

HALLIBURTON

iCem® Service

VERDAD RESOURCES LLC-EBUS

For: Ashley Belvin <ABelvin@VerdadResources.com>

Date: Monday, June 10, 2024

SPEED GOAT FED 3435

Verdad - Precision 464 - Speed Goat Fed 3435-15H Production

Job Date: Monday, June 10, 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 3435-15H**. 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 2200 @ 4**
- **Returns to Surface 52 bbls 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 #:	05-123-52507
City, County:	W RAYMER, WELD
SO#:	909391815

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	6/10/24	0:00
Called Out Time:	6/9/24	18:00
Arrived On Location:	6/9/24	23:00
Job Started:	6/10/24	3:15
Job Completed:	6/10/24	6:15
Departed Location:	6/10/24	7:30

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	60
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	9.6
4	Casing set depth (shoe)	ft	14890
5	TVD	ft	5691
6	Float collar depth	ft	14840.47
7	Length of rate hole	ft	37
8	Previous casing shoe depth	ft	1540
9	Pre-job mud circulation time	hh:mm	1:30

10	Pre-job mud circulation rate	bpm	9.5
11	Pre-job mud circulation volume	bbls	855
12	Mud circulation pressure at start of cement	psi	850
13	Annual flow before the start of job	Y/N	N
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	329.5
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	CEMENT/52 BBLS
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	2200 @ 4
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	60	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	100	2.57	16.2	219	3549
Cap Cement						
Lead Cement	13.2	330	1.57	7.78	1180	9177
Tail Cement	13.2	342	1.82	8.81	1055	9282
Top Plug						
Displacement Fluid	8.4	329.5				

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq. No.	Activity	Graph Label	Date	Time	Comments
1	Summit Crew Notified Date/Time	Crew Notified Date/Time	6/9/2024	18:00:26	Crew called out for VERDAD Production
2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	6/9/2024	20:45:27	Discussed route and possible hazards
3	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	6/9/2024	21:00:28	Depart yard w/ 1 pump, 1 660, 1 pickup and 4 personnel.
4	Arrive at Location from Service Center	Arrive at Location from Service Center	6/9/2024	23:00:29	Requested on location @ MIDNIGHT
5	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	6/9/2024	23:15:30	Discussed location and possible hazards. Water test: Temp - 50, Chlorides - 0, PH - 6, Sulfates - <200. 8 1/2 TD @ 14927'. Production casing set @ 14890'. 5.5" 20# P110 - ST - 49.53' .0222 bbl/ft. CSG/OH - .0408 bbl/ft. CSG/CSG - .0479 bbl/ft 9 5/8" 36# J55 set @ 1540'. Mud Weight - 9.6 ppg
6	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	6/9/2024	23:25:37	Discussed rig up and possible hazards.
7	Rig-up Lines	Rig-up Lines	6/9/2024	23:35:38	Rig up equipment
8	Casing on Bottom	Casing on Bottom	6/10/2024	01:00:01	

9	Circulate Well	Circulate Well	6/10/2024	01:55:02	Rig circulating well 9.5 bpm @ 850 psi
10	Safety Meeting - Pre Job	Safety Meeting - Pre Job	6/10/2024	03:00:18	Discussed job and possible hazards with everyone on location.
11	Start Job	Start Job	6/10/2024	03:11:02	
12	Pump Spacer 1	Fill Lines	6/10/2024	03:11:32	Pumped 3 bbls of FW
13	Pressure Test	Pressure Test	6/10/2024	03:12:33	Test lines to 6500 psi
14	Pump Spacer 1	Pump Tuned Spacer	6/10/2024	03:25:34	Pumped 100 bbls of 11.5 ppg of Tuned Spacer. 2.57 cuft/sk and 16.2 gal/sk. Verified weight with pressurized mud scales.
15	Drop Bottom Plug	Drop Bottom Plug	6/10/2024	03:42:13	
16	Pump Lead Cement	Pump Lead Cement	6/10/2024	03:43:36	Pumped 330 bbls of 13.2 ppg Isobond cmt. 1180 sks, 1.57 cuft/sk, and 7.78 gal/sk. Verified weight with pressurized mud scales.
17	Pump Tail Cement	Pump Tail Cement	6/10/2024	04:32:41	Pumped 342 bbls of 13.2 ppg Neocem. 1055 sks, 1.82 cuft/sk, and 8.81 gal/sk. Verified weight with pressurized mud scales. Estimated TOC @ 6532.16'
18	Check Weight	Check Weight	6/10/2024	04:38:21	
19	Shutdown	Shutdown/Flush Lines	6/10/2024	05:20:44	
20	Drop Top Plug	Drop Top Plug	6/10/2024	05:28:42	3rd party rupture plug

21	Pump Displacement	Pump Displacement	6/10/2024	05:30:49	Pumped 329.5 bbls of displacement. First 40 bbl w/ MMCR and 289.5 bblsw/ MX 820-6 & BELLACIDE
22	Bump Plug	Bump Plug	6/10/2024	06:09:50	Bump plug from 2200 - 2700 psi
23	Check Floats	Check Floats	6/10/2024	06:14:51	Floats are good. Got 3 bbls back.
24	End Job	End Job	6/10/2024	06:14:55	Got 52 bbls of cement back to surface.
25	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	6/10/2024	06:20:54	
26	Rig-Down Equipment	Rig-Down Equipment	6/10/2024	06:30:03	
27	Depart Location Safety Meeting	Depart Location Safety Meeting	6/10/2024	07:15:05	
28	Depart Location	Depart Location	6/10/2024	07:30:06	Thank you for using Halliburton cement. Andrew Glover and crew.

3.0 Attachments

3.1 Real Time Graphs

