

HALLIBURTON

iCem[®] Service

CRESTONE PEAK RESOURCES

Ft. Lupton District, COLORADO

BLUE 3-65 33-32-31-36 3BH

Job Date: Friday, September 15, 2023

Sincerely,

Rafael Giorgana

Legal Notice

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Blue Fed 33-32-31-36 3BH Production Job**. 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.

Approximately XX bbls of cement were returned to surface.

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 #:	05-001-10554
City, County:	Watkins, Adams
Field:	
Legal Discription:	

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	09/14/2023	15:00
Called Out Time:	09/14/2023	08:00
Arrived On Location:	09/14/2023	14:30
Job Started:	09/15/2023	03:15
Job Completed:	09/15/2023	08:15
Departed Location:	09/15/2023	10:15

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	70
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	9.0
4	Casing set depth (shoe)	ft	28844
5	TVD	ft	7917
6	Float collar depth	ft	28839
7	Length of rate hole	ft	5
8	Previous casing shoe depth	ft	3226
9	Pre-job mud circulation time	hh:mm	03:30

10	Pre-job mud circulation rate	bpm	7
11	Pre-job mud circulation volume	bbls	2248
12	Mud circulation pressure at start of cement	psi	700
13	Annual flow before the start of job	Y/N	Y
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	747.5
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	120 / 52
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	3500 @ 4
20	Number of Centralizers	-	
21	Number of bottom plugs	-	1

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	56	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

	Density (ppg)	Volume (bbls)	Yield (ft ³ /sk)	Water Requirement (gal/sk)	Bulk Sacks (sks)	Total Water (gals)
Spacer Fluid	11.5	120	2.57	16.21		4250
Cap Cement	13	143.1	1.64	8.1	490	3969
Lead Cement	13	124	1.53	7.19	455	3272
Tail Cement	13.2	907.4	1.57	7.57	3245	24565
Top Plug	1					
Displacement Fluid	8.33	747.5				

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq No.	Activity	Date	Time	Comments
1	Call Out	9/14/2023	08:00:00	CREW CALLED OUT 9/14/2023 @ 0800 HRS. REQUESTED ON LOCATION 9/14/2023 @ 1500 HRS.
2	Pre-Convoy Safety Meeting	9/14/2023	12:30:00	DISCUSS ROUTE AND HAZARDS OF DRIVING
3	Crew Leave Yard	9/14/2023	13:00:00	CREW LEAVES YARD
4	Arrive At Loc	9/14/2023	14:30:00	ARRIVE AT LOCATION. MEET WITH CUSTOMER
5	Pre-Rig Up Safety Meeting	9/14/2023	15:00:00	DISCUSS RIG-UP AND ANY HAZARDS THAT MAY EXIST
6	Rig-Up Equipment	9/14/2023	15:30:00	RIG-UP EQUIPMENT
7	Pre-Job Safety Meeting	9/15/2023	03:05:00	DISCUSS JOB PROCEDURES AND HAZARDS OF JOB, PRESSURE AND HAZARDS OF HES EQUIPMENT
8	Start Job	9/15/2023	03:15:27	Start Recording Data
9	Drop Bottom Plug	9/15/2023	03:15:49	
10	Test Lines	9/15/2023	03:25:04	Pressure Tested Lines to 7000 PSI

11	Pump Spacer 1	9/15/2023	03:27:49	Pumped 120 bbls of Tuned Prime Spacer @ 11.5 PPG (2.57 ft3, 16.21 gal/sk). Total gallons 4,250. Pump Rate @ 6 BPM with 700 PSI
12	Shutdown	9/15/2023	03:51:01	Batch Up ElastiCem @ 13 PPG
13	Pump Cap Cement	9/15/2023	03:52:27	Pumped 143.1 bbls of ElastiCem @ 13 PPG (490 sk, 1.64 ft3, 8.1 gal/sk). Total gallons 3,969. Pump Rate 9 BPM @ 1000 PSI. TOCC=0
14	Pump Lead Cement	9/15/2023	04:09:15	Pumped 124 bbls of IsoBond @ 13 PPG (455 sk, 1.53 ft3, 7.19 gal/sk). Total gallons 3,272. Pump Rate 9 BPM @ 700 PSI. TOLC=3,210
15	Pump Tail Cement	9/15/2023	04:25:29	Pumped 907.4 bbls of ElastiCem @ 13.2 PPG (3,245 sk, 1.57 ft3, 7.57 gal/sk). Total gallons 24,565. Pump Rate 9 BPM @ 800 PSI. TOTC= 7580
16	Shutdown	9/15/2023	06:28:42	Shutdown Pumping Cement
17	Clean Lines	9/15/2023	06:28:47	Clean Pump and Lines
18	Shutdown	9/15/2023	06:35:11	Shutdown Cleaning Pump and Lines
19	Drop Top Plug	9/15/2023	06:35:19	
20	Pump Displacement	9/15/2023	06:35:21	Pump 747.5 bbls of Fresh Water Displacement. First 20 bbls with Micro Matrix Retarder. Rest of Displacement with Company Provided Biocide.
21	Other	9/15/2023	07:30:34	ELECTRONIC KICK OUTS
22	Bump Plug	9/15/2023	08:10:23	Bumped Plug 747.5 bbls into Displacement. FCP 3500 PSI and took up to 4200 PSI
23	Check Floats	9/15/2023	08:12:01	Check Floats / Floats Holding 10 bbls back / 52 bbls Cement to Surface, 1654 bbls Water Used
24	End Job	9/15/2023	08:15:29	Stop Recording Data
25	Pre-Rig Down Safety Meeting	9/15/2023	08:30:00	DISCUSS HAZARDS OF RIG-DOWN AND ANY OTHER HAZARDS THAT MAY EXIST
26	Rig-Down Equipment	9/15/2023	08:40:00	RIG-DOWN EQUIPMENT

27	Rig-Down Completed	9/15/2023	09:40:00	RIG-DOWN COMPLETED
28	Crew Leave Location	9/15/2023	10:15:00	CREW DEPARTS LOCATION. THANK YOU FOR CHOOSING HALLIBURTON.

3.0 Attachments

3.1 Real Time Job Chart

