HALLIBURTON

iCem® Service

CIVITAS RESOURCES-EBUS

For: JOSH JOHNSON
Date: Thursday, December 28, 2023

CHICO 4-65 25-26
CIVITAS - CHICO 4-65 25-26 4AH
Job Date: Thursday, December 28, 2023

Sincerely,
ANDREW GLOVER

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **CHICO 4-65 25-26 4AH - Production.** 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.

This space is provided to enter in a brief summary of the job. Below are some important items to discuss:

- **Quality of circulation – Prejob 100% , While pumping Cement 100%, While Pumping Displacement 100%**
- **Final Circulating Pressure and Pump Rate 2500 @ 4 BPM**
- **Returns to Surface 55 BBLS CMT**
- **Any deviation from plan NO**
- **Abnormalities on job chart NO**

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 #:	5-005-07546-00
City, County:	ATKINS,ARAPAHOE
SO#:	909064624

Job Times		
	Date (mm/dd/yyyy)	**Time (hh:mm)**
Requested Time On Location:	12/27/23	18:30
Called Out Time:	12/27/23	12:30
Arrived On Location:	12/27/23	18:00
Job Started:	12/27/23	22:30
Job Completed:	12/28/23	2:15
Departed Location:	12/28/23	4:00

	Description	**Units**	**Value**
1	Surface temperature at the time of the job	degree F	20
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	9
4	Casing set depth (shoe)	ft	18003
5	TVD	ft	7912
6	Float collar depth	ft	17998
7	Length of rate hole	ft	12
8	Previous casing shoe depth	ft	3276
9	Pre-job mud circulation time	hh:mm	2:00
10	Pre-job mud circulation rate	bpm	10

11	Pre-job mud circulation volume	bbls	1200
12	Mud circulation pressure at start of cement	psi	1070
13	Annual flow before the start of job	Y/N	N
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	399.5
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	CMT,55 BBLS
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	2500 @ 4 BPM
20	Number of Centralizers	-	
21	Number of bottom plugs	-	1
22	Number of trucks used preparing/during job	-	2
23	Add hours? If Yes, put #	Y/N and hours	N
24	NPT? If Yes, put #	Y/N and hours	N

1.3 Water Field Test

	Recorded Value	Unit	Acceptable Limit	Potential Problems if Values Exceed the Limit
pH	6		6.0 - 8.0	Chemicals in water can cause severe retardation
Temperature	80	F	60 - 80 F	Can can pre-mature setting of cement
Chlorides	0	ppm	3000 ppm	Can shorten thickening time

1.4 Actual Pump Schedule

Stage 1

	Density (ppg)	Volume (bbls)	Yield (ft3/sk)	Water Requirement (gal/sk)	Bulk Sacks (sks)	Total Water (gals)
Spacer Fluid	11.5	120	2.57	16.21	262	4242
Cap Cement	13	201	1.65	8.07	685	5527
Lead Cement	13	191	1.58	7.42	680	5040
Tail Cement	13.2	421	1.57	7.5	1505	11298
Top Plug						
Displacement Fluid	8.4	399.5				16779

Stage 2

	Density (ppg)	Volume (bbls)	Yield (ft3/sk)	Water Requirement (gal/sk)	Bulk Sacks (sks)	Total Water (gals)
Spacer Fluid						
Cap Cement						
Lead Cement						
Tail Cement						
Top Plug						
Displacement Fluid						

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Cmb Pump Rate *(bbl/min)*	Cmb Stg Total *(bbl)*	Dwnhole Density *(ppg)*	Pump A Pressure *(psi)*	Comments
Event	1	Summit Crew Notified Date/Time	Crew Notified Date/Time	12/27/2023	12:30:19	USER					Crew called out for CIVITAS Production
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/27/2023	16:15:22	USER					Discussed route and possible hazards
Event	3	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	12/27/2023	16:30:23	USER					Depart yard w/ 1 pump, 660, 1 pickups and 3 personnel.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	12/27/2023	18:00:25	USER					Requested on location @ 1830
Event	5	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	12/27/2023	18:10:26	USER					Discussed location and possible hazards. Water test: Temp - 80, Chlorides - 0, PH - 6, Sulfates - <200. 8 1/2 TD @ 18015'. Production casing set @ 18003'. 5.5" 20# P110, ST - 5' .0222 bbl/ft. CSG/OH - .0408 bbl/ft. CSG/CSG - .0479 bbl/ft. 9 5/8" 36# J55

											set @ 3276'. TVD @ 7912' Mud Weight - 9 ppg
Event	6	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	12/27/2023	18:20:30	USER					Discussed rig up and possible hazards.
Event	7	Rig-up Lines	Rig-up Lines	12/27/2023	18:30:31	USER					Rig up equipment
Event	8	Casing on Bottom	Casing on Bottom	12/27/2023	20:15:31	USER					
Event	9	Circulate Well	Circulate Well	12/27/2023	20:45:33	USER					Rig circulating well 10 bpm @ 1080 psi
Event	10	Safety Meeting - Pre Job	Safety Meeting - Pre Job	12/27/2023	22:15:49	USER	0.00	458.27	0.00	18.46	Discussed job and possible hazards with everyone on location.
Event	11	Start Job	Start Job	12/27/2023	22:30:25	NONE	0.00	0.22	7.97	-7.22	
Event	12	Pump Spacer 1	Fill Lines	12/27/2023	22:31:50	USER			8.18		Pumped 3 bbls of FW
Event	13	Drop Bottom Plug	Drop Bottom Plug	12/27/2023	22:32:00	USER	2.81	2.79	8.17	334.22	
Event	14	Pressure Test	Pressure Test	12/27/2023	22:33:53	USER	0.34	3.96	8.24	3572.41	Test lines to 6500 psi
Event	15	Pump Spacer 1	Pump Tuned Spacer	12/27/2023	22:39:01	USER	2.07	0.81	7.99	230.81	Pumped 120 bbls of 11.5 ppg of Tuned Spacer. 2.57 cuft/sk and 16.21 gal/sk. Verified weight with pressurized mud scales.

Event	16	Pump Lead Cement	Pump Cap Cement	12/27/2023	22:58:50	USER	6.38	7.38	12.83	338.56	Pumped 201 bbls of 13 ppg Elasticem. 685 sks, 1.65 cuft/sk, and 8.07 gal/sk. Verified weight with pressurized mud scales.
Event	17	Pump Lead Cement	Pump Lead Cement	12/27/2023	23:24:56	USER	7.96	8.71	13.03	679.78	Pumped 191 bbls of 13 ppg Isobond cmt. 680 sks, 1.58 cuft/sk, and 7.42 gal/sk. Verifed weight with pressurized mud scales. Estimated TOC @ 3046.35'
Event	18	Pump Tail Cement	Pump Tail Cement	12/27/2023	23:57:46	USER	8.13	7.80	13.24	685.52	Pumped 421 bbls of 13.2 ppg Elasticem. 1505 sks, 1.57 cuft/sk, and 7.5 gal/sk. Verified weight with pressurized mud scales. Estimated TOC @ 7684.37'
Event	19	Shutdown	Shutdown/Flush Lines	12/28/2023	00:53:00	USER	0.00	447.02	0.59	17.32	
Event	20	Drop Top Plug	Drop Top Plug	12/28/2023	01:01:41	USER	0.00	0.00	8.48	16.52	3rd party top plug
Event	21	Pump Displacement	Pump Displacement	12/28/2023	01:02:00	USER	0.00	0.00	8.49	-4.44	Pumped 399.5 bbls of displacement. 1st 80 bbls FW W/ MMCR
Event	22	Shutdown	Shutdown	12/28/2023	01:22:02	USER	9.13	179.66	8.68	2791.43	Blew a seal on the standpipe.
Event	23	Bump Plug	Bump Plug	12/28/2023	01:53:45	USER	0.00	398.03	8.75	3340.45	Bump plug 2500 - 3400 psi

Event	24	Check Floats	Check Floats	12/28/2023	02:00:04	USER	0.00	0.00	8.55	211.33	Floats are good. Got 4.5 bbls back.
Event	25	Other	Flush Stack	12/28/2023	02:14:45	USER	0.03	0.82	8.48	-14.02	
Event	26	End Job	End Job	12/28/2023	02:22:20	NONE	0.00	33.86	8.50	-1.05	Got 55 bbls of cement back to surface.
Event	27	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	12/28/2023	02:30:08	USER	0.00	33.89	8.56	-12.92	
Event	28	Rig-Down Equipment	Rig-Down Equipment	12/28/2023	02:40:09	USER	0.00	34.07	8.54	-8.51	
Event	29	Depart Location Safety Meeting	Depart Location Safety Meeting	12/28/2023	03:45:10	USER					
Event	30	Depart Location	Depart Location	12/28/2023	04:00:14	USER					Thank you for using Halliburton cement. Andrew Glover and crew.

3.0 Attachments

3.1 CIVITAS - CHICO 4-65 25-26 4AH-Custom Results.png