	ft	145
9	Pre-job mud circulation time	hh:mm	5
10	Pre-job mud circulation rate	bpm	40
11	Pre-job mud circulation volume	bbls	50
12	Mud circulation pressure at start of cement	psi	N
13	Annual flow before the start of job	Y/N	N
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	87
16	Job displaced by	Rig/HES	Rig
17	Estimated returns % during job	%	50
18	Fluid returns to surface	Spacer/Cement, bbls	25
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	130
20	Number of Centralizers	-	15
21	Number of bottom plugs	-	2

1.3 Water Field Test

	Recorded Value	Unit	Acceptable Limit	Potential Problems if Values Exceed the Limit
pH	7		6.0 - 8.0	Chemicals in water can cause severe retardation
Temperature	65	F	60 - 80 F	Can can pre-mature setting of cement
Chlorides	200	ppm	3000 ppm	Can shorten thickening time

1.4 Actual Pump Schedule

	Density (ppg)	Volume (bbls)	Yield (ft3/sk)	Water Requirement (gal/sk)	Bulk Sacks (sks)	Total Water (gals)
Spacer Fluid						
Cap Cement	14.2	116	1.15	5.74	567	3254
Lead Cement	14.2	72.4	1.15	5.74	353	2026
Tail Cement	NA					
Top Plug	2					
Displacement Fluid	8.33	87				3612

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq No.	Activity	Graph Label	Date	Time	Source	Dwnhole Density (ppg)	Cmb Pump Rate (bbl/min)	Pump B Pressure (psi)	Cmb Stg Total (bbl)	Comments
Event	1	Call Out	Call Out	3/17/2023	20:30:00	USER					Crew called out at 2030 on 3/17/2023 for a requested-on location time of 0230 on 3/18/2023.
Event	2	Safety Meeting	Safety Meeting	3/17/2023	21:50:00	USER					Pre convoy safety meeting discussed route to location and hazards of driving.
Event	3	Crew Leave Yard	Crew Leave Yard	3/17/2023	22:00:00	USER					Crew Leaves yard in convoy at 2200 hrs.
Event	4	Arrive At Loc	Arrive At Loc	3/17/2023	22:25:00	USER					Crew arrived on location at 1500 hrs. Meet with costumer TD 616', 17.5 OH, TP 604.4 13.375' 54.5#, FC 559.8', TVD 616', P/C 145' 20inch 94#, OBM WEIGHT 8.4 PPG.

Event	5	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	3/17/2023	23:50:00	USER					Discuss hazards around rig up area.
Event	6	Rig-Up Completed	Rig-Up Completed	3/18/2023	00:50:00	USER					Rig up completed.
Event	7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	3/18/2023	02:00:00	USER	-1.14	0.00	-34.82	0.00	Pre job safety meeting discussed all hazards prior to job and reviewed job procedure.
Event	8	Start Job	Start Job	3/18/2023	02:26:27	USER	8.28	0.00	144.01	9.61	Start recording data.
Event	9	Pump Spacer	Pump Spacer	3/18/2023	02:27:46	USER	8.33	5.62	138.18	2.03	Pumped 40 bbls of water to fill pipe.
Event	10	Test Lines	Test Lines	3/18/2023	02:35:02	USER	8.28	0.05	849.66	40.03	Pumped 5bbls fresh water to fill lines, shutdown, closed manifold, performed 500psi k/o function test, continued with 5th gear stall at 1350psi, proceeded to bring pressure to 3500psi. Held well, no leaks.
Event	11	Pump Cement	Pump Cement	3/18/2023	02:38:02	NONE	8.55	0.00	3843.71	0.00	Pumped 553sks or 116bbls of 14.2# 1.15y 5.74g/s SwiftCem at 4bpm 210psi.

Event	12	Check Weight	Check Weight	3/18/2023	02:44:53	NONE	15.39	2.95	159.29	8.80	Weight verified with pressurized mud scales.
Event	13	Check Weight	Check Weight	3/18/2023	02:54:18	NONE	14.08	4.21	241.68	48.07	Weight verified with pressurized mud scales.
Event	14	Drop Top Plug	Drop Top Plug	3/18/2023	03:15:11	NONE	14.63	0.00	-2.64	109.91	Dropped by tool hand witnessed by HES supervisor and company man.
Event	15	Pump Displacement	Pump Displacement	3/18/2023	03:15:14	NONE	14.62	0.00	-2.85	0.00	Displaced first 10bbls with cement water, followed by 76bbls fresh water, total 86bbl displacement.
Event	16	Bump Plug	Bump Plug	3/18/2023	03:37:49	NONE	8.37	0.00	347.61	85.38	Slowed down to 3bpm at 75bbls away, final circulating pressure-65psi, Bump Pressure 460psi.
Event	17	Other	inflate packer	3/18/2023	03:48:32	NONE	8.34	0.00	568.86	0.39	Inflate packer to 595, 876,991, 1104, 1200, 1200psi until opened at 1240psi and fell to 600psi, brought up to 800psi. held there.

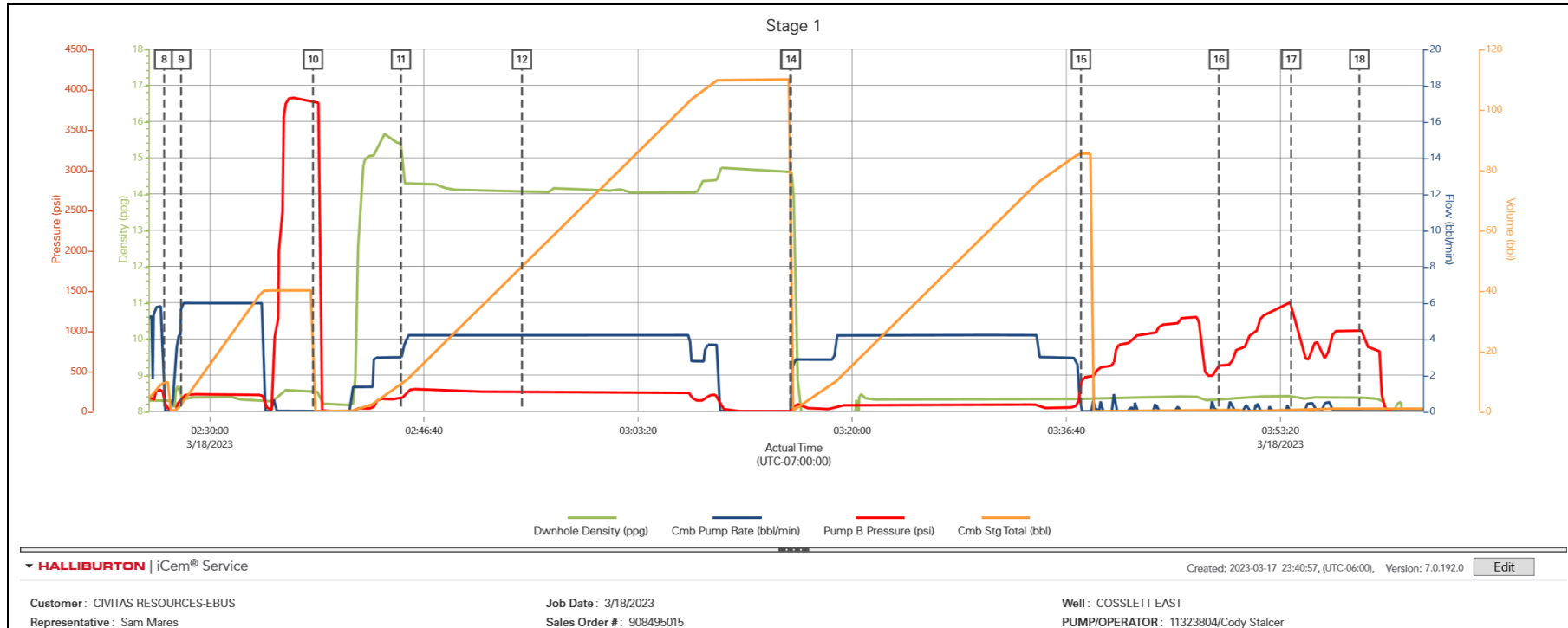
Event	18	Other	Other	3/18/2023	03:54:10	NONE	8.42	0.00	1343.05	0.26	Released pressure to 650psi, 1/4bbl back.
Event	19	Other	Other	3/18/2023	03:59:29	NONE	8.38	0.00	1006.99	0.89	Brought pressure up to 825psi, 1000psi,1229 psi, 1300 psi, 1404 psi released at 1404psi dropped to 700psi. released to 700 psi getting 1/4bbl back.
Event	20	Drop Ball	Drop Ball	3/18/2023	04:09:32	NONE	8.25	0.00	-20.11	0.00	DV TOOL-305.3', Upper PACKER-308', Lower PACKER-550.2', OH-17.5", Conductor 145' 19.5" ID, MUD-8.7# Dropped Bomb Opened Tool at 1bpm to 320psi, 1bbl to open.
Event	21	Other	Other	3/18/2023	04:12:23	NONE	8.24	0.00	-20.39	0.00	Pumped additional 50bbls fresh water at 5bpm to ensure circulation and circulate bottoms up.
Event	22	Pump Cement	Pump Cement	3/18/2023	04:27:38	NONE	8.30	0.00	-18.85	0.00	Pumped 353sks or 72.4bbl of 14.2# 1.15y

												5.74g/s SwiftCem at 5bpm 110psi.
Event	23	Check Weight	Check Weight	3/18/2023	04:31:38	NONE	15.31	2.27	55.92	8.75		Weight verified with pressurized mud scales.
Event	24	Check Weight	Check Weight	3/18/2023	04:37:02	NONE	13.99	4.19	217.79	31.24		Weight verified with pressurized mud scales.
Event	25	Check Weight	Check Weight	3/18/2023	04:40:52	NONE	14.21	4.21	229.54	47.34		Weight verified with pressurized mud scales.
Event	26	Shutdown	Shutdown	3/18/2023	04:47:37	NONE	14.64	0.00	21.14	70.61		Shutdown to drop top plug.
Event	27	Drop Top Plug	Drop Top Plug	3/18/2023	04:52:32	NONE	14.56	0.00	-2.69	70.61		Dropped by tool hand witnessed by HES supervisor and company man.
Event	28	Pump Displacement	Pump Displacement	3/18/2023	04:52:34	NONE	14.56	0.00	-2.89	0.00		Displaced first 10bbls with cement water, followed by 37bbls fresh water, total of 47bbls Fresh water Displacement.
Event	29	Bump Plug	Bump Plug	3/18/2023	05:06:38	NONE	8.43	0.00	1085.51	47.93		Slowed down to 3bpm at 36bbls away, final circulating pressure-130psi, Bump Pressure 1130psi.

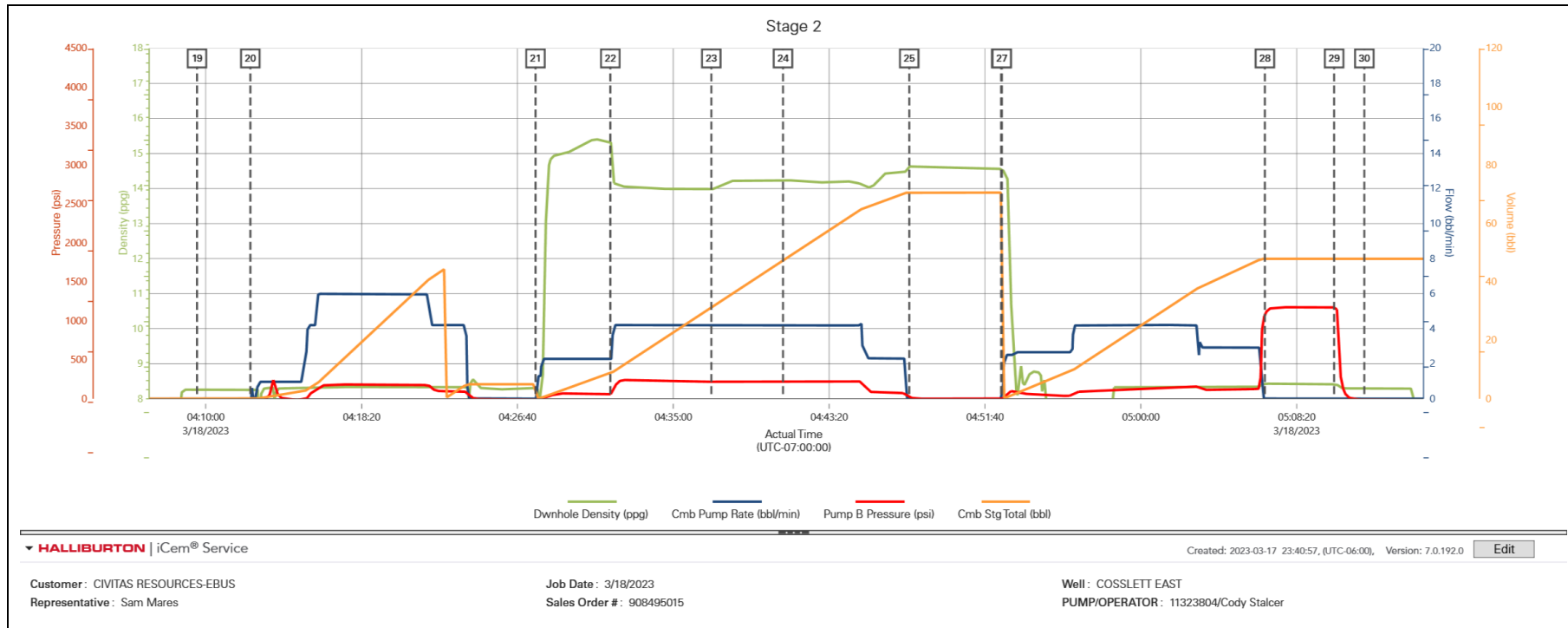
Event	30	Other	Other	3/18/2023	05:10:20	NONE	8.41	0.00	1173.07	47.93	Released pressure and got 1.5bbls back, floats held.
Event	31	End Job	End Job	3/18/2023	05:11:57	NONE	8.29	0.00	-14.14	47.93	Stop recording data. 25 bbls of cement to surface.
Event	32	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	3/18/2023	06:00:00	USER					Discuss blow down and any new hazards that could have come up during job.
Event	33	Rig-Down Completed	Rig-Down Completed	3/18/2023	06:30:00	USER					Rig down completed.

3.0 Attachments

3.1 COSSLETT EAST 1J-22H-H16 13.375' CONDUCTOR-Custom Results (1).png



3.2 COSSLETT EAST 1J-22H-H16 13.375' CONDUCTOR-Custom Results (2).png



3.3 COSSLETT EAST 1J-22H-H16 13.375' CONDUCTOR-Custom Results 3).png

