

# HALLIBURTON

iCem® Service

## **CRESTONE PEAK RESOURCES-EBUS**

Ft. Lupton District, Colorado

**Shelton 25W-25-16 Production**

Job Date: Monday, January 30, 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-25-16 - 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 35 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 #:	05-123-51885
City, County:	La Salle, Weld Co

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	01/29/2023	17:00
Called Out Time:	01/29/2023	07:00
Arrived On Location:	01/29/2023	15:00
Job Started:	01/29/2023	22:01
Job Completed:	01/30/2023	01:49
Departed Location:	01/30/2023	03:30

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	-4
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	9.2
4	Casing set depth (shoe)	ft	20722
5	TVD	ft	7074
6	Float collar depth	ft	20721
7	Length of rate hole	ft	9
8	Previous casing shoe depth	ft	1915
9	Pre-job mud circulation time	hh:mm	2:30
10	Pre-job mud circulation rate	bpm	10
11	Pre-job mud circulation volume	bbbls	1000

12	Mud circulation pressure at start of cement	psi	1350
13	Annual flow before the start of job	Y/N	YES
14	Pipe movement during cement job	Y/N	NO
15	Calculated displacement	bbls	457.9
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	50/35
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	2500
20	Number of Centralizers	-	
21	Number of bottom plugs	-	1

### 1.3 Water Field Test

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	Recorded Value	Unit	Acceptable Limit	Potential Problems if Values Exceed the Limit
<b>pH</b>	7		6.0 - 8.0	Chemicals in water can cause severe retardation
<b>Temperature</b>	65	F	60 - 80 F	Can can pre-mature setting of cement
<b>Chlorides</b>	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)
<b>Spacer Fluid</b>	11.5	50	3.83	24.17		1771
<b>Cap Cement</b>	13	167	1.66	8.32	565	4701
<b>Lead Cement</b>	13	192	1.55	7.16	695	4976
<b>Tail Cement</b>	13.2	553	1.59	7.78	1955	15209
<b>Top Plug</b>	1					
<b>Displacement Fluid</b>	8.33	457.9				

## 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	1/29/2023	07:00:00					Crew called out at 0700 on 1/29/2023 for a requested-on location time of 1700 on 1/29/2023.
2	Safety Meeting	1/29/2023	13:55:00					Pre convoy safety meeting discussed route to location and hazards of driving during snow storm.
3	Crew Leave Yard	1/29/2023	14:00:00					Crew Leaves yard in convoy at 1400 hrs.
4	Arrive At Loc	1/29/2023	15:00:00					Crew arrived on location at 1500 hrs. Meet with costumer TD 20733', 8.5 OH, TP 20722 5.5' 20#, FC 20721', TVD 7074', P/C 1915' 9.625 36#, OBM WEIGHT 9.2 PPG.
5	Safety Meeting - Pre Rig-Up	1/29/2023	15:05:00					Discuss hazards around rig up area.
6	Rig-Up Completed	1/29/2023	17:30:00	0.00	0.00	-7.59	5.69	Rig up completed.
7	Safety Meeting - Pre Job	1/29/2023	21:20:00	0.00	0.00	-6.03	5.69	Pre job safety meeting discussed all hazards prior to job and reviewed job procedure.
8	Start Job	1/29/2023	22:01:22	8.64	0.00	15.51	0.00	Start recording data.
9	Drop Bottom Plug	1/29/2023	22:02:05	8.68	0.00	0.46	0.00	Bottom plug verified by DSR.
10	Test Lines	1/29/2023	22:11:15	8.42	0.00	317.58	17.89	Pressure tested HES lines to 5200 psi.
11	Pump Spacer 1	1/29/2023	22:16:44	8.21	0.00	256.29	0.00	Pumped 50 bbls of tuned prime spacer @11.5ppg/3.83ft3/24.17gal/sack. Pre calculated mix gallons were 1771 gal.

12	Pump Cap Cement	1/29/2023	22:31:43	11.54	5.96	416.60	0.00	Pumped 167 bbls (565 sks) of Elasticem cap @13ppg/1.66ft3/8.32gal/sack. Pre calculated mix gallons were 4701 gal. Estimated 53 bbls of cement to surface. HOCC= 2473.2'
13	Check Weight	1/29/2023	22:50:58	12.78	11.92	977.58	175.13	Weight verified by Mud scales.
14	Pump Lead Cement	1/29/2023	23:11:09	12.74	5.61	214.85	0.09	Pumped 192 bbls (695 sks) of IsoBond Lead @13ppg/1.55ft3/7.16gal/sack. Pre calculated mix gallons were 4976 gal. Estimated HOLC=7179.08', TOLC=2473.2'.
15	Check Weight	1/29/2023	23:14:48	12.93	8.00	595.35	28.69	Weight verified by mud scales.
16	Pump Tail Cement	1/29/2023	23:36:05	12.80	8.38	561.62	0.14	Pumped 553 bbls (1955 sks) of ElastiCem Tail @13.2ppg/1.59ft3/7.78gal/sack. Pre calculated mix gallons were 15209 gal. Estimated HOTC=13553.92', TOTC=7179.08'.
17	Check Weight	1/29/2023	23:41:50	13.18	9.30	611.24	43.29	Weight verified by mud scales.
18	Check Weight	1/30/2023	00:11:21	13.24	9.36	605.82	319.31	Weight verified by mud scales.
19	Shutdown	1/30/2023	00:42:53	11.15	0.07	118.63	587.56	Shutdown swap to wash up pit.
20	Clean Lines	1/30/2023	00:45:36	18.11	0.00	1.65	0.00	Washed pumps and lines with 29 bbls of water.
21	Drop Top Plug	1/30/2023	00:56:58	7.86	0.00	-1.46	29.37	Top plug verified by DSR
22	Pump Displacement	1/30/2023	00:57:01	7.86	0.00	-1.62	0.00	Pumped 457.9 bbls of freshwater displacement, first 20 bbls added 10 gal of MMCR, 10 gal of bellacide provided by rig poured threw out displacement.
23	Bump Plug	1/30/2023	01:46:31	8.10	0.00	3005.77	452.03	FCP @4BPM was 2500 psi, bumped up to 3000 psi.
24	Check Floats	1/30/2023	01:48:13	8.12	0.00	3116.27	452.03	5 bbls back to pump truck floats holding. Total of 35 bbls of Cap cement to surface.

25	End Job	1/30/2023	01:49:43	6.97	0.00	5.32	0.00	Stop recording data. Flushed rig stack with 30 bbls of water with 100 lb of sugar added.
26	Safety Meeting - Pre Rig-Down	1/30/2023	02:00:00					Discuss blow down and any new hazards that could have come up during job.
27	Rig-Down Completed	1/30/2023	03:15:00					Rig down completed.
28	Pre-Convoy Safety Meeting	1/30/2023	03:20:00					Fit for duty check and check road conditions.
29	Crew Leave Location	1/30/2023	03:30:00					Crew departs location. Thank you for using Halliburton

3.0 Attachments

3.1 Real Time iCem Job Chart

