

HALLIBURTON

iCem® Service

VERDAD RESOURCES LLC-EBUS

Ft. Lupton District, Colorado

For: Ashley Belvin

Date: Friday, July 19, 2024

Speed Goat Fed 3432-03H

Weld, New Raymer

5.5 Production

Job Date: Friday, July 19, 2024

Sincerely,

Georgii Kamenskii

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on **the Speed Goat Fed 3432-03H– 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.

- **Quality of circulation – Prejob 100 % , While pumping Cement 100 % , While Pumping Displacement 75 %**
- **Final Circulating Pressure and Pump Rate- 1723psi @ 4bpm**
- **Returns to Surface- 100bbls Spacer, 5bbls of cement**

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 #:	05-123-52495-00
City, County:	New Raymer, Weld
SO#:	0909471509

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	7/19/2024	01:00
Called Out Time:	7/18/2024	19:00
Arrived On Location:	7/19/2024	00:45
Job Started:	7/19/2024	05:28
Job Completed:	7/19/2024	09:30
Departed Location:	7/19/2024	10:05

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	75
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	10.2
4	Casing set depth (shoe)	ft	19,184'
5	TVD	ft	5,784'
6	Float collar depth	ft	19,156'
7	Length of rate hole	ft	15'
8	Previous casing shoe depth	ft	1,576'
9	Pre-job mud circulation time	hh:mm	01:45

10	Pre-job mud circulation rate	bpm	9.5
11	Pre-job mud circulation volume	bbls	998
12	Mud circulation pressure at start of cement	psi	1200
13	Annual flow before the start of job	Y/N	N
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	425 bbls
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	75 during displacement
18	Fluid returns to surface	Spacer/Cement, bbls	100Spacer/5CMT
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	1723psi @ 4bpm
20	Number of Centralizers	-	203
21	Number of bottom plugs	-	1
22	Number of trucks used preparing/during job	-	10
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	6.5		6.0 - 8.0	Chemicals in water can cause severe retardation
Temperature	74.5	F	60 - 80 F	Can cause 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	100	2.57	16.2	219	3,542
Lead Cement	13.2	283.8	1.57	7.78	1,015	7,897
Tail Cement	13.2	570.5	1.82	8.81	1,760	15,506
Top Plug	N/A	N/A	N/A	N/A	N/A	N/A
Displacement Fluid	8.4	425	N/A	N/A	N/A	17,850

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq. No.	Activity	Graph Label	Date	Time	Comments
1	Call Out	Call Out	7/18/2024	19:00:00	Called out for Verdad PD 464 Speed Goat Fed 3432-03H 5.5" Production. Requested on location time was 01:00 7/19/2024.
2	Safety Meeting - Service Center or other Site	Safety Meeting - Service Center or other Site	7/18/2024	23:00:00	Review Journey Management And Route With Crew Members
3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	7/18/2024	23:05:00	Depart From Yard
4	Arrive At Loc	Arrive At Loc	7/19/2024	00:45:00	Talk To Company Man (Joe Madsen) : TD = 19,220', TP = 19,205', ST = 49', OH = 8.5", CSG = 5 1/2" 20#, Previous Casing 9 5/8" 36# Set @ 1,576', WF = OBM @ 10.2#, Test Water = pH - 7, Chlorides - < 290 ppm, 74.5 F
5	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	7/19/2024	00:55:00	Spot Equipment
6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	7/19/2024	01:00:00	Review JSA(5CTG) With Crew Members
7	Rig-Up Equipment	Rig-Up Equipment	7/19/2024	01:10:00	Rig Up Iron And Hoses Needed For Job
8	Circulate Well	Circulate Well	7/19/2024	03:00:00	Prior to rigging up head, both bottom and top plugs were pre loaded. Rig was on bottom at 03:00 and Circulated Well From 03:30 To 05:15 @ 9.5 BPM With 1200 psi. Had 1800 units peak of gas and no losses/ gains during circulation.

9	Pre-Job Safety Meeting	Pre-Job Safety Meeting	7/19/2024	05:05:00	Review Job Procedure And JSA With Rig Hands, Co. Man, And HES Members
10	Rig-Up Completed	Rig-Up Completed	7/19/2024	05:20:00	Rigged Up All Iron And Hoses Needed For CMT Job With No Issues Or Incidents.
11	Start Job	Start Job	7/19/2024	05:28:00	Rig shutdown pumps and gave well over to HES. All lines are confirmed tighten on plug container.
12	Pump Water	Pump Water	7/19/2024	05:29:00	Filled lines with 3bbls of Fresh Water.
13	Pressure Test	Pressure Test	7/19/2024	05:31:00	Low pressure kickout was done to 500 psi before performing 6500psi pressure test. Pressure held and climbed. Kickouts were set at 3700psi for the job.
14	Check Weight	Check Weight	7/19/2024	05:42:00	Weight from downhole was verified with Pressurized mud scales.
15	Pump Spacer	Pump Spacer	7/19/2024	05:43:00	Mixed and Pumped 100bbls of Tuned Prime Spacer at 11.5lbs/gal, 2.57yld,16.21 gals/sk. 20 gals of D-air was used. Spacer was verified on pressurized mud scales.
16	Check Weight	Check Weight	7/19/2024	05:45:00	Weight from downhole was verified with Pressurized mud scales.
17	Drop Bottom Plug	Drop Bottom Plug	7/19/2024	06:04:00	Bottom plug was dropped on the fly as Spacer finished.
18	Pump Lead Cement	Pump Lead Cement	7/19/2024	06:06:00	Mixed and pumped 1015sks (283.5bbls) of ElastiCem Lead Cement at 13.2 lb/gal, 1.57 yld, 7.78 Gals/sk. Weight was verified on pressurized mud scales. Calculated top of lead cement was- surface. Only saw Trace amounts of cement(5bbls)
19	Check Weight	Check Weight	7/19/2024	06:08:00	Weight from downhole was verified with Pressurized mud scales.
20	Pump Tail Cement	Pump Tail Cement	7/19/2024	06:46:00	Mixed and pumped 1760sks (570.5bbls) of NeoCem Tail Cement at 13.2lb/gal, 1.82 yld, 8.81 Gals/sk. 15 Gals of D-air were used, Weight was verified on pressurized mud scales. Calculated top of tail cement- 5,249'
21	Check Weight	Check Weight	7/19/2024	06:48:00	Weight from downhole was verified with Pressurized mud scales.
22	Other	Shutdown	7/19/2024	07:39:07	Shutdown due to tub leveler not working and sucking tub to low. Down for two minutes.
23	Shutdown	Shutdown	7/19/2024	08:14:00	Shutdown and swap lines into washup tank.

24	Clean Lines	Clean Lines	7/19/2024	08:15:00	Wash mix tub, pumps, and lines to open top tank.
25	Drop Top Plug	Drop Top Plug	7/19/2024	08:24:00	Plug was dropped by Halliburton rep. Customer witnessed the plug leaving the plug container, verified by tattle tale.
26	Pump Displacement - Start	Pump Displacement	7/19/2024	08:25:00	Started displacement with MMCR in first 40bbbls. The rest of displacement was done with BE-9 and MC MX.
27	Other	Other	7/19/2024	09:05:20	Slowed rate at 350bbbls away to reduce frictional pressure while lifting cement.
28	Cement Returns to Surface	Spacer Returns to Surface	7/19/2024	09:09:00	At 320bbbls away we got Spacer to surface. 5bbbls of cement, Returns had a visual decrease at 200bbbls away. Had an estimated 75% returns throughout displacement. Wet sample was pulled at tail end of displacement to verify weight on mud scales.
29	Slow Rate	Slow Rate	7/19/2024	09:12:10	Slowed rate for last 40bbbls to 4bpm.
30	Bump Plug	Bump Plug	7/19/2024	09:13:23	Final circulating pressure was 1723psi. Bumped pressure up to 2756psi. Bumped plug on calculated.
31	Check Floats	Check Floats	7/19/2024	09:21:02	Released pressure and received 4bbbls back to displacement tank. Floats held.
32	End Job	End Job	7/19/2024	09:30:00	Job complete with no issues.
33	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	7/19/2024	09:35:00	Review JSA With HES Crew Members.
34	Rig-Down Equipment	Rig-Down Equipment	7/19/2024	09:40:00	Rig Down Iron, Plug Container, And Hoses Used On Job
35	Rig-Down Completed	Rig-Down Completed	7/19/2024	09:55:00	All Equipment Rigged Down With No Issues Or Incidents
36	Depart Location Safety Meeting	Depart Location Safety Meeting	7/19/2024	10:00:00	Review Journey Management And Route With Crew Members
37	Depart Location	Depart Location	7/19/2024	10:05:00	Depart location. Thank you from Ft. Lupton Halliburton cement.

3.0 Attachments

3.1 Real Time Graphs

