

HALLIBURTON

iCem[®] Service

CRESTONE PEAK RESOURCES-EBUS

Ft. Lupton District, CO

Shelton 25W-25-01 Production

Job Date: Monday, February 06, 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-25-01 – 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 53 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 #:	05-123-51879
City, County:	LA SALLE, WELD CO

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	2/5/2023	22:00
Called Out Time:	2/5/2023	16:00
Arrived On Location:	2/5/2023	20:15
Job Started:	2/6/2023	01:24
Job Completed:	2/6/2023	04:54
Departed Location:	2/6/2023	07:00

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	24
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	9.2 PPG
4	Casing set depth (shoe)	ft	20967
5	TVD	ft	7093
6	Float collar depth	ft	20962
7	Length of rate hole	ft	6
8	Previous casing shoe depth	ft	1917
9	Pre-job mud circulation time	hh:mm	1:30
10	Pre-job mud circulation rate	bpm	10
11	Pre-job mud circulation volume	bbls	869

12	Mud circulation pressure at start of cement	psi	1300
13	Annual flow before the start of job	Y/N	YES
14	Pipe movement during cement job	Y/N	NO
15	Calculated displacement	bbls	464.7
16	Job displaced by	Rig/HES	8.33
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	50/53
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	2620@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	72	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 (ft3/sk)	Water Requirement (gal/sk)	Bulk Sacks (sks)	Total Water (gals)
Spacer Fluid	11.5	50	3.83	24.17		1772
Cap Cement	13	167.04	1.66	1.66	565	4701
Lead Cement	13	194.62	1.55	1.55	705	5048
Tail Cement	13.2	560.7	1.59	1.59	1980	15405
Top Plug	1	1				
Displacement Fluid	8.33	464.7				

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq No.	Activity	Date	Time	Dwnhole Density (ppg)	Cmb Pump Rate (bbl/min)	Pump B Pressure (psi)	Cmb Stg Total (bbl)	Comments
1	Call Out	2/5/2023	16:00:00					CREW CALLED OUT 2/5/2023 1600 HRS. REQUESTED ON LOCATION 2/5/2022 2200 HRS.
2	Pre-Convoy Safety Meeting	2/5/2023	19:00:00					DISCUSS ROUTE AND HAZARDS OF DRIVING
3	Crew Leave Yard	2/5/2023	19:15:00					CREW LEAVES YARD
4	Arrive At Loc	2/5/2023	20:15:00					ARRIVE AT LOCATION. MEET WITH CUSTOMER. TD 20973', 5.5" P-110 SHOE 20967', F/C 20962', 8.5" HOLE, TVD 7093', PC 36# J-55 1917', OBM 9.2 PPG, TOP AND BOTTOM CITADEL PLUGS, WATER 72 DEGREES, PH 7, CHLORIDES LESS 200 PPM, 6' RATHOLE
5	Pre-Rig Up Safety Meeting	2/5/2023	20:35:00					DISCUSS RIG-UP AND ANY HAZARDS THAT MAY EXIST
6	Rig-Up Equipment	2/5/2023	20:40:00					RIG-UP EQUIPMENT
7	Pre-Job Safety Meeting	2/6/2023	01:00:00	0.00	0.00	-2.02	1.83	DISCUSS JOB PROCEDURES AND HAZARDS OF JOB, PRESSURE AND HAZARDS OF HES EQUIPMENT. RIG CIRCULATES BOTTOMS UP 10 BPM/1300 PSI
8	Start Job	2/6/2023	01:24:40	7.16	0.00	9.50	13.06	BEGIN RECORDING DATA
9	Drop Bottom Plug	2/6/2023	01:26:10	8.62	4.24	486.81	14.47	CITADEL BOTTOM PLUG VERIFIED BY JOSH
10	Pressure Test	2/6/2023	01:28:26	8.78	0.00	1155.10	3.82	TEST HES LINES TO 4500 PSI

11	Pump Spacer 1	2/6/2023	01:38:45	8.58	0.00	103.95	0.00	50 BBLS TUNED PRIME SPACER. 11.5 PPG, 3.83 YIELD, 24.17 GAL/SACK. MIX D-AIR ON FLY
12	Pump Cap Cement	2/6/2023	01:53:49	11.38	0.00	82.78	0.00	565 SACKS SBMCEM ELASTICEM CAP CEMENT. 167.04 BBLS. 13 PPG, 1.66 YIELD, 8.32 GAL/SACK. TOCC=0'
13	Pump Lead Cement	2/6/2023	02:16:24	12.92	9.27	386.46	0.08	705 SACKS SBMCEM ELASTICEM FDP-C1371 LEAD CEMENT. 194.62 BBLS. 13 PPG, 1.55 YIELD, 7.16 GAL/SACK. TOLC=2457' PRE-JOB CALCULATIONS
14	Pump Tail Cement	2/6/2023	02:38:53	12.90	9.05	577.88	0.15	1980 SACKS SBMCEM ELASTICEM TAIL CEMENT. 560.7 BBLS. 13.2 PPG, 1.59 YIELD, 7.78 GAL/SACK. TOTC=7227' PRE JOB CALCULATIONS
15	Shutdown	2/6/2023	03:47:15	13.10	0.00	162.54	596.25	SHUTDOWN
16	Clean Lines	2/6/2023	03:51:07	15.29	0.00	9.66	0.00	CLEAN PUMPS AND LINES, APPROX. 25 BBLS.
17	Shutdown	2/6/2023	03:58:40	6.80	0.00	27.53	28.04	SHUTDOWN
18	Drop Top Plug	2/6/2023	03:59:52	7.60	0.00	6.95	28.04	CITADEL TOP PLUG VERIFIED BY JOSH
19	Pump Displacement	2/6/2023	03:59:56	7.62	0.00	6.03	0.00	464.7 BBLS FRESH WATER DISPLACEMENT. 1ST 20 BBLS. HAS 10 GALLONS MICRO MATRIX CEMENT RETRARDER. 10 GALLONS RIG PROVIDED BIOCIDES THROUGHOUT REMAINING DISPLACEMENT
20	Bump Plug	2/6/2023	04:50:41	8.29	4.26	2602.02	454.78	FCP 2620 PSI/4 BPM, BUMP PRESSURE 3100 PSI. 53 BBLS. CEMENT TO SURFACE.
21	Check Floats	2/6/2023	04:53:08	8.34	0.00	3333.88	456.23	FLOATS HOLD, 5.5 BBLS BACK TO PUMP TRUCK
22	End Job	2/6/2023	04:54:49	7.42	0.00	6.50	456.23	STOP RECORDING DATA/FLUSH RIG STACK 30 BBLS W/100 LBS SUGAR. TOTAL WATER=1163 BBLS
23	Pre-Rig Down Safety Meeting	2/6/2023	05:00:00					DISCUSS HAZARDS OF RIG-DOWN AND ANY OTHER HAZARDS THAT MAY EXIST

24	Rig-Down Equipment	2/6/2023	05:05:00	RIG-DOWN EQUIPMENT
25	Rig-Down Completed	2/6/2023	06:00:00	RIG-DOWN COMPLETED
26	Crew Leave Location	2/6/2023	07:00:00	CREW DEPARTS LOCATION. THANK YOU FOR CHOOSING HALLIBURTON.

3.0 Attachments

3.1 Real Time iCem Job Chart

