HALLIBURTON

iCem® Service

CIVITAS RESOURCES-EBUS

Ft. Lupton District, CO

For: Josh Cleason

Date: Friday, June 7, 2024

FLORIDA 3-65 27-26 4BH

Case 1

Sincerely,

David Womack

DISCLAIMER/LIMITATION OF LIABILITY

THERE ARE NO REPRESENTATIONS OR WARRANTIES BY HALLIBURTON, EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE IN CONNECTION WITH THIS REPORT OR THE SOFTWARE USED TO GENERATE IT. CUSTOMER ACKNOWLEDGES THAT IT IS ACCEPTING THE REPORT AND CONTENTS THEREOF "AS IS". IN NO EVENT WILL HALLIBURTON, ITS AFFILIATES OR SUPPLIERS, NOR THEIR RESPECTIVE OFFICERS, DIRECTORS OR EMPLOYEES BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL, PUNITIVE OR EXEMPLARY DAMAGES (INCLUDING, WITHOUT LIMITATION, LOSS OF DATA, PROFITS, BUSINESS, PRODUCTION OR USE OF HARDWARE, OR SOFTWARE), FORESEEABLE OR NOT. CUSTOMER ACCEPTS FULL RESPONSIBILITY FOR ANY INVESTMENT MADE BASED ON RESULTS FROM THE SOFTWARE AND REPORT CONTENTS. ANY INTERPRETATIONS, ANALYSES OR MODELING OF ANY DATA, INCLUDING, BUT NOT LIMITED TO CUSTOMER DATA, AND ANY RECOMMENDATION OR DECISIONS BASED UPON SUCH INTERPRETATIONS, ANALYSES OR MODELING ARE OPINIONS BASED UPON INFERENCES FROM MEASUREMENTS AND EMPIRICAL RELATIONSHIPS AND ASSUMPTIONS, WHICH INFERENCES AND ASSUMPTIONS ARE NOT INFALLIBLE, AND WITH RESPECT TO WHICH PROFESSIONALS IN THE INDUSTRY MAY DIFFER. ACCORDINGLY, HALLIBURTON CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION, RECOMMENDATION, MODELING OR OTHER PRODUCTS OF THE SOFTWARE PRODUCT. AS SUCH, ANY INTERPRETATION, RECOMMENDATION, MODELING OR REPORT RESULTING FROM THE SOFTWARE FOR THE PURPOSE OF ANY DRILLING, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION WILL BE AT THE SOLE RISK OF CUSTOMER WITH NO RELIANCE BY ANY THIRD PARTY (REGARDLESS OF NEGLIGENCE, BREACH OF CONTRACT OR WARRANTY, OR ANY OTHER CAUSE). SIMULATION AND 3D DISPLACEMENT RESULTS ARE NOT INTENDED AS AND SHOULD NOT BE USED AS A REPLACEMENT FOR BOND LOGS IN DETERMINING TOP OF CEMENT. CUSTOMER HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING USE OF THE REPORT AND RELATED SERVICES. UNDER NO CIRCUMSTANCES WILL HALLIBURTON, ITS AFFILIATES OR SUPPLIERS NOR THEIR RESPECTIVE OFFICERS, DIRECTORS OR EMPLOYEES BE LIABLE FOR ANY DAMAGES OR LOSS.

Table of Contents

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Florida 3-65 27-26 4BH 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 100%, While pumping Cement 100%, While Pumping Displacement 100%
- Final Circulating Pressure and Pump Rate: 2,700 psi@4 bpm
- Returns to Surface: 120 bbl of spacer and 57 bbl of cement
- Any deviation from plan: N
- Abnormalities on job chart: N

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 #:	05-001-10562
City, County:	Aurora, Adams
SO#:	909385035

Job Times		
	Date (mm/dd/yyyy)	**Time (hh:mm)**
Requested Time On Location:	6/7/2024	12:00
Called Out Time:	6/7/2024	06:00
Arrived On Location:	6/7/2024	10:00
Job Started:	6/7/2024	15:19
Job Completed:	6/7/2024	19:20
Departed Location:	6/7/2024	20:00

	Description	**Units**	**Value**
1	Surface temperature at the time of the job	degree F	88
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	9.5
4	Casing set depth (shoe)	ft	18,273
5	TVD	ft	7,807.5
6	Float collar depth	ft	18,268
7	Length of rate hole	ft	13
8	Previous casing shoe depth	ft	3,344
9	Pre-job mud circulation time	hh:mm	1:30

10	Pre-job mud circulation rate	bpm	13
11	Pre-job mud circulation volume	bbl	1,170
12	Mud circulation pressure at start of cement	psi	941
13	Annual flow before the start of job	Y/N	N
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	405
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	120 Spacer / 57 Cement
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	2,700 @ 4bpm
20	Number of Centralizers	-	275
21	Number of bottom plugs	-	1
22	Number of trucks used preparing/during job	-	12
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	7		6.0 - 8.0	Chemicals in water can cause severe retardation
Temperature	80	F	60 - 80 F	Can pre-mature setting of cement
Chlorides	<290	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	16.2	262	4,247
Cap Cement	13	205.7	1.65	8.07	695	5,649
Lead Cement	13	180.1	1.58	7.43	610	4,748
Tail Cement	13.2	440.4	1.56	7.54	1,830	11,875
Top Plug	N/A	N/A	N/A	N/A	N/A	N/A
Displacement Fluid	8.4	405	N/A	N/A	N/A	17,010

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq. No.	Activity	Graph Label	Date	Time	Comments
1	Call Out	Call Out	6/7/2024	06:00:00	Called out for Civitas Patterson 345 FLORIDA 3-65 27-26 4BH 5.5" Production with an on-location time of 012:00 6/7/2024.
2	Safety Meeting - Service Center or another Site	Safety Meeting - Service Center or another Site	6/7/2024	08:55:00	Review Journey Management and Route with Crew Members
3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	6/7/2024	09:00:00	Depart From Yard
4	Arrive At Loc	Arrive At Loc	6/7/2024	10:00:00	Talk To Company Man (10:03): TD = 18,286', TP = 18,273', ST = 5', OH = 8.5", CSG = 5 1/2" 20#, Previous Casing 9 5/8" 36# Set @ 3,344', WF = OBM @ 9.5#, Test Water = pH – 7, Chlorides - < 290 ppm, 88F
5	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	6/7/2024	10:05:00	Spot Equipment
6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	6/7/2024	10:10:00	Review JSA With Crew Members
7	Rig-Up Equipment	Rig-Up Equipment	6/7/2024	10:15:00	Rig Up Iron and Hoses Needed for Job
8	Circulate Well	Circulate Well	6/7/2024	13:35:00	Rig Circulated Well From 13:35 To 15:15 @ 13 bpm with 941 psi. Had 62 units of gas and no losses/ gains during circulation.
9	Pre-Job Safety Meeting	Pre-Job Safety Meeting	6/7/2024	14:10:00	Review Job Procedure and JSA With Rig Hands, Co. Man, And HES Members

10	Rig-Up Completed	Rig-Up Completed	6/7/2024	15:15:30	Rigged Up All Iron and Hoses Needed For CMT Job With No Issues Or Incidents.
11	Start Job	Start Job	6/7/2024	15:19:00	Rig shutdown pumps and gave well over to HES. All lines are confirmed tighten on plug container.
12	Drop Bottom Plug	Drop Bottom Plug	6/7/2024	15:20:00	Cap was removed from plug container to drop bottom plug. Customer verified bottom plug depart plug container by tattle tale.
13	Pump Water	Pump Water	6/7/2024	15:20:30	Filled lines with 3 bbl of Fresh Water.
14	Pressure Test	Pressure Test	6/7/2024	15:21:00	Low pressure kickout was done to 500 psi before performing 6,500 psi pressure test. Pressure held and climbed. Kickouts were set at 3,500 psi for the job.
15	Check Weight	Check Weight	6/7/2024	15:22:00	Weight from downhole was verified with Pressurized mud scales.
16	Pump Spacer	Pump Spacer	6/7/2024	15:25:00	Mixed and Pumped 120 bbl of Tuned Prime Spacer at 11.5 ppg, 2.57 ft3/sk,16.2 gal/sk. 40 gal of D-air was used. Spacer was verified on pressurized mud scales.
17	Pump Cap Cement	Pump Cap Cement	6/7/2024	16:03:00	Mixed and pumped 700 sacks (205.34 bbl) of ElastiCem Cap Cement at 13 ppg, 1.65 ft3/sk, 8.07 Gal/sk. Weight was verified on pressurized mud scales. Calculated top of cap cement 56.8 Surface.
18	Check Weight	Check Weight	6/7/2024	16:05:00	Weight from downhole was verified with Pressurized mud scales.
19	Pump Lead Cement	Pump Lead Cement	6/7/2024	16:38:00	Mixed and pumped 640 sacks(179.99 bbl) of IsoBond Lead Cement at 13 ppg, 1.58 ft3/sk, 7.43 gal/sk. Weight was verified on pressurized mud scales. Calculated top of lead cement-3,108.6'
20	Check Weight	Check Weight	6/7/2024	16:40:00	Weight from downhole was verified with Pressurized mud scales.
21	Pump Tail Cement	Pump Tail Cement	6/7/2024	17:03:00	Mixed and pumped 1,575 sacks(439.29 bbl) of ElastiCem Tail Cement at 13.2 ppg, 1.57 ft3/sk, 7.54 Gal/sk. Weight was verified on pressurized mud scales. Calculated top of tail cement-7,481.7'
22	Check Weight	Check Weight	6/7/2024	17:05:00	Weight from downhole was verified with Pressurized mud scales.
23	Shutdown	Shutdown	6/7/2024	18:15:00	Shutdown and swap lines into washup tank.
24	Clean Lines	Clean Lines	6/7/2024	18:16:00	Wash mix tub, pumps, and lines to open top tank.

25	Drop Top Plug	Drop Top Plug	6/7/2024	18:23:00	Cap was removed and plug was dropped by customer rep. He witnessed the plug leave by tattle tale.
26	Pump Displacement - Start	Pump Displacement	6/7/2024	18:23:30	Started displacement with MMCR in first 20bbl. The rest of displacement was done with rig chemicals.
27	Other	Other	6/7/2024	18:30:00	Bottom plug ruptured.
28	Cement Returns to Surface	Cement Returns to Surface	6/7/2024	19:03:00	At 228 bbl away we got Spacer to surface. 120bbl of spacer and 57 bbls of Cap cement to surface. Held full returns through entire job.
29	Slow Rate	Slow Rate	6/7/2024	19:12:00	Slowed rate for last 20 bbl to 4bpm.
30	Bump Plug	Bump Plug	6/7/2024	19:16:00	Final circulating pressure was 2,700 psi. Bumped pressure up to 3,200 psi.
31	Check Floats	Check Floats	6/7/2024	19:18:00	Released pressure and received 4.5 bbl back to displacement tank.
32	End Job	End Job	6/7/2024	19:20:00	Job Complete
33	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/7/2024	19:27:00	Review JSA With HES Crew Members. Crew washes up rig stack.
34	Rig-Down Equipment	Rig-Down Equipment	6/7/2024	19:30:00	Rig Down Iron, Plug Container, And Hoses Used On Job
35	Rig-Down Completed	Rig-Down Completed	6/7/2024	19:45:00	All Equipment Rigged Down With No Issues Or Incidents
36	Depart Location Safety Meeting	Depart Location Safety Meeting	6/7/2024	19:55:00	Review Journey Management And Route With Crew Members
37	Depart Location	Depart Location	6/7/2024	20:00:00	Depart location

3.0 Attachments

3.1 Real time job chart