HALLIBURTON

iCem® Service

CRESTONE PEAK RESOURCES-EBUS

Ft. Lupton District, Colorado

Shelton 25W-25-15 Production

Job Date: Wednesday, January 25, 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-25-15** - **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 44 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 #:	05-123-51892
City, County:	La Salle, Weld

Job Times		
	Date (mm/dd/yyyy)	**Time (hh:mm)**
Requested Time On Location:	1/25/2023	03:30
Called Out Time:	1/24/2023	21:00
Arrived On Location:	1/25/2023	01:30
Job Started:	1/25/2023	08:46
Job Completed:	1/25/2023	12:28
Departed Location:	1/25/2023	14:45

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	18
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	9.2
4	Casing set depth (shoe)	ft	20580
5	TVD	ft	7044
6	Float collar depth	ft	20575
7	Length of rate hole	ft	11
8	Previous casing shoe depth	ft	1943
9	Pre-job mud circulation time	1:45	860
10	Pre-job mud circulation rate	bpm	10
11	Pre-job mud circulation volume	bbls	860

12	Mud circulation pressure at start of cement	psi	1200
13	Annual flow before the start of job	Y/N	Yes
14	Pipe movement during cement job	Y/N	No
15	Calculated displacement	bbls	454.7
16	Job displaced by	Rig/HES	8.33
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	50/44
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	2580
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	73	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	8.32	565	4701
Lead Cement	13	190.48	1.55	7.16	690	4941
Tail Cement	13.2	549.37	1.59	7.78	1940	15094
Top Plug	1					
Displacement Fluid	8.33	454.7				

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	1/24/2023	21:00:00					CREW CALLED OUT 1/25/2023 2100 HRS. REQUESTED ON LOCATION 1/25/2022 0330 HRS.
2	Pre-Convoy Safety Meeting	1/25/2023	00:15:00					DISCUSS ROUTE AND HAZARDS OF DRIVING
3	Crew Leave Yard	1/25/2023	00:30:00					CREW LEAVES YARD
4	Arrive At Loc	1/25/2023	01:30:00					ARRIVE AT LOCATION. MEET WITH CUSTOMER. TD 20591', 20# P-110 SHOE 20580', F/C 20575', 8.5" HOLE, TVD 7044', 36# J-55 SHOE 1943', OBM 9.2 PPG, TOP AND BOTTOM CITADEL PLUGS, WATER 73 DEGREES, PH7, CHLORIDES LESS 200 PPM, 11' RAT HOLE
5	Pre-Rig Up Safety Meeting	1/25/2023	02:30:00					DISCUSS RIG-UP AND ANY HAZARDS THAT MAY EXIST
6	Rig-Up Equipment	1/25/2023	02:35:00					RIG-UP EQUIPMENT
7	Pre-Job Safety Meeting	1/25/2023	08:00:00	0.00	0.00	-3.02	3.28	DISCUSS JOB PROCEDURES AND HAZARDS OF JOB, PRESSURE AND HAZARDS OF HES EQUIPMENT. RIG CIRCULATES AT LEAST 1 BOTTOMS UP. 10 BPM/1200 PSI
8	Start Job	1/25/2023	08:46:15	8.51	0.00	-0.83	0.00	BEGIN RECORDING DATA
9	Drop Bottom Plug	1/25/2023	08:46:36	8.51	0.00	-0.96	0.00	CITADEL BOTTOM PLUG VERIFIED BY JOSH
10	Pressure Test	1/25/2023	08:51:02	8.65	0.00	1715.80	4.05	TEST HES LINES 5200 PSI

11	Pump Spacer 1	1/25/2023	09:06:26	8.55	0.00	32.58	0.00	50 BBLS TUNED PRIME SPACER. 45 GALLONS D-AIR TOTAL JOB
12	Pump Cap Cement	1/25/2023	09:17:57	12.71	3.82	216.45	53.34	PUMP CAP CEMENT. OPERATOR SENT CAP EVENT LATE. TOCC=0'
13	Shutdown	1/25/2023	09:20:53	13.14	5.22	300.98	6.89	SHUTDOWN. RECIRC PACKED OFF
14	Shutdown	1/25/2023	09:24:25	12.52	0.00	87.10	9.23	SDHUTDOWN TO MAINTAIN DENSITY
15	Pump Lead Cement	1/25/2023	09:49:32	12.62	3.23	104.04	0.03	PUMP LEAD CEMENT. TOLC=2449' PRE JOB-CALCULATIONS
16	Pump Tail Cement	1/25/2023	10:12:30	12.67	4.94	252.89	0.04	PUMP TAIL CEMENT. TOTC=7117' PRE JOB-CALCULATIONS
17	Shutdown	1/25/2023	11:21:10	6.73	0.00	17.93	548.31	SHUTDOWN
18	Clean Lines	1/25/2023	11:26:00	12.20	0.00	9.68	548.31	CLEAN PUMPS AND LINES. APPROX 18 BBLS
19	Shutdown	1/25/2023	11:33:32	7.30	0.00	27.93	570.65	SHUTDOWN
20	Drop Top Plug	1/25/2023	11:35:10	7.69	0.00	8.69	570.65	CITADEL TOP PLUG VERIFIED BY JOSH
21	Pump Displacement	1/25/2023	11:35:16	7.69	0.00	8.81	0.00	454.7 BBLS FRESH WATER DISPLACEMENT. 1ST 20 BBLS HAS 10 GALLONS MICRO MATRIX CEMENT RETARDER. REMAINING HAS 10 GALLONS RIG PROVIDED BIOCIDE
22	Bump Plug	1/25/2023	12:21:22	8.19	8.23	3124.77	427.05	FCP 2580 PSI/4 BPM, BUMP PRESSURE 3100 PSI. 44 BBLS CAP CEMENT TO SURFACE
23	Check Floats	1/25/2023	12:27:25	8.07	0.00	443.72	445.21	FLOATS HOLD, 5.5 BBLS. BACK
24	End Job	1/25/2023	12:28:45	7.99	0.00	0.92	445.21	STOP RECORDING DATA. FLUSH RIG STACK 25 BBLS/100 LBS SUGAR WATER. TOTAL WATER USED=1131 BBLS APPROX

25	Pre-Rig Down Safety Meeting	1/25/2023	12:45:00	DISCUSS HAZARDS OF RIG-DOWN AND ANY OTHER HAZARDS THAT MAY EXIST
26	Rig-Down Equipment	1/25/2023	12:50:00	RIG-DOWN EQUIPMENT
27	Rig-Down Completed	1/25/2023	13:30:00	RIG-DOWN COMPLETED
28	Crew Leave Location	1/25/2023	14:15:00	CREW LEAVES LOCATION. THANK YOU FOR CHOOSING HALLIBURTON.

3.0 Attachments

3.1 Real Time iCem Job Chart