

# HALLIBURTON

iCem<sup>®</sup> Service

## **CRESTONE PEAK RESOURCES-EBUS**

Ft. Lupton District, Colorado

**For: Sam Mars**

Date: Friday, March 31, 2023

**Cosslett East 1D 22H-H168**

Weld

Cosslett 1D 22H-H168

Job Date: Friday, March 31, 2023

Sincerely,

**Luke Kosakewich**

## Legal Notice

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### Disclaimer:

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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 **Well Name and Number - Job Type**. 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 XX 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 #:	05-123-51951
City, County:	Erie, Weld
Field:	WATTENBERG
Legal Description:	SENE S22 T1N R68W

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	03/30/2023	20:30:00
Called Out Time:	03/30/2023	18:00:0
Arrived On Location:	03/30/2023	19:00:00
Job Started:	03/30/2023	20:50:00
Job Completed:	03/31/2023	00:06:00
Departed Location:	03/23/2023	11:30:00

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	30
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	Water
3	Mud density	ppg	8.7
4	Casing set depth (shoe)	ft	2521
5	TVD	ft	2521
6	Float collar depth	ft	2476
7	Length of rate hole	ft	10
8	Previous casing shoe depth	ft	585
9	Pre-job mud circulation time	hh:mm	00:30

10	Pre-job mud circulation rate	bpm	30
11	Pre-job mud circulation volume	bbls	149
12	Mud circulation pressure at start of cement	psi	150
13	Annual flow before the start of job	Y/N	N
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	191.3
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	20 / 24
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	850
20	Number of Centralizers	-	22
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>	59	F	60 - 80 F	Can can pre-mature setting of cement
<b>Chlorides</b>	0	ppm	3000 ppm	Can shorten thickening time

## 1.4 Actual Pump Schedule

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	Density (ppg)	Volume (bbls)	Yield (ft <sup>3</sup> /sk)	Water Requirement (gal/sk)	Bulk Sacks (sks)	Total Water (gals)
<b>Spacer Fluid Fresh Water</b>	8.33	20				
<b>Cement</b>	14.2	176	1.15	5.74	860	4936
<b>Displacement Fluid Fresh Water</b>	8.33	192.8				

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq No.	Activity	Graph Label	Date	Time	Source	Comments
Event	1	Call Out	Call Out	3/30/2023	18:00:00	USER	Crew was Called out at 18:00 March 30th for an on-location time of 20:30.
Event	2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	3/30/2023	18:45:00	USER	Held a pre convoy safety meeting and JSA with HES crew.
Event	3	Depart Shop for Location	Depart Shop for Location	3/30/2023	19:00:00	USER	Left the yard and was on route to the rig.
Event	4	Arrive At Loc	Arrive At Loc	3/30/2023	19:30:00	USER	Arrived at location and checked in with the company man. Discussed the job with the Company Man. Well bore: OH: 12.25", CSG: 9.625", 36#, PC: 13.375" 54.4# set at 585', TD:2,531', TP: 2,521', ST; 45', FC: 2,476', Mud: 8.7 ppg.

Event	5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	3/30/2023	19:35:00	USER	Performed a site assessment and discussed what and who is responsible for what. How we are going to mitigate the risks.
Event	6	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	3/30/2023	19:40:00	USER	Held a pre rig up safety meeting with the crew.
Event	7	Rig-up Lines	Rig-up Lines	3/30/2023	19:45:00	USER	Rigged up all line's pumps and hoses for the job.
Event	8	Safety Meeting	Safety Meeting	3/30/2023	22:30:00	USER	Held a pre job safety meeting with all affected personnel.
Event	9	Start Job	Start Job	3/30/2023	22:50:00	USER	Pumped 3 bbls of fresh water at 3 bbl/min. to fill lines.
Event	10	Pressure Test	Pressure Test	3/30/2023	22:52:00	USER	Shut in the manifold. pressured up to 2,459 psi to test lines. Pressure was falling 1 psi. for ever three seconds. Pressure held and test was good. Bled off pressure.

Event	11	Pump Spacer	Pump Spacer	3/30/20 23	22:58:0 0	USER	Pumped 20 bbls of freshwater spacer with green dye at 3 bpm.
Event	12	Pump Cement	Pump Cement	3/30/20 23	23:04:0 0	USER	Pumped 176 bbls of Swifter away at 7 bbl/min with a pressure of 450 psi. Density was 14.2 ppg., Yield is 1.15 cubic ft/sk, 5.74 gal/sk requirement.
Event	13	Check Weight	Check Weight	3/30/20 23	23:11:0 8	NONE	Cement weighted up at 14,2 ppg. Density was verified by pressurized scale.
Event	14	Check Weight	Check Weight	3/30/20 23	23:12:5 5	NONE	Cement weighted up at 14,2 ppg. Density was verified by pressurized scale.
Event	15	Shutdown	Shutdown	3/30/20 23	23:31:5 4	NONE	Pumped all cement away and shut down to clean up lines.
Event	16	Drop Top Plug	Drop Top Plug	3/30/20 23	23:32:4 5	NONE	Dropped top plug witnessed by the customer. verified by tattle tale.
Event	17	Pump Displacement	Pump Displacement	3/30/20 23	23:32:4 9	NONE	Pumped 191 bbls of fresh water at 8 bpm. to displace the plug.

Event	18	Bump Plug	Bump Plug	3/31/20 23	00:04:1 6	NONE	Bumped the plug 500 psi over 870 psi at 2 bbl/min. Circulated 24 bbls of cement to surface.
Event	19	Other	Other	3/31/20 23	00:04:3 7	NONE	Pressure up to 1,350 psi for a casing test. Pressure help.
Event	20	Other	Other	3/31/20 23	00:06:0 0	NONE	Bled off pressure to check floats.
Event	21	Other	Other	3/31/20 23	00:06:3 5	NONE	Floats held. Got 1 bbl of fluid back to the truck.
Event	22	End Job	End Job	3/31/20 23	00:06:5 1	NONE	broke off from the casing. Washed pumps and lines until clean,
Event	23	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	3/31/20 23	00:09:0 0	USER	Held a pre rig down safety meeting with HSE and rig.
Event	24	Rig-Down Equipment	Rig-Down Equipment	3/31/20 23	00:14:0 0	USER	Rigged down all pumps iron and hoses.
Event	25	Depart Location Safety Meeting	Depart Location Safety Meeting	3/31/20 23	10:14:0 0	USER	Held a departing location safety meeting. with my HSE crew.

Event	26	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	3/31/20 23	10:30:0 0	USER	Departed location.
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3.0 Attachments

3.1 Cosslett 1D 22H-H168 Surface 908505977.png

