

HALLIBURTON

iCem[®] Service

CRESTONE PEAK RESOURCES-EBUS

Ft. Lupton District, Colorado

For: Frank

Date: Friday, March 31, 2023

Cosslett

Weld

Surface

Job Date: Friday, March 31, 2023

Sincerely,

Luke Kosakewich

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 **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 #:	05-123-51949
City, County:	Weld
Field:	WATTENBERG
Legal Description:	SENE S22 T1N R68W

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	03/31/2023	15:00
Called Out Time:	03/31/2023	09:00
Arrived On Location:	03/31/2023	14:00
Job Started:	03/31/2023	17:55
Job Completed:	03/31/2023	19:30
Departed Location:	03/31/2023	19:40

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	46
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	Water Base
3	Mud density	ppg	8.7
4	Casing set depth (shoe)	ft	2,529'
5	TVD	ft	2,259'
6	Float collar depth	ft	2,482'
7	Length of rate hole	ft	11'
8	Previous casing shoe depth	ft	596'
9	Pre-job mud circulation time	hh:mm	00:30

10	Pre-job mud circulation rate	bpm	10
11	Pre-job mud circulation volume	bbls	150
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	191.6
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	20 spacer/ 26 bbls
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	900 @ 2
20	Number of Centralizers	-	21
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	62	F	60 - 80 F	Can can pre-mature setting of cement
Chlorides	0	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)
Fresh Water Spacer	8.33	20				
Cement	14.2	176	1.15	5.74	860	4,936
Displacement Fluid	8.33	191.8				

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq No.	Activity	Graph Label	Date	Time	Source	Pump A Pressure (psi)	Dwnhole Density (ppg)	Cmb Pump Rate (bbl/mi n)	Cmb Stg Total (bbl)	Comments
Event	1	Depart Location	Depart Location	3/24/2023	21:40:00	USER					Departed location.
Event	2	Call Out	Call Out	3/31/2023	09:00:00	USER					Crew was Called out at 18:00 March 30th for an on-location time of 20:30.
Event	3	Depart Yard Safety Meeting	Depart Yard Safety Meeting	3/31/2023	13:30:00	USER					Held a pre convoy safety meeting and JSA with HES crew.
Event	4	Depart from Service Center or Other Site	Depart from Service Center or Other Site	3/31/2023	13:45:00	USER					Left the yard and was on route to the rig.
Event	5	Arrive at Location from Service Center	Arrive at Location from Service Center	3/31/2023	14:00:00	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	6	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	3/31/2023	14:10:00	USER						Performed a site assessment and discussed what and who is responsible for what. How we are going to mitigate the risks. Held a pre rig up safety meeting with the crew.
Event	7	Rig-Up Equipment	Rig-Up Equipment	3/31/2023	14:15:00	USER						Rigged up all line's pumps and hoses for the job.
Event	8	Safety Meeting - Pre Job	Safety Meeting - Pre Job	3/31/2023	16:45:00	USER	12.05	8.25	0.00	13.07		Held a pre job safety meeting with all affected personnel.
Event	9	Start Job	Start Job	3/31/2023	18:03:50	NONE	48.62	8.32	0.00	3.34		Pumped 3 bbls of fresh water at 3 bbl/min to fill lines.
Event	10	Test Lines	Test Lines	3/31/2023	18:03:56	NONE	44.64	8.32	0.00	3.34		Shut in the manifold. Pressure tested to 2,300 psi. Held for 2 minutes. Pressure was falling 1 psi for every 3 seconds. Pressure held. Bled off pressure and opened the bottom valve on the manifold.

Event	11	Pump Spacer 1	Pump Spacer 1	3/31/20 23	18:06:2 2	NONE	56.65	8.30	0.00	0.00	Pumped 3 bbl of fresh water spacer with green dye at 3 bbl/min with a pressure 86 psi.
Event	12	Check Weight	Check Weight	3/31/20 23	18:09:4 7	NONE	79.91	8.33	2.88	9.53	Batched up and weighted cement. SwiftCem weighed up at 14.2 ppg. Density was verified by pressurized scales.
Event	13	Pump Cement	Pump Cement	3/31/20 23	18:11:5 8	NONE	185.45	8.36	5.94	0.10	Pumped 176 bbls of SwiftCem at 14.2 ppg, yield 1.15 cu/ft, water requirement 5.74 gal/sk at 7 bbls/min with pressure at 370 psi.
Event	14	Shutdown	Shutdown	3/31/20 23	18:39:3 3	NONE	149.52	14.57	0.37	179.05	Pumped all cement away and shut down.
Event	15	Drop Top Plug	Drop Top Plug	3/31/20 23	18:39:3 9	NONE	103.55	15.58	0.00	179.05	Shut in the manifold on the floor, spun the pin out, opened the top valve on the manifold, and dropped the top plug indicated by the tattletale. Witnessed by the company man and HES.

Event	16	Pump Displacement	Pump Displacement	3/31/2023	18:39:42	NONE	84.68	15.63	0.00	0.00	Pumped 191.6 bbls of fresh water for displacement at 8.5 bbls/min. Pressure started out at 250 psi and rose up to 1,000 psi. Slowed rate down to keep pressure under 1,000 psi.
Event	17	Spacer Returns to Surface	Spacer Returns to Surface	3/31/2023	19:00:29	USER	711.42	8.42	8.14	127.94	Circulated 20 bbls of fresh water with green dye.
Event	18	Cement Returns to Surface	Cement Returns to Surface	3/31/2023	19:02:04	USER	842.22	8.43	8.15	140.83	Got cement to surface.
Event	19	Bump Plug	Bump Plug	3/31/2023	19:11:19	NONE	1342.75	8.49	0.00	187.74	Bumped the plug 500 psi over 900 psi at 2 bbl/min. Circulated 26 bbls of cement to surface.
Event	20	Other	Other	3/31/2023	19:11:32	NONE	1409.88	8.49	0.00	187.74	Held pressure for one minute for a casing test. Pressure held. Bled off pressure to check floats. Floats held. Returned 1 bbl of fluid back to the truck.
Event	21	End Job	End Job	3/31/2023	19:13:12	NONE	26.37	8.37	0.00	0.00	Circulated 26 bbls of cement and 20 bbl of

								fresh waster to surface.
Event	22	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	3/31/2023	20:00:00	USER		Held a pre rig down safety meeting with HSE and rig.
Event	23	Rig Down Lines	Rig Down Lines	3/31/2023	20:05:00	USER		Rigged down all pumps iron and hoses.
Event	24	Safety Meeting - Departing Location	Safety Meeting - Departing Location	3/31/2023	21:30:00	USER		Held a departing location safety meeting. with my HSE crew.

3.0 Attachments

3.1 Cosslett 1C 22H-H168.png



