

# HALLIBURTON

iCem<sup>®</sup> Service

## CRESTONE PEAK RESOURCES

**Blue 3-65 33-32-31-36 # 1BH**

9.625" Surface Casing

Job Date: Wednesday, July 19, 2023

Sincerely,

**Rafael Giorgana**

## 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 **Blue 3-65 33-32-31-36 1BH**. 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 14 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

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Job Details	
API #:	05-001-10550
City, County:	Aurora, Adams
SO#:	0908731720

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	07/19/2023	04:30
Called Out Time:	07/18/2023	23:23
Arrived On Location:	07/19/2023	01:00
Job Started:	07/19/2023	09:40
Job Completed:	07/19/2023	11:30
Departed Location:	07/19/2023	14:00

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	70
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	WBM
3	Mud density	ppg	9.0
4	Casing set depth (shoe)	ft	3385
5	TVD	ft	3385
6	Float collar depth	ft	3351
7	Length of rate hole	ft	10
8	Previous casing shoe depth	ft	124
9	Pre-job mud circulation time	hh:mm	00:30
10	Pre-job mud circulation rate	bpm	11

11	Pre-job mud circulation volume	bbls	330
12	Mud circulation pressure at start of cement	psi	550
13	Annual flow before the start of job	Y/N	Y
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	259
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	Spacer - 20 / Cement - 14
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	1,100 @ 4
20	Number of Centralizers	-	27
21	Number of bottom plugs	-	0
22	Number of trucks used preparing/during job	-	1
23	Add hours? If Yes, put #	Y/N and hours	N - 0
24	NPT? If Yes, put #	Y/N and hours	N - 0

### 1.3 Water Field Test

	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>	70	F	60 - 80 F	Can can pre-mature setting of cement
<b>Chlorides</b>	< 287	ppm	3000 ppm	Can shorten thickening time

### 1.4 Actual Pump Schedule

#### Stage 1

	Density (ppg)	Volume (bbls)	Yield (ft3/sk)	Water Requirement (gal/sk)	Bulk Sacks (sks)	Total Water (gals)
Spacer Fluid	8.33	20	-----	-----	-----	840
Cap Cement						
Lead Cement						
Tail Cement	13.5	421	1.39	7.33	1,700	12,461
Top Plug						
Displacement Fluid	8.33	259	-----	-----	-----	10,878

#### Stage 2

	Density (ppg)	Volume (bbls)	Yield (ft3/sk)	Water Requirement (gal/sk)	Bulk Sacks (sks)	Total Water (gals)
Spacer Fluid						
Cap Cement						
Lead Cement						
Tail Cement						
Top Plug						
Displacement Fluid						

List of materials returned to yard:

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq No.	Activity	Graph Label	Date	Time	Comments
1	Call Out	Call Out	7/18/2023	23:23:00	Civitas Resources - Blue 3-65 33-32-31-36 # 1BH - 9.625" surface casing - on location 07/19/23 @ 04:30
2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	7/18/2023	23:45:00	Review journey management and route with crew members
3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	7/19/2023	00:00:00	Depart from yard - Ft. Lupton, CO
4	Arrive At Loc	Arrive At Loc	7/19/2023	01:00:00	Talk to company man ( ) : TD = 3395', TP = 3385', ST = 34', P. CSG = 16" 55# @ 124', OH = 13.5", CSG = 9.625" 36#, WF = WBM @ 9.0#, Test water = pH - 7, chlorides - < 287 ppm, 70 F
5	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	7/19/2023	01:10:00	Spot equipment
6	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	7/19/2023	01:20:00	Review JSA with crew members
7	Rig-Up Equipment	Rig-Up Equipment	7/19/2023	01:30:00	Rig up iron and hoses needed for job
8	Rig-Up Completed	Rig-Up Completed	7/19/2023	03:00:00	Rig floor pending

9	Wait on Customer or Customer Sub-Contractor Equip - Start Time	Wait on Customer or Customer Sub-Contractor Equip - Start Time	7/19/20 23	03:05:0 0	Rig is running casing and will circulate with the CRT
10	Safety Meeting - Pre Job	Safety Meeting - Pre Job	7/19/20 23	09:15:0 0	Review job procedure and JSA with rig hands, co. man, and HES members
11	Rig-Up Equipment	Rig-Up Equipment	7/19/20 23	09:25:0 0	Rig up plug container to Halliburton pump truck to commence cement jot; co man witnessed top plug being loaded
12	Start Job	Start Job	7/19/20 23	09:40:0 0	9.625" surface casing; rig started circulating 07/19/23 @ 09:00 - 450 psi @ 11 bpm
13	Pump Water	Pump Water	7/19/20 23	09:42:3 2	Pump 5 bbls of water to fill up lines
14	Test Lines	Test Lines	7/19/20 23	09:44:0 3	Test kick outs to 500 psi & lines to 3000 psi
15	Pump Spacer	Pump Spacer	7/19/20 23	09:46:3 2	20 bbls @ 8.33 ppg - 308 psi @ 5 bpm - dyed water spacer
16	Pump Cement	Pump Cement	7/19/20 23	09:52:4 7	421 bbls @ 13.5 ppg - 310 psi @ 7.5 bpm - calculated 117 bbls back to surface
17	Check Weight	Check Weight	7/19/20 23	09:59:4 5	Weigh cement sample @ 13.5 ppg
18	Check Weight	Check Weight	7/19/20 23	10:26:1 0	Weigh cement sample @ 13.5 ppg
19	Shutdown	Shutdown	7/19/20 23	10:48:3 7	Shutdown
20	Drop Top Plug	Drop Top Plug	7/19/20 23	10:49:0 8	9.625" top plug

21	Pump Displacement	Pump Displacement	7/19/20 23	10:49:3 9	Calculated 259 bbls total (259 bbls fresh water @ 8.33 ppg)
22	Slow Rate	Slow Rate	7/19/20 23	11:22:3 0	Last 20 bbls @ 4 bpm
23	Cement Returns to Surface	Cement Returns to Surface	7/19/20 23	11:24:3 4	Cement back to surface at 245 bbls of displacement gone; 14 bbls of cement back total
24	Bump Plug	Bump Plug	7/19/20 23	11:28:3 6	At 259 bbls (1100 psi - 1600 psi)
25	Check Floats	Check Floats	7/19/20 23	11:29:5 8	Floats held; 2 bbl back
26	End Job	End Job	7/19/20 23	11:30:4 5	9.625" surface casing job
27	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	7/19/20 23	11:35:0 0	Review JSA with HES crew members
28	Rig-Down Equipment	Rig-Down Equipment	7/19/20 23	11:45:0 0	Rig down iron, plug container, and hoses used on job
29	Rig-Down Completed	Rig-Down Completed	7/19/20 23	13:00:0 0	4 silos and compressor skid will stay on location
30	Job Complete	Job Complete	7/19/20 23	13:30:0 0	Paperwork completed and uploaded - 0 additional hours were added
31	Safety Meeting - Departing Location	Safety Meeting - Departing Location	7/19/20 23	13:45:0 0	Review journey management and route with crew members
32	Depart Location	Depart Location	7/19/20 23	14:00:0 0	Depart location

3.0 Attachments

3.1 Real Time Job Chart

