

# HALLIBURTON

iCem<sup>®</sup> Service

## **CRESTONE PEAK RESOURCES-EBUS**

Ft. Lupton District, CO

**Shelton 25W-25-03 Production**

Job Date: Tuesday, February 14, 2023

Sincerely,

**Meghan Van Zyl**

## Legal Notice

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## 1.0 Cementing Job Summary

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **Shelton 25W-25-03 - 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 55 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 #:	05-123-51889
City, County:	LA SALLE, WELD CO

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	2/14/2023	12:00
Called Out Time:	2/14/2023	06:00
Arrived On Location:	2/14/2023	11:00
Job Started:	2/14/2023	14:52
Job Completed:	2/14/2023	18:52
Departed Location:	2/14/2023	20:00

	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	20775
5	TVD	ft	6985
6	Float collar depth	ft	20770
7	Length of rate hole	ft	5
8	Previous casing shoe depth	ft	1915
9	Pre-job mud circulation time	hh:mm	1:30
10	Pre-job mud circulation rate	bpm	10.5
11	Pre-job mud circulation volume	bbls	916

12	Mud circulation pressure at start of cement	psi	1100
13	Annual flow before the start of job	Y/N	Y
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	460.5
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	50/55
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	3100/9
20	Number of Centralizers	-	
21	Number of bottom plugs	-	1 BEFORE SPACER

## 1.3 Water Field Test

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	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	71	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

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	Density (ppg)	Volume (bbls)	Yield (ft3/sk)	Water Requirement (gal/sk)	Bulk Sacks (sks)	Total Water (gals)
Spacer Fluid	11.5	50	3.83	24.17		1771
Cap Cement	13	136	1.66	8.32	460	3827
Lead Cement	13	233.27	1.55	7.16	845	6050
Tail Cement	13.2	546.54	1.59	7.78	1930	15015
Top Plug						
Displacement Fluid	8.33	460.5				

## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Seq No.	Activity	Date	Time	Comments
1	Call Out	2/14/2023	06:00:00	CREW CALLED OUT 2/14/2023 0600 HRS. REQUESTED ON LOCATION 2/14/2023 1200 HRS.
2	Pre-Convoy Safety Meeting	2/14/2023	09:30:00	DISCUSS ROUTE AND HAZARDS OF DRIVING
3	Crew Leave Yard	2/14/2023	10:00:00	CREW LEAVES YARD
4	Arrive At Loc	2/14/2023	11:00:00	ARRIVE AT LOCATION. MEET WITH CUSTOMER. TD 20780', 20# P-110 SHOE 20775', F/C 20770', 8.5" HOLE, TVD 6985', PC 36# J-55 SHOE 1915', OBM 9.2 PPG, 70 DEGREE WATER, PH7, CHLORIDES LESS THAN 200 PPM, MAX PRESSURE 3200 PSI.
5	Pre-Rig Up Safety Meeting	2/14/2023	11:10:00	DISCUSS RIG-UP AND ANY HAZARDS THAT MAY EXIST
6	Rig-Up Equipment	2/14/2023	11:15:00	RIG-UP EQUIPMENT
7	Pre-Job Safety Meeting	2/14/2023	14:00:00	DISCUSS JOB PROCEDURES AND HAZARDS OF JOB, PRESSURE AND HAZARDS OF HES EQUIPMENT. RIG CIRCULATES BOTTOMS UP 10.5 BPM/1100 PSI. RIG PUMPS 30 BBLs. BASE OIL
8	Start Job	2/14/2023	14:52:16	BEGIN RECORDING DATA
9	Drop Bottom Plug	2/14/2023	14:54:37	CITADEL BOTTOM PLUG VERIFIED BY JOSH
10	Test Lines	2/14/2023	14:55:56	TEST HES LINES 4500 PSI
11	Pump Spacer 1	2/14/2023	15:06:55	50 BBLs. TUNED PRIME SPACER. 11.5 PPG, 3.83 YIELD, 24.17 GAL/SACK. MIX D-AIR ON FLY



12	Pump Cap Cement	2/14/2023	15:20:11	460 SACKS ELASTICEM CAP CEMENT. 136 BBLS. 13 PPG, 1.66 YIELD, 8.32 GAL/SACK. TOCC=0'
13	Pump Lead Cement	2/14/2023	15:38:22	845 SACKS SBMCCEM LEAD CEMENT. 233.27 BBLS., 13 PPG, 1.55 YIELD, 7.16 GAL/SACK, TOLC=1701' PRE-JOB CALCULATIONS
14	Pump Tail Cement	2/14/2023	16:05:32	1930 SACKS SBMCCEM TAIL CEMENT, 546.54 BBLS. 13.2 PPG, 1.59 YIELD, 7.78 GAL/SACK. TOTC=7382' PRE-JOB CALCULATIONS
15	Shutdown	2/14/2023	17:14:05	SHUTDOWN
16	Clean Lines	2/14/2023	17:16:38	CLEAN PUMPS AND LINES. APPROX 22 BBLS
17	Shutdown	2/14/2023	17:23:18	SHUTDOWN
18	Drop Top Plug	2/14/2023	17:24:31	CITADEL TOP PLUG BY JOSH
19	Pump Displacement	2/14/2023	17:24:37	640.5 BBLS FRESHWATER DISPLACEMENT. 1ST 20 BBLS HAS 10 GALLONS MICRO MATRIX CEMENT RETARDER. REMAINING DISPLACEMENT HAS 10 GALLONS RIG PROVIDED BIOCID.
20	Bump Plug	2/14/2023	18:11:27	FCP 3100 PSI 9 BPM/BUMP PRESSURE 3600 PSI
21	Check Floats	2/14/2023	18:13:16	FLOATS HOLD 6.5 BBLS. BACK. 55 BBLS CEMENT TO SURFACE
22	End Job	2/14/2023	18:15:12	STOP RECORDING DATA/FLUSH RIG STACK 25 BBLS WATER AND 100 LBS SUGAR. USED APPROX 1144 BBLS WATER TOTAL JOB
23	Pre-Rig Down Safety Meeting	2/14/2023	18:25:10	DISCUSS HAZARDS OF RIG-DOWN AND ANY OTHER HAZARDS THAT MAY EXIST
24	Rig-Down Equipment	2/14/2023	18:30:00	RIG-DOWN EQUIPMENT
25	Rig-Down Completed	2/14/2023	19:00:00	RIG-DOWN COMPLETED
26	Crew Leave Location	2/14/2023	20:00:00	CREW LEAVES LOCATION. THANK YOU FOR CHOOSING HALLIBURTON.

3.0 Attachments

3.1 Real Time iCem Job Chart

