

HALLIBURTON

iCem[®] Service

CIVITAS RESOURCES-EBUS

Ft. Lupton District, Colorado

For: Josh Johnson

Date: Sunday, December 24, 2023

CHICO 4-65

Adams

CHICO 4-65 26-25-4BH 5.5' PRODUCTION

Job Date: Sunday, December 24, 2023

Sincerely,

Cody Haley

Legal Notice

Disclaimer:

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Table of Contents

Cementing Job Summary 4

 Executive Summary 4

 Job Overview 5

 Water Field Test 7

 Actual Pump Schedule 7

Real-Time Job Summary 9

 Job Event Log 9

Attachments 14

 CHICO 4-65 26-25-4BH 5.5' PRODUCTION-Custom Results (1).png 14

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the CHICO 4-65 26-25-4BH 5.5' 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 2521 psi @4bpm**
- **Returns to Surface 120 bbls spacer/ 50 bbl cement.**
- **Any deviation from plan**
- **Abnormalities on job chart**

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 #:	005-07547
City, County:	Watkins, Adams County
SO#:	909054520

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	12/24/2023	12:00
Called Out Time:	12/24/2023	6:00
Arrived On Location:	12/24/2023	10:30
Job Started:	12/24/2023	16:49
Job Completed:	12/24/2023	20:27
Departed Location:	12/24/2023	20:00

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	19
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	9.0
4	Casing set depth (shoe)	ft	18185
5	TVD	ft	7958
6	Float collar depth	ft	18180
7	Length of rate hole	ft	7

8	Previous casing shoe depth	ft	3321
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	800
12	Mud circulation pressure at start of cement	psi	200
13	Annual flow before the start of job	Y/N	Y
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	403
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	120/50
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	2521
20	Number of Centralizers	-	
21	Number of bottom plugs	-	1
22	Number of trucks used preparing/during job	-	3
23	Add hours? If Yes, put #	Y/N and hours	Y/1
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	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

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	4250
Cap Cement	13	205	1.65	8.07	700	5649
Lead Cement	13	184	1.58	7.42	655	4860
Tail Cement	13.2	432	1.57	7.5	1545	11587
Top Plug	1					
Displacement Fluid	8.33	403				

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	Dwnhole Density (ppg)	Cmb Pump Rate (bbl/min)	Pump B Pressure (psi)	Cmb Stg Total (bbl)	Comments
Event	1	Call Out	Call Out	12/24/2023	06:00:00	USER					Crew called out at 0600 on 12/24/2023 for a requested-on location time of 1200 on 12/24/2023.
Event	2	Safety Meeting	Safety Meeting	12/24/2023	08:45:00	USER					Pre convoy safety meeting discussed route to location and hazards of driving during snowstorm.
Event	3	Crew Leave Yard	Crew Leave Yard	12/24/2023	09:00:00	USER					Crew Leaves yard in convoy at 0900 hrs.
Event	4	Arrive At Loc	Arrive At Loc	12/24/2023	10:30:00	USER					Crew arrived on location at 1030 hrs. Meet with costumer TD 18192', 8.5 OH, TP 18185 5.5' 20#, FC 18180', TVD 7958', P/C 3321' 9.625 36#, OBM WEIGHT 9.0 PPG.

Event	5	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	12/24/2023	10:45:00	USER						Discuss hazards around rig up area.
Event	6	Rig-Up Completed	Rig-Up Completed	12/24/2023	13:00:00	USER						Rig up completed.
Event	7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	12/24/2023	16:30:00	USER	-1.19	0.00	53.47	8.73		Pre job safety meeting discussed all hazards prior to job and reviewed job procedure.
Event	8	Start Job	Start Job	12/24/2023	16:49:23	NONE	7.17	0.03	61.18	29.34		Start recording data.
Event	9	Drop Bottom Plug	Drop Bottom Plug	12/24/2023	16:50:00	USER	8.68	2.76	209.00	0.58		Bottom plug verified by DSR.
Event	10	Test Lines	Test Lines	12/24/2023	16:51:31	NONE	8.29	0.00	199.73	3.54		Pressure tested HES lines to 7,000 psi.
Event	11	Pump Spacer 1	Pump Spacer 1	12/24/2023	17:00:45	NONE	8.11	0.00	102.10	0.00		Pumped 120 bbls of Tuned Prime Spacer @ 11.5ppg. Average rate was 4bpm with 200 psi.
Event	12	Check Weight	Check Weight	12/24/2023	17:05:41	NONE	12.55	6.23	422.55	17.96		Weight verified by mud scales.
Event	13	Check Weight	Check Weight	12/24/2023	17:09:56	NONE	12.24	5.64	237.48	38.97		Weight verified by mud scales.

Event	14	Pump Cap Cement	Pump Cap Cement	12/24/2023	17:20:26	NONE	11.91	7.55	251.16	0.06	Pumped 205 bbls of ElastiCem Cap cement @13ppg. Average rate was 7.5bpm with 440 psi. TOCC=0', 50 bbls to surface.
Event	15	Check Weight	Check Weight	12/24/2023	17:22:11	NONE	13.27	7.58	447.23	13.28	Weight verified by mud scales.
Event	16	Check Weight	Check Weight	12/24/2023	17:30:08	NONE	12.94	7.67	441.67	67.28	Weight verified by mud scales.
Event	17	Pump Lead Cement	Pump Lead Cement	12/24/2023	17:45:30	USER	12.75	8.84	534.95	200.40	Pumped 184 bbls of IsoBond Lead cement @13ppg. Average rate was 8bpm with 600 psi. TOLC=3095'.
Event	18	Check Weight	Check Weight	12/24/2023	17:47:25	NONE	12.94	7.60	548.71	14.75	Weight verified by mud scales.
Event	19	Check Weight	Check Weight	12/24/2023	17:51:25	NONE	12.71	6.89	421.44	44.49	Weight verified by mud scales.
Event	20	Check Weight	Check Weight	12/24/2023	17:59:09	NONE	12.89	6.96	435.08	99.04	Weight verified by mud scales.
Event	21	Pump Tail Cement	Pump Tail Cement	12/24/2023	18:12:05	NONE	12.57	6.95	390.83	0.06	Pumped 432 bbls of ElastiCem Tail cement @13.2ppg. Average rate was 8.5bpm with 650 psi. TOTC=7604'.
Event	22	Check Weight	Check Weight	12/24/2023	18:14:13	NONE	13.08	6.91	397.40	14.80	Weight verified by mud scales.

Event	23	Check Weight	Check Weight	12/24/2023	18:18:27	NONE	13.19	8.64	575.22	51.25	Weight verified by mud scales.
Event	24	Check Weight	Check Weight	12/24/2023	18:29:48	NONE	13.11	8.46	486.38	147.01	Weight verified by mud scales.
Event	25	Check Weight	Check Weight	12/24/2023	18:48:00	NONE	12.99	7.92	456.25	297.84	Weight verified by mud scales.
Event	26	Shutdown	Shutdown	12/24/2023	19:16:30	NONE	13.76	0.00	191.61	485.57	Shutdown to wash up and load top plug.
Event	27	Pump Displacement	Pump Displacement	12/24/2023	19:25:31	NONE	7.06	0.00	45.46	0.00	Pumped 403 bbls of freshwater displacement with 30 bbls of MMCR added & bellacide provided by rig threw out displacement.
Event	28	Bump Plug	Bump Plug	12/24/2023	20:25:17	NONE	8.78	0.00	3176.65	426.05	FCP @4BPM was 2521 psi, bumped up to 3180 psi.
Event	29	Other	Check Floats.	12/24/2023	20:26:42	NONE	8.76	0.00	3210.34	426.05	4.5 bbls back to pump truck, floats holding.
Event	30	End Job	End Job	12/24/2023	20:27:58	NONE	8.52	0.00	49.88	0.00	Stop recording data, washed rig stack with 30 bbls of freshwater and 100 lbs of sugar added.

Event	31	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	12/24/2023	20:45:00	USER	Discuss blow down and any new hazards that could have come up during job.
Event	32	Rig-Down Completed	Rig-Down Completed	12/24/2023	21:45:00	USER	Rig down completed.
Event	33	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	12/24/2023	21:55:00	USER	Fit for duty check and check road conditions.
Event	34	Crew Leave Location	Crew Leave Location	12/24/2023	22:00:00	USER	Crew departs location. Thank you for using Halliburton.

3.0 Attachments

3.1 CHICO 4-65 26-25-4BH 5.5' PRODUCTION-Custom Results (1).png

