

# HALLIBURTON

iCem<sup>®</sup> Service

## **CRESTONE PEAK RESOURCES**

Ft. Lupton District, Colorado

**BLUE 3-65 33-32-31-36 1BH- Production**

Sincerely,  
**Rafael Giorgana**

## 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 BLUE 3-65 33-32-31-36 1 BH 7-5.5' TAPERED 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 47 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 #:	05-001-10550
City, County:	Aurora, rapahoe county

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	07/27/2023	20:00
Called Out Time:	07/27/2023	14:00
Arrived On Location:	07/27/2023	20:00
Job Started:	07/28/2023	19:44
Job Completed:	07/29/2023	00:19
Departed Location:	07/29/2023	2:00

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	69
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	9.2
4	Casing set depth (shoe)	ft	28966
5	TVD	ft	7308
6	Float collar depth	ft	28951
7	Length of rate hole	ft	10
8	Previous casing shoe depth	ft	3385
9	Pre-job mud circulation time	hh:mm	2:00
10	Pre-job mud circulation rate	bpm	10

11	Pre-job mud circulation volume	bbls	1200
12	Mud circulation pressure at start of cement	psi	400
13	Annual flow before the start of job	Y/N	Yes
14	Pipe movement during cement job	Y/N	No
15	Calculated displacement	bbls	751
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	120/47
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	3380
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
pH	7		6.0 - 8.0	Chemicals in water can cause severe retardation
Temperature	69	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

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	Density (ppg)	Volume (bbls)	Yield (ft <sup>3</sup> /sk)	Water Requirement (gal/sk)	Bulk Sacks (sks)	Total Water (gals)
Spacer Fluid	11.5	120	2.57	16.21	262	4249
Cap Cement	13	147	1.65	8.07	500	4035
Lead Cement	13	118	1.58	7.43	420	3120
Tail Cement	13.2	906	1.56	7.52	3260	24515
Top Plug	1					
Displacement Fluid	8.33	751				

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Seq No.	Activity	Graph Label	Date	Time	Comments
1	Call Out	Call Out	7/27/2023	14:00:00	Crew called out at 1400 on 7/27/2023 for a requested-on location time of 2000 on 7/27/2023.
2	Safety Meeting	Safety Meeting	7/27/2023	18:45:00	Pre convoy safety meeting discussed route to location and hazards of driving.
3	Crew Leave Yard	Crew Leave Yard	7/27/2023	19:00:00	Crew Leaves yard in convoy at 1900 hrs.
4	Arrive At Loc	Arrive At Loc	7/27/2023	20:00:00	Crew arrived on location at 2000 hrs. Meet with costumer TD 28976', 8.5 OH from 16789 to 28976, 8.75 OH from 3385 to 16789' TP 28966' 5.5' 20# from 7484 to TD, 7' 29# FROM SURFACE TO 7484', FC 28951', TVD 7308', P/C 3385' 9.625 36#, OBM WEIGHT 9.2 PPG.
5	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	7/28/2023	16:30:00	Discuss hazards around rig up area.
6	Rig-Up Completed	Rig-Up Completed	7/28/2023	17:30:00	Rig up completed.
7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	7/28/2023	17:35:00	Pre job safety meeting discussed all hazards prior to job and reviewed job procedure.
8	Start Job	Start Job	7/28/2023	19:44:08	Start recording data.
9	Drop Bottom Plug	Drop Bottom Plug	7/28/2023	19:45:00	Bottom plug verified by DSR.

10	Test Lines	Test Lines	7/28/2023	19:46:05	Pressure tested HES lines to 4600 psi, good test no leaks.
11	Pump Spacer 1	Pump Spacer 1	7/28/2023	19:51:32	Pumped 120 bbls (262 sks) of Tuned Prime Spacer @11.5ppg/2.57ft3/16.21gal/sack. Mix gallons was 4,249 gallons. Average rate was 7bpm with 650 psi on the line.
12	Check Weight	Check Weight	7/28/2023	19:54:21	Weight verified by mud scales.
13	Check Weight	Check Weight	7/28/2023	20:00:15	Weight verified by mud scales.
14	Pump Cap Cement	Pump Cap Cement	7/28/2023	20:09:44	Pumped 147 bbls (500 sks) of ElastiCem Cap Cement @13ppg/1.65ft3/8.07gal/sack. Mix gallons was 4,035 gallons. Average rate was 9.5bpm with 650 psi on the line. TOCC= 0', HOCC= 3,380'.
15	Check Weight	Check Weight	7/28/2023	20:11:51	Weight verified by mud scales.
16	Check Weight	Check Weight	7/28/2023	20:24:07	Weight verified by mud scales.
17	Check Weight	Check Weight	7/28/2023	20:29:53	Weight verified by mud scales.
18	Pump Lead Cement	Pump Lead Cement	7/28/2023	20:29:55	Pumped 118 bbls (420 sks) of IsoBond Lead cement @13ppg/1.58ft3/7.43gal/sack. Mix gallons was 3,120 gallons. Average rate was 8bpm with 490 psi on the line. TOLC= 3,380' HOLC= 7,701'.
19	Pump Tail Cement	Pump Tail Cement	7/28/2023	20:47:39	Pumped 906 bbls (3260 sks) of ElastiCem Tail cement @13.2ppg/1.56ft3/7.52gal/sack. Mix gallons was 24,515 gallons. Average rate was 9.5bpm with 800 psi on the line. TOTC= 7,701'.
20	Check Weight	Check Weight	7/28/2023	20:54:15	Weight verified by mud scales.
21	Check Weight	Check Weight	7/28/2023	20:58:28	Weight verified by mud scales.
22	Check Weight	Check Weight	7/28/2023	21:16:57	Weight verified by mud scales.
23	Check Weight	Check Weight	7/28/2023	21:27:56	Weight verified by mud scales.

24	Check Weight	Check Weight	7/28/2023	21:40:23	Weight verified by mud scales.
25	Check Weight	Check Weight	7/28/2023	21:47:02	Weight verified by mud scales.
26	Check Weight	Check Weight	7/28/2023	22:08:08	Weight verified by mud scales.
27	Check Weight	Check Weight	7/28/2023	22:13:02	Weight verified by mud scales.
28	Check Weight	Check Weight	7/28/2023	22:23:42	Weight verified by mud scales.
29	Shutdown	Shutdown	7/28/2023	22:30:40	Shutdown to wash pumps & lines with 20 bbls of freshwater.
30	Drop Top Plug	Drop Top Plug	7/28/2023	22:34:11	Top plug verified by DSR.
31	Pump Displacement	Pump Displacement	7/28/2023	22:34:12	Pumped 750 bbls of freshwater displacement @8.33ppg. 10 gallons of MMCR in the first 20 bbls and 10 gallons of bellacide provided by rig threw out displacement.
32	Other	Other	7/28/2023	23:37:53	Slow rate for water swap
33	Bump Plug	Bump Plug	7/29/2023	00:13:51	FCP @2bpm was 3470 psi bumped up to 3840 psi.
34	Check Floats	Other	7/29/2023	00:16:27	10 bbls back to pump truck, floats holding.
35	End Job	End Job	7/29/2023	00:19:03	Stop recording data. washed rig stack with 40 bbls of freshwater with 100 lbs of sugar.
36	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	7/29/2023	00:30:00	Discuss blow down and any new hazards that could have come up during job.
37	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	7/29/2023	00:45:00	Fit for duty check and check road conditions.
38	Rig-Down Completed	Rig-Down Completed	7/29/2023	01:30:00	Rig down completed.

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39	Crew Leave Location	Crew Leave Location	7/29/2023	02:00:00	Crew departs location. Thank you for using Halliburton.
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3.0 Attachments

3.1 BLUE 3-65 33-32-31-36 1 BH 7-5.5' TAPERED PRODUCTION-Custom Results (1).png

