

HALLIBURTON

iCem® Service

CRESTONE PEAK RESOURCES-EBUS

Ft. Lupton District, CO

Shelton 25W-25-13 Production

Job Date: Sunday, January 15, 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-25-13 – Production** Cement. 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 51 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 #:	05-123-51878
City, County:	LA SALLE, WELD

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	1/15/2023	00:30
Called Out Time:	1/14/2023	18:30
Arrived On Location:	1/14/2023	21:40
Job Started:	1/15/2023	03:26
Job Completed:	1/15/2023	06:39
Departed Location:	1/15/2023	09:00

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	28
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	9.2
4	Casing set depth (shoe)	ft	20503
5	TVD	ft	7023
6	Float collar depth	ft	20498
7	Length of rate hole	ft	10'
8	Previous casing shoe depth	ft	1925
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	850

12	Mud circulation pressure at start of cement	psi	1150
13	Annual flow before the start of job	Y/N	Y
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	468
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100%
18	Fluid returns to surface	Spacer/Cement, bbls	50 SPACER/51 CEMENT
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	2520
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	63	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	50	3.83	24.17		1772
Cap Cement	13	137.48	1.66	8.32	465	3869
Lead Cement	13	220.84	1.55	7.16	800	5728
Tail Cement	13.2	543.7	1.59	7.78	1920	14938
Top Plug						
Displacement Fluid	8.33	468				19656

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	1/14/2023	18:30:00					CREW CALLED OUT 1/14/2023 1830 HRS. REQUESTED ON LOCATION 1/15/2023 0030 HRS.
2	Pre-Convoy Safety Meeting	1/14/2023	19:30:00					DISCUSS ROUTE AND HAZARDS OF DRIVING
3	Crew Leave Yard	1/14/2023	21:00:00					CREW LEAVES YARD
4	Arrive At Loc	1/14/2023	21:40:00					ARRIVE AT LOCATION. MEET WITH CUSTOMER. TD 20513', 20# P-110 6932.73, 17# P-110 13570.47', SHOE 20503.2', F/C 20498', 8.5" HOLE, TVD 7023', PC 36# J-55 1925', 9.2 PPG OBM, TOP AND BOTTOM CITADEL PLUGS, 10' RAT HOLE
5	Pre-Rig Up Safety Meeting	1/14/2023	22:00:00					DISCUSS RIG-UP AND ANY HAZARDS THAT MAY EXIST
6	Rig-Up Equipment	1/14/2023	22:10:00					RIG-UP EQUIPMENT
7	Pre-Job Safety Meeting	1/15/2023	03:05:00	0.00	0.00	-1.36	1.05	DISCUSS JOB PROCEDURES AND HAZARDS OF JOB, PRESSURE AND HAZARDS OF HES EQUIPMENT. RIG CIRCULATES BOTTOMS UP 11 BPM/ 1100 PSI. RIG PUMPS 35 BBLs BASE OIL
8	Start Job	1/15/2023	03:26:18	8.34	0.00	0.02	6.33	BEGIN RECORDING DATA
9	Drop Bottom Plug	1/15/2023	03:26:41	8.38	2.22	68.48	6.78	CITADEL BOTTOM PLUG VERIFIED BY SAM
10	Test Lines	1/15/2023	03:27:51	8.73	0.00	294.87	0.54	TEST HES LINES TO 4700 PSI

11	Pump Spacer 1	1/15/2023	03:37:18	8.58	0.00	282.88	0.00	50 BBLs. TUNED PRIME SPACER. 11.5 PPG, 3.83 YIELD, 24.17 GAL/SACK. MIX D-AIR ON FLY. USED 45 GAL TOTAL JOB
12	Pump Cap Cement	1/15/2023	03:46:42	12.01	5.84	353.64	0.10	465 SACKS ELASTICEM CAP CEMENT. 137.48 BBLs. 13 PPG, 1.66 YIELD, 8.32 GAL/SACK. TOCC=1790' PRE-JOB CALCULATIONS
13	Pump Lead Cement	1/15/2023	04:04:30	13.00	9.19	634.08	0.15	800 SACKS ISOBOND LEASD CEMENT. 220.84 BBLs. 13 PPG, 1.55 YIELD, 7.16-GAL/ SACK. TOLC=1790' PRE-JOB CALCULATIONS
14	Pump Tail Cement	1/15/2023	04:30:07	12.92	9.21	685.01	0.08	1920 SACKS SBMCCEM TAIL CEMENT. 543.70 BBLs. 13.2 PPG, 1.59 YIELD, 7.78 GAL/SACK. TOTC=7180' PRE-JOB CALCULATIONS
15	Shutdown	1/15/2023	05:34:03	13.00	0.00	84.69	576.44	SHUTDOWN
16	Clean Lines	1/15/2023	05:36:17	15.00	0.00	12.02	0.00	CLEAN PUMPS AND LINES, APPROX 16 BBLs
17	Shutdown	1/15/2023	05:41:12	6.07	0.00	33.49	17.35	SHUTDOWN
18	Drop Top Plug	1/15/2023	05:42:07	7.94	0.00	8.24	17.35	CITADEL TOP PLUG VERIFIED BY SAM
19	Pump Displacement	1/15/2023	05:42:29	7.43	0.00	14.27	0.00	468 BBLs. FRESH WATER DISPLACEMENT. 1ST 20 BBLs HAS 10 GALLONS MICRO MATRIX CEMENT RETARDER. REMAINING DISPLACEMENT HAS 10 GALLONS RIG SUPPLIED INHIBITOR
20	Slow Rate	1/15/2023	06:32:25	8.17	8.84	3264.89	451.40	SLOW RATE 4 BPM
21	Bump Plug	1/15/2023	06:35:10	8.11	4.01	2575.50	463.16	FCP 2520 PSI. BUMP PRESSURE 3060 PSI. 51 BBLs. CEMENT TO SURFACE
22	Check Floats	1/15/2023	06:38:07	8.16	0.00	3173.14	465.52	FLOATS HOLD 5.5 BBLs. BACK

23	End Job	1/15/2023	06:39:38	7.96	0.00	5.43	465.52	STOP RECORDING DATA. FLUSH RIG STACK 40 BBLS/100 LBS SUGAR. APPROX 1161 BBLS WATER USED TOTAL JOB
24	Pre-Rig Down Safety Meeting	1/15/2023	07:05:00					DISCUSS HAZARDS OF RIG-DOWN AND ANY OTHER HAZARDS THAT MAY EXIST
25	Rig-Down Equipment	1/15/2023	07:15:00					RIG-DOWN EQUIPMENT
26	Rig-Down Completed	1/15/2023	08:00:00					RIG-DOWN COMPLETED
27	Crew Leave Location	1/15/2023	09:00:00					CREW DEPARTS LOCATION. THANK YOU FOR CHOOSING HALLIBURTON.

3.0 Attachments

3.1 Real Time iCem Job Chart

