

HALLIBURTON

iCem[®] Service

CRESTONE PEAK RESOURCES-EBUS

For: Josh Johnson

Date: Tuesday, March 14, 2023

COSSLETT 1C-22H-H168

Job Date: Tuesday, March 14, 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 1C-22H-H168 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 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 #:	05-123-51949
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:	03/14/2023	15:00	MTN
Called Out Time:	03/14/2023	11:00	MTN
Arrived On Location:	03/14/2023	14:00	MTN
Job Started:	03/14/2023	15:20	MTN
Job Completed:	03/14/2023	17:49	MTN
Departed Location:	03/14/2023	19:00	MTN

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	65
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	WBM
3	Mud density	ppg	8.8
4	Casing set depth (shoe)	ft	599
5	TVD	ft	599
6	Float collar depth	ft	552.4
7	Length of rate hole	ft	10
8	Previous casing shoe depth	ft	145
9	Pre-job mud circulation time	hh:mm	14:45

10	Pre-job mud circulation rate	bpm	5
11	Pre-job mud circulation volume	bbls	150
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	86
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	-	
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 (ft ³ /sk)	Water Requirement (gal/sk)	Bulk Sacks (sks)	Total Water (gals)
Spacer Fluid						
1st stage Cement	14.2	129	1.15	5.74	631	3621
2nd stage Cement	14.2	72.5	1.15	5.74	354	2031
Tail Cement	NA					
Top Plug	2					
1st stage Displacement Fluid	8.33	86				
2nd stage Displacement Fluid	8.33	46				

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/mi n)	Pump B Pressure (psi)	Cmb Stg Total (bbl)	Comments
Event	1	Call Out	Call Out	3/14/2023	11:00:00	USER					Called out by service coordinator for OL time of 1500.
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	3/14/2023	12:45:00	USER					Discuss all hazards associated with journey, directions to destination, complete journey management if needed, and ensure all convoy is fit for duty.
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	3/14/2023	13:00:00	USER					Depart from service center or other job site.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	3/14/2023	14:00:00	USER					Upon arrival to location, signed in with onsite safety personnel. Met with company man and discussed job specific requirements and specifications.

Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	3/14/2023	14:15:00	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	6	Other	Other	3/14/2023	14:30:00	USER						Mix water test results- PH-7, Chlo-0, Temp-65F.
Event	7	Rig-Up Equipment	Rig-Up Equipment	3/14/2023	14:30:00	USER						Begin rig up with crew.
Event	9	Safety Meeting - Pre Job	Safety Meeting - Pre Job	3/14/2023	15:00:00	USER	8.18	8.18	245.39	38.90		Held job specific hazards as well as confirming job procedure with co man and rest of crew associated with job.
Event	8	Rig-Up Completed	Rig-Up Completed	3/14/2023	15:00:00	USER	8.18	8.18	245.39	38.90		Complete rig up for job to nearest point before red zone.
Event	10	Start Job	Start Job	3/14/2023	15:20:31	NONE	8.13	0.00	-2.43	0.00		TD-609', TP-599' 13.375" 54.5#, FC-552.4', OH-17.5", Cond.-145' 20# 19.5" ID, MUD-8.7#

Event	11	Test Lines	Test Lines	3/14/20 23	15:22:1 2	NONE	8.34	0.00	-10.32	2.25	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	12	Pump Cement	Pump Cement	3/14/20 23	15:30:4 8	NONE	8.45	0.00	1.20	0.00	Pumped 631skts or 129bbls of 14.2# 1.15y 5.74g/s SwiftCem at 4bpm 100psi.
Event	13	Check Weight	Check Weight	3/14/20 23	15:34:0 1	NONE	13.98	2.97	75.88	8.76	Weight verified with pressurized mud scales.
Event	14	Check Weight	Check Weight	3/14/20 23	15:35:3 5	NONE	14.13	4.17	147.97	15.30	Weight verified with pressurized mud scales.
Event	15	Check Weight	Check Weight	3/14/20 23	15:50:5 4	NONE	14.24	4.17	151.22	79.63	Weight verified with pressurized mud scales.
Event	16	Shutdown	Shutdown	3/14/20 23	16:02:5 6	NONE	14.96	0.00	98.21	129.84	
Event	17	Drop Top Plug	Drop Top Plug	3/14/20 23	16:06:0 4	NONE	14.90	0.00	10.51	129.84	Dropped by tool hand witnessed by HES supervisor and company man.

Event	18	Pump Displacement	Pump Displacement	3/14/20 23	16:06:0 6	NONE	14.90	0.00	10.53	0.00	Displaced first 10bbls with cement water, followed by 76bbls fresh water, total 86bbl displacement.
Event	19	Bump Plug	Bump Plug	3/14/20 23	16:29:5 1	NONE	8.35	0.00	450.89	88.10	Slowed down to 3bpm at 75bbls away, final circulating pressure-40psi, Bump Pressure 540psi.
Event	20	Other	Other	3/14/20 23	16:32:0 2	NONE	8.37	0.00	523.55	88.10	Inflate packer to 1112psi until opened and fell to 700psi, engaged at 1/2bpm to 1250psi.
Event	21	Other	Other	3/14/20 23	16:42:5 4	NONE	8.48	0.49	1207.10	1.39	Brought pressure up to 1400psi then 1700psi, released at 1636psi, pressured back up to 1900psi and released to 600psi getting 1/2bbl back. Released pressure to 700psi, 1/2bbl back.
Event	22	Other	Other	3/14/20 23	16:47:5 4	NONE	8.26	0.00	-4.88	1.80	Released pressure and got 1.5bbls back, floats held.

Event	23	Start Job	Start Job	3/14/20 23	16:54:5 2	USER	-0.94	0.00	-3.22	0.00	2nd stage DV TOOL-299.6', Upper PACKER-302', Lower PACKER', OH- 17.5", Conductor 145' 19.5" ID, MUD-8.7#
Event	24	Other	Other	3/14/20 23	16:58:3 7	USER	8.40	0.97	4.76	0.26	Dropped Bomb, Opened Tool at 1bpm to 330psi, 1/2bbl to open. Pumped additional 50bbls fresh water at 5bpm to ensure circulation and circulate bottoms up.
Event	25	Pump Cement	Pump Cement	3/14/20 23	17:11:0 1	NONE	8.48	0.00	10.31	0.00	Pumped 354sk or 72.5bbl of 14.2# 1.15y 5.74g/s SwiftCem at 4.5bpm 110psi.
Event	26	Check Weight	Check Weight	3/14/20 23	17:15:0 2	NONE	13.88	2.90	90.58	8.38	Weight verified with pressurized mud scales.
Event	27	Check Weight	Check Weight	3/14/20 23	17:16:3 8	NONE	14.10	4.00	161.08	14.66	Weight verified with pressurized mud scales.
Event	28	Check Weight	Check Weight	3/14/20 23	17:18:1 9	NONE	14.11	4.20	163.76	21.64	Weight verified with pressurized mud scales.

Event	29	Drop Top Plug	Drop Top Plug	3/14/20 23	17:32:3 2	NONE	14.79	0.00	7.95	70.33	Dropped by tool hand witnessed by HES supervisor and company man.
Event	30	Pump Displacement	Pump Displacement	3/14/20 23	17:32:3 4	NONE	14.79	0.00	8.02	0.00	Displaced first 10bbls with cement water, followed by 36bbls fresh water, total of 46bbls Fresh water Displacement.
Event	31	Bump Plug	Bump Plug	3/14/20 23	17:46:4 7	NONE	8.37	0.00	726.46	49.70	Slowed down to 3bpm at 36bbls away, final circulating pressure-120psi, Bump Pressure 820psi.
Event	32	Other	Other	3/14/20 23	17:48:1 6	NONE	8.37	0.00	813.23	49.70	Released pressure and got 1.5bbls back, floats held.
Event	33	End Job	End Job	3/14/20 23	17:49:2 6	NONE	8.31	0.00	-2.93	0.00	Got 25bbls cement to surface.
Event	34	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	3/14/20 23	18:00:0 0	USER	8.34	0.00	-1.42	30.61	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.

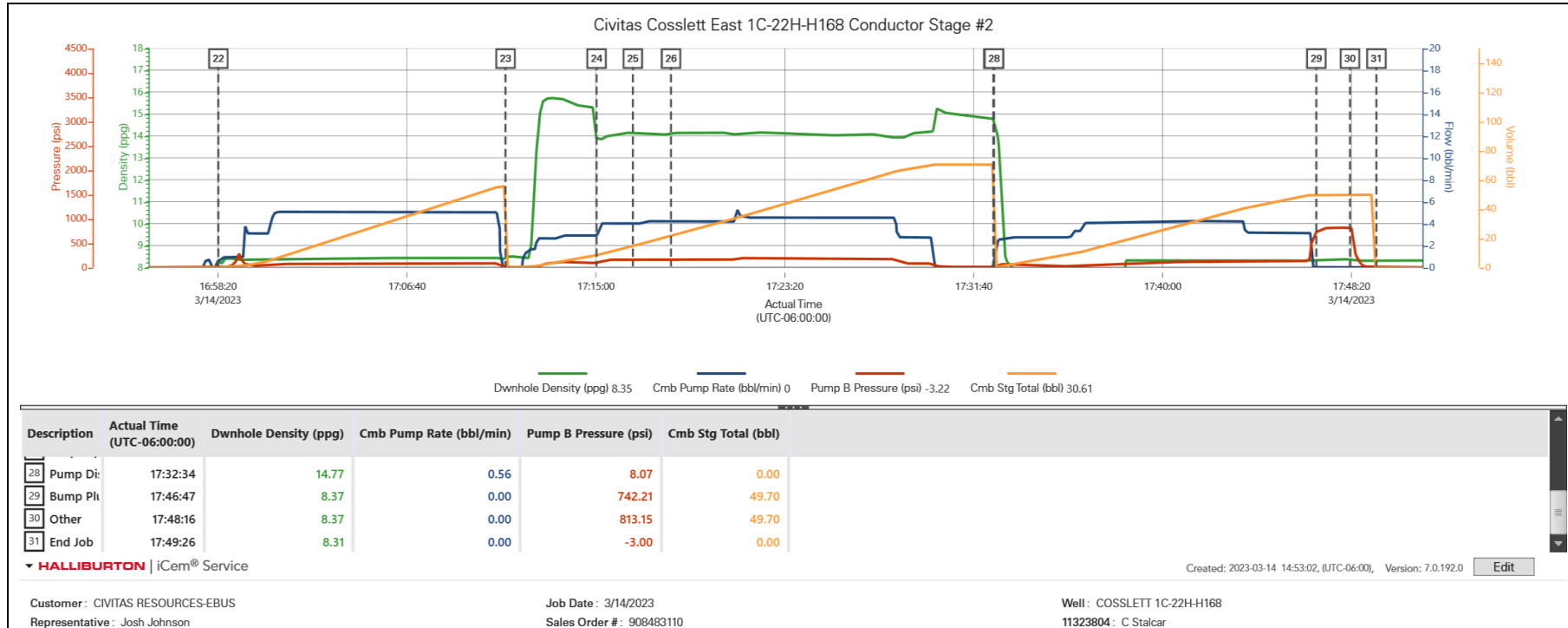
Event	35	Rig Down Lines	Rig Down Lines	3/14/20 23	18:15:0 0	USER	Begin rig down
Event	36	Rig-Down Completed	Rig-Down Completed	3/14/20 23	18:45:0 0	USER	Rig down complete with no injuries, spills or damage to equipment.

3.0 Attachments

3.1 Stage 1.png



3.2 Stage 2.png



3.3 COSSLETT 1C-22H-H168 -Custom Results.png

