HALLIBURTON

iCem® Service

CRESTONE PEAK RESOURCES-EBUS

For: Josh Johnson
Date: Friday, March 17, 2023

COSSLETT 1I-22H-H168
Cosslett East 1I-22H-H168
Job Date: Friday, March 17, 2023

Sincerely,
Nick Roles and Crew

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 1I-22H-H168 CONDUCTOR 2 STAGE. 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 25bbls 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 #:	05-123-51948
County:	Weld
Field:	Wattenberg
Legal Discription:	SENE SEC 22 TOWN 1N RANGE 68W

Job Times			
	Date (mm/dd/yyyy)	**Time (hh:mm)**	**Time Zone**
Requested Time On Location:	03/17/2023	16:30	MTN
Called Out Time:	03/17/2023	11:00	MTN
Arrived On Location:	03/17/2023	15:00	MTN
Job Started:	03/17/2023	16:20	MTN
Job Completed:	03/17/2023	18:00	MTN
Departed Location:	03/17/2023	19:00	MTN

	Description	**Units**	**Value**
1	Surface temperature at the time of the job	degree F	55
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	WBM
3	Mud density	ppg	8.8
4	Casing set depth (shoe)	ft	601.6
5	TVD	ft	601.6
6	Float collar depth	ft	555.2
7	Length of rate hole	ft	10
8	Previous casing shoe depth	ft	145
9	Pre-job mud circulation time	hh:mm	00:15

10	Pre-job mud circulation rate	bpm	5
11	Pre-job mud circulation volume	bbls	40
12	Pre-job mud circulation pressure	psi	50
13	Annual flow before the start of job	Y/N	N
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	85
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	50
18	Fluid returns to surface	Spacer/Cement, bbls	Cement
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	110
20	Number of Centralizers	-	15
21	Number of 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	
Chlorides	<3000	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)
1st stage Cement	14.2	116	1.15	5.74	567	3254
2nd stage Cement	14.2	72.4	1.15	5.74	353	2026
Tail Cement	NA					
Top Plug	2					
1st stage Displacement Fluid	8.33	86				3612
2nd stage Displacement Fluid	8.33	46.5				1953

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	11:30:00	USER					Called out by service coordinator for OL time of 1630.
Event	2	Other	Other	3/17/2023	15:00:00	USER					Mix water test results-PH-7, Chlo-0, Temp-65F.
Event	3	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	3/17/2023	15:00:00	USER					Held pre rig up JSA for hazards, hazard hunt with crew, and discussed plan for spotting equipment and rigging up lines for job. Discussed muster points and closest emergency location as well as coordinates.
Event	4	Rig-Up Equipment	Rig-Up Equipment	3/17/2023	15:15:00	USER					Begin rig up with crew.

Event	5	Rig-Up Completed	Rig-Up Completed	3/17/2023	15:40:00	USER					Complete rig up for job to nearest point before red zone.
Event	6	Safety Meeting - Pre Job	Safety Meeting - Pre Job	3/17/2023	15:40:00	USER					Held job specific hazards as well as confirming job procedure with co man and rest of crew associated with job.
Event	7	Start Job	Start Job	3/17/2023	16:20:21	NONE	8.18	0.00	-0.21	0.00	TD-611', TP-601.6' 13.375" 54.5#, FC-555.2', OH-17.5", Cond.-145' 20# 19.5" ID, MUD-8.7#
Event	8	Test Lines	Test Lines	3/17/2023	16:22:07	NONE	8.33	0.00	8.89	3.01	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	9	Pump Cement	Pump Cement	3/17/2023	16:25:45	NONE	8.34	0.00	0.76	0.00	Pumped 567sks or 116bbls of 14.2# 1.15y 5.74g/s SwiftCem at 4bpm 100psi.

Event	10	Check Weight	Check Weight	3/17/2023	16:29:36	NONE	15.11	2.94	134.25	7.36	Weight verified with pressurized mud scales.
Event	11	Check Weight	Check Weight	3/17/2023	16:31:00	NONE	14.10	4.17	233.81	13.09	Weight verified with pressurized mud scales.
Event	12	Check Weight	Check Weight	3/17/2023	16:39:17	NONE	14.08	4.16	220.66	47.67	Weight verified with pressurized mud scales.
Event	13	Shutdown	Shutdown	3/17/2023	16:54:33	NONE	14.79	0.00	115.10	110.23	
Event	14	Drop Top Plug	Drop Top Plug	3/17/2023	16:58:09	NONE	14.75	0.00	15.87	110.23	Dropped by tool hand witnessed by HES supervisor and company man.
Event	15	Pump Displacement	Pump Displacement	3/17/2023	16:58:12	NONE	14.75	0.00	15.88	0.00	Displaced first 10bbls with cement water, followed by 75bbls fresh water, total 85bbl displacement.
Event	16	Bump Plug	Bump Plug	3/17/2023	17:20:30	NONE	8.38	0.00	275.40	84.60	Slowed down to 3bpm at 75bbls away, final circulating pressure-85psi, Bump Pressure 600psi.
Event	17	Other	Other	3/17/2023	17:21:57	NONE	8.38	0.00	281.52	0.00	Inflate packer to 590, 700,800, 900, 1015, 1150psi until opened at 1280psi and fell to

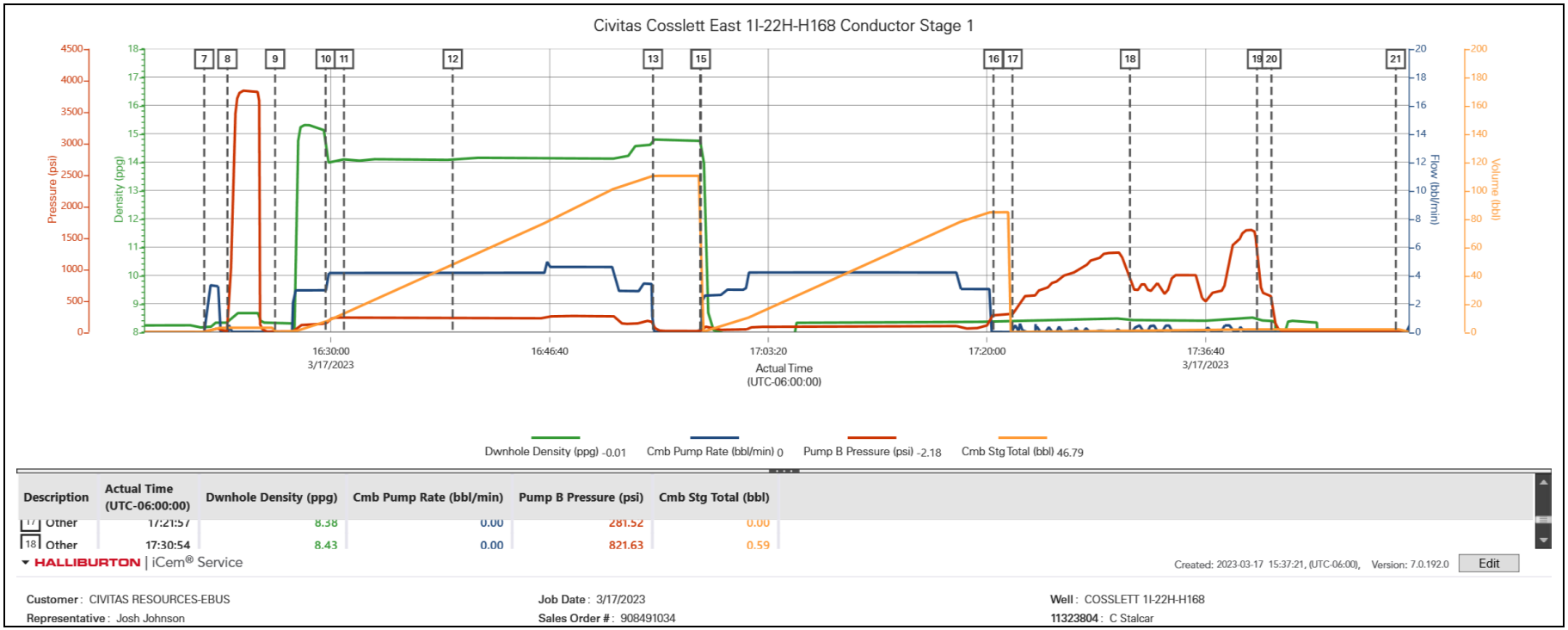
											600psi, brought up to 917psi. held there.
Event	18	Other	Other	3/17/2023	17:30:54	NONE	8.43	0.00	821.63	0.59	Released pressure to 650psi, 1/4bbl back.
Event	19	Other	Other	3/17/2023	17:40:35	NONE	8.46	0.00	1274.08	1.83	Brought pressure up to 655psi, 1450psi, released at 1490psi dropped to 725psi. released to 725psi getting 1/4bbl back.
Event	20	Other	Other	3/17/2023	17:41:41	NONE	8.41	0.00	569.76	1.83	Released pressure and got 1bbls back, floats held.
Event	21	Drop Ball	Drop Ball	3/17/2023	17:51:10	NONE	6.33	0.00	-1.82	1.83	Dropped Bomb Opened Tool at 1bpm to 360psi, 1bbl to open. Pumped additional 50bbls fresh water at 5bpm to ensure circulation and circulate bottoms up.
Event	22	Pump Cement	Pump Cement	3/17/2023	18:07:31	NONE	8.40	0.00	15.66	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	3/17/2023	18:16:36	NONE	15.10	2.10	56.07	14.12	Weight verified with pressurized mud scales.

Event	24	Check Weight	Check Weight	3/17/2023	18:21:00	NONE	14.37	2.75	91.94	25.99	Weight verified with pressurized mud scales.
Event	25	Shutdown	Shutdown	3/17/2023	18:33:42	NONE	14.51	0.00	63.32	75.43	
Event	26	Drop Top Plug	Drop Top Plug	3/17/2023	18:36:42	NONE	14.46	0.00	10.85	75.43	Dropped by tool hand witnessed by HES supervisor and company man.
Event	27	Pump Displacement	Pump Displacement	3/17/2023	18:36:44	NONE	14.46	0.00	10.86	0.00	Displaced first 10bbls with cement water, followed by 37bbls fresh water, total of 47bbls Fresh water Displacement.
Event	28	Other	Other	3/17/2023	18:46:35	NONE	8.29	0.00	98.75	35.97	Shutdown, wait 5min for cement to fall.
Event	29	Bump Plug	Bump Plug	3/17/2023	18:54:50	NONE	8.41	0.00	1312.47	46.79	Slowed down to 3bpm at 36bbls away, final circulating pressure-150psi, Bump Pressure 1300psi.
Event	30	Other	Other	3/17/2023	18:55:52	NONE	8.41	0.00	1355.76	46.79	Released pressure and got 0.75bbls back, floats held.
Event	31	End Job	End Job	3/17/2023	19:10:49	NONE	-0.01	0.00	-3.09	46.79	Got 25bbls cement to surface.

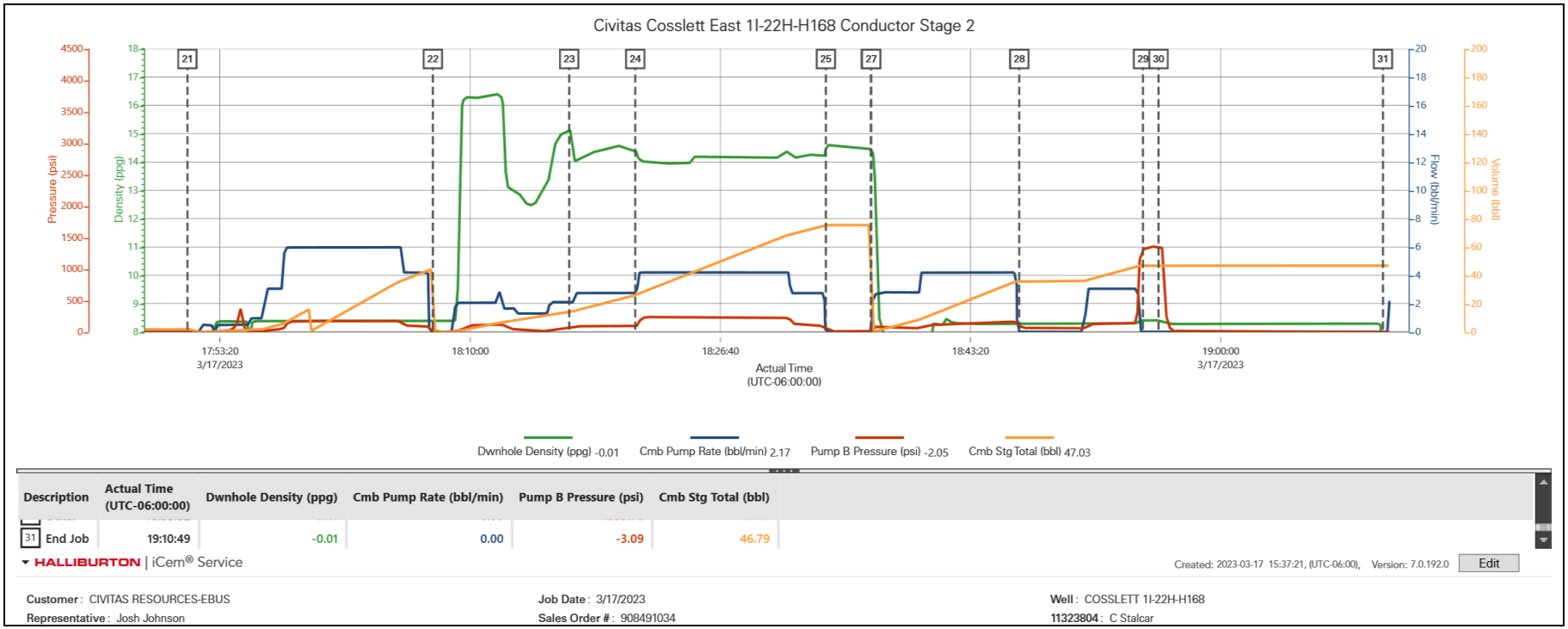
Event	32	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	3/17/2023	19:15:00	USER			Held safety meeting with crew prior to rig down, discussed possibility of trapped pressure, swing radius, slips trips and falls, pinch points and risks associated with rig down.
Event	33	Rig Down Lines	Rig Down Lines	3/17/2023	19:20:00	USER			Begin rig down
Event	34	Rig-Down Completed	Rig-Down Completed	3/17/2023	20:00:00	USER			Rig down complete with no injuries, spills or damage to equipment.

3.0 Attachments

3.1 Stage 1.png



3.2 Stage 2.png



3.3 Cosslett East 1I-22H-H168-Custom Results.png