

HALLIBURTON

iCem® Service

CRESTONE PEAK RESOURCES-EBUS

Ft. Lupton District, CO

Shelton 25W-25-04 Production

Job Date: Sunday, February 19, 2023

Sincerely,

Meghan Van Zyl

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 **Shelton 25W-25-04 - 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.

Approximately 50 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 #:	05-123-51893-00
City, County:	LA SALLE, WELD COUNTY

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	2/18/23	2100
Called Out Time:	2/18/23	1300
Arrived On Location:	2/18/23	2000
Job Started:	2/19/23	0020
Job Completed:	2/19/23	0349
Departed Location:	2/19/23	0600

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	30
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	9.2
4	Casing set depth (shoe)	ft	20730
5	TVD	ft	7145
6	Float collar depth	ft	20725
7	Length of rate hole	ft	7
8	Previous casing shoe depth	ft	1915
9	Pre-job mud circulation time	hh:mm	1:30
10	Pre-job mud circulation rate	bpm	11
11	Pre-job mud circulation volume	bbls	853

12	Mud circulation pressure at start of cement	psi	1200
13	Annual flow before the start of job	Y/N	Y
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	458
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	50/50
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	2600/4
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	74	F	60 - 80 F	Can can pre-mature setting of cement
Chlorides	LESS 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	50	3.83	24.17		1772
Cap Cement	13	136	1.66	8.32	460	3828
Lead Cement	13	233.27	1.55	7.16	845	6051
Tail Cement	13.2	540.87	1.59	7.78	1910	14860
Top Plug						
Displacement Fluid	8.33	458				

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq No.	Activity	Date	Time	Comments
1	Call Out	2/18/2023	13:00:00	CREW CALLED OUT 2/18/2023 1300 HRS. REQUESTED ON LOCATION 2/18/2023 2100 HRS.
2	Pre-Convoy Safety Meeting	2/18/2023	19:00:00	DISCUSS ROUTE AND HAZARDS OF DRIVING
3	Crew Leave Yard	2/18/2023	19:30:00	CREW LEAVES YARD
4	Arrive At Loc	2/18/2023	20:00:00	ARRIVE AT LOCATION. MEET WITH CUSTOMER. TD 20737', 20# P-110 SHOE 20730', F/C 20725', 8.5" HOLE, TVD 7145', 36# J-55 9.625" SHOE 1915', OBM 9.2 PPG, TOP AND BOTTOM CITADEL PLUGS, 3200 PSI MAX PRESSURE, 7' RAT HOLE, MIX WATER 74 DEGREES, PH 7, CHLORIDES LESS 200 PPM. DISPLACE WATER 84 DEGREES
5	Pre-Rig Up Safety Meeting	2/18/2023	20:15:00	DISCUSS RIG-UP AND ANY HAZARDS THAT MAY EXIST
6	Rig-Up Equipment	2/18/2023	20:20:00	RIG-UP EQUIPMENT
7	Pre-Job Safety Meeting	2/18/2023	23:57:08	DISCUSS JOB PROCEDURES AND HAZARDS OF JOB, PRESSURE AND HAZARDS OF HES EQUIPMENT. RIG CIRCULATES BOTTOMS UP. 11 BPM/1200PSI
8	Start Job	2/19/2023	00:20:24	BEGIN RECORDING DATA
9	Drop Bottom Plug	2/19/2023	00:20:43	CITADEL BOTTOM PLUG BY SAM
10	Test Lines	2/19/2023	00:23:00	TEST HES LINES 4700 PSI
11	Pump Spacer 1	2/19/2023	00:28:06	50 BBLS TUNED PRIME SPACER. 11.5 PPG, 3.83 YIELD, 24.17 GAL/SACK. MIX D-AIR ON FLY

12	Pump Cap Cement	2/19/2023	00:39:15	460 SACKS SBM CEM CAP CEMENT. 136 BBLS., 13 PPG, 1.66 YIELD, 8.32 GAL/SACK. TOCC=0'
13	Pump Lead Cement	2/19/2023	00:57:54	845 SACKS SBM CEM LEAD CEMENT. 233.27 BBLS., 13 PPG, 1.55 YIELD, 7.16 GAL/SACK. TOLC=1781' PRE-JOB CALCULATIONS
14	Pump Tail Cement	2/19/2023	01:24:56	1910 SACKS SBM CEM TAIL CEMENT. 540.87 BBLS., 13.2 PPG, 1.59 YIELD, 7.78 GAL/SACK. TOTC=7476' PRE-JOB CALCULATIONS
15	Shutdown	2/19/2023	02:26:17	SHUTDOWN
16	Clean Lines	2/19/2023	02:28:56	CLEAN PUMPS AND LINES/17 BBLS WATER
17	Shutdown	2/19/2023	02:35:10	SHUTDOWN
18	Drop Top Plug	2/19/2023	02:36:13	CITADEL TOP PLUG BY SAM
19	Pump Displacement	2/19/2023	02:36:16	458 BBLS FRESH WATER DISPLACEMENT. 1ST 20 BBLS HAS 10 GALLONS MICRO MATRIX CEMENT RETARDER. REMAING DISPLACEMENT HAS 10 GALLONS RIG PROVIDED BIOCID E
20	Bump Plug	2/19/2023	03:43:59	FCP 2600 PSI/4 BPM. BUMP 3600 PSI. 50 BBLS CEMENT TO SURFACE
21	Check Floats	2/19/2023	03:47:19	FLOATS HOLD/6.5 BBLS BACK
22	End Job	2/19/2023	03:49:24	STOP RECORDING DATA/FLUSH RIG STACK APPROX 30 BBLS WATER AND 100 LBS SUGAR. APPROX 1139 BBLS WATER USED TOTAL JOB
23	Pre-Rig Down Safety Meeting	2/19/2023	04:10:00	DISCUSS HAZARDS OF RIG-DOWN AND ANY OTHER HAZARDS THAT MAY EXIST
24	Rig-Down Equipment	2/19/2023	04:15:00	RIG-DOWN EQUIPMENT
25	Rig-Down Completed	2/19/2023	05:00:00	RIG-DOWN COMPLETED
26	Crew Leave Location	2/19/2023	06:00:00	CREW DEPARTS LOCATION. THANK YOU FOR CHOOSING HALLIBURTON.

3.0 Attachments

3.1 Real Time iCem Job Chart

