HALLIBURTON

iCem® Service

CIVITAS RESOURCES-EBUS

Ft. Lupton District, CO

For: Danny Herrera

Date: Wednesday, May 22, 2024

King 3-65 28-29 2BH

Case 1

Job Date: Wednesday, May 22, 2024

Sincerely,

William Mix

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **King 28-29 2BH 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.

- Quality of circulation – Prejob 95 %, While pumping Cement 95%, While Pumping Displacement 95 %
- Final Circulating Pressure and Pump Rate: 2,888 psi @ 4 BPM
- Returns to Surface: 53 bbl of cement.
- 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 #:	05-001-10566
City, County:	Aurora, Adams
SO#:	909353563

Job Times		
	Date (mm/dd/yyyy)	**Time (hh:mm)**
Requested Time On Location:	5/22/24	02:00
Called Out Time:	5/21/24	19:00
Arrived On Location:	5/22/24	00:00
Job Started:	5/22/24	05:47
Job Completed:	5/22/24	09:11
Departed Location:	5/22/24	12:00

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	**65**
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	**OBM**
3	Mud density	ppg	9.5
4	Casing set depth (shoe)	ft	18,336
5	TVD	ft	8,013
6	Float collar depth	ft	18,331.6
7	Length of rate hole	ft	10 ft
8	Previous casing shoe depth	ft	3,334
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	775
12	Mud circulation pressure at start of cement	psi	400
13	Annual flow before the start of job	Y/N	Y
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	406
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	95
18	Fluid returns to surface	Spacer/Cement, bbls	53 CMT
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	2,888@4
20	Number of Centralizers	-	
21	Number of bottom plugs	-	1
22	Number of trucks used preparing/during job	-	11
23	Add hours? If Yes, put #	Y/N and hours	N
24	NPT? If Yes, put #	Y/N and hours	O

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	64	F	60 - 80 F	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		4249
Cap Cement	13	205.707	1.65	8.07	700	5649
Lead Cement	13	189.9	1.58	7.42	675	5008
Tail Cement	13	429.2	1.57	7.54	1535	11573
Top Plug	1					
Displacement Fluid	8.33	406				

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq. No.	Activity	Graph Label	Date	Time	Comments
1	Call Out	Call Out	5/21/2024	19:00:00	Call out
2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	5/21/2024	21:45:00	Pre-Convoy Safety Meeting
3	Crew Leave Yard	Crew Leave Yard	5/21/2024	22:00:00	Crew Leave Yard
4	Arrive at Location from Service Center	Arrive at Location from Service Center	5/22/2024	00:00:00	Arrive at Location from Service Center
5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	5/22/2024	01:45:00	Pre-Rig Up Safety Meeting, Be aware of your surroundings, Use two spotters one in front and one in back of vehicle,Utilize hearing protection, Have good communication and make sure Line of Fire is clear before swinging hammer Identify points were hand/finger can get crushed
6	Rig-Up Equipment	Rig-Up Equipment	5/22/2024	02:00:00	Rig Up equipment as far as possible, Rig running casing
7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	5/22/2024	05:15:00	Safety Meeting-Pre job,Eyes on task Use impact gloves Have good communication to identify pinch points between steel hoses, iron and drill pipe and while making up the hammer unions. Identify points were hand/finger can get crushed
8	Start Job	Start Job	5/22/2024	05:47:11	Begin Recording Job.
9	Drop Bottom Plug	Drop Bottom Plug	5/22/2024	05:48:18	Dropped bottom plhu with Josh and Driller.
10	Test Lines	Test Lines	5/22/2024	05:48:58	Filled Hes lines with 3BBls of fresh water and pressure tested lines to 6500PSI.

11	Pump Spacer 1	Pump Spacer 1	5/22/2024	05:53:25	Pumped 120 bbl of 11.5ppg Tuned Prime Spacer. Pumped at a rate of 6. bpm with a pressure of 400 psi.
12	Pump Cap Cement	Pump Cap Cement	5/22/2024	06:14:14	Pumped 700 sk / 205.705 bbl of 13 ppg Elasticem Cap cement. Pumped at a rate of 8 bpm with a pressure of 650 psi. Pre job calculated 53.08 bbl of cap cement to surface.
13	Pump Lead Cement	Pump Lead Cement	5/22/2024	06:43:03	Pumped 675 sk / 189.943 bbl of 13 ppg Isobond Lead cement. Pumped at a rate of 8 bpm with a pressure of 780PSI.Pre job calculated TOL cement was at 3,160.634FT.
14	Pump Tail Cement	Pump Tail Cement	5/22/2024	07:06:00	Pumped 1535 sk / 429.212 bbl of 13.2 ppg Elasticem Tail cement. Pumped at a rate of 8 bpm with a pressure of 700 psi. Pre job calculated TOT ccement was at 7,816.099ft.
15	Shutdown	Shutdown	5/22/2024	08:06:18	Shutdown to wash up and Load Top plug.
16	Clean Lines	Clean Lines	5/22/2024	08:07:16	Washed up with 20 bbl of fresh water.
17	Shutdown	Shutdown	5/22/2024	08:14:52	Shutdown again to laod top plug.
18	Drop Top Plug	Drop Top Plug	5/22/2024	08:14:57	Dropped top plug with Danny.
19	Pump Displacement	Pump Displacement	5/22/2024	08:15:00	Pumped 406 bbl of fresh water displacement. First 20 bbl had MMCR. Remaining displacament had rig provided 10 Gallons of Biocide.
20	Bump Plug	Bump Plug	5/22/2024	09:08:57	Plug bumped. 53 bbl of cement to surface. FCP – 2888 psi. FCP - 3390. Floats held. 5 bbl back from floats.
21	End Job	End Job	5/22/2024	09:11:11	End of job. End Recording.
22	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	5/22/2024	09:15:00	Pre-Rig Down Safety Meeting
23	Rig-Down Equipment	Rig-Down Equipment	5/22/2024	09:25:00	Rig-Down Equipment
24	Depart Location Safety Meeting	Depart Location Safety Meeting	5/22/2024	09:50:00	Depart Loaction Safety Meeting, Verify all equipment has been thoroughly pre-tripped. All safety and quality issues should be resolved before proceeding.
25	Crew Leave Location	Crew Leave Location	5/22/2024	10:00:00	Crew leave loaction

3.0 Attachments

3.1 Real Time Job Chart