

# HALLIBURTON

iCem<sup>®</sup> Service

## **CRESTONE PEAK RESOURCES**

Ft. Lupton District, Colorado

**PROSPER FARMS 4-65 2-1-6 3BH - Production**

Job Date: Monday, April 10, 2023

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 Prosper Farms 4-65 2-1-6 3BH 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 49.5 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 #:	05-005-07519
City, County:	Watkins, Arapahoe

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	04/09/2023	17:00
Called Out Time:	04/09/2023	12:00
Arrived On Location:	04/09/2023	16:00
Job Started:	04/10/2023	6:38
Job Completed:	04/10/2023	10:47
Departed Location:	04/10/2023	12:00

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	55
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	9.5
4	Casing set depth (shoe)	ft	23648
5	TVD	ft	7690
6	Float collar depth	ft	23642
7	Length of rate hole	ft	6
8	Previous casing shoe depth	ft	3347
9	Pre-job mud circulation time	hh:mm	3:00

10	Pre-job mud circulation rate	bpm	10
11	Pre-job mud circulation volume	bbls	1100
12	Mud circulation pressure at start of cement	psi	250
13	Annual flow before the start of job	Y/N	Yes
14	Pipe movement during cement job	Y/N	No
15	Calculated displacement	bbls	522.5
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	120/49.5
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	3000
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>	60	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	120	3.83	24.16		4250
<b>Cap Cement</b>	13	169.5	1.67	8.25	570	4702
<b>Lead Cement</b>	13	237	1.55	7.16	860	6157
<b>Tail Cement</b>	13.2	668	1.59	7.78	2360	18360
<b>Top Plug</b>	1					
<b>Displacement Fluid</b>	8.33	522.5				

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Seq No.	Activity	Date	Time	Comments
1	Call Out	4/9/2023	12:00:00	Crew called out at 1200 on 4/9/2023 for a requested-on location time of 1700 on 4/9/2023.
2	Safety Meeting	4/9/2023	13:45:00	Pre convoy safety meeting discussed route to location and hazards of driving on holiday weekend.
3	Crew Leave Yard	4/9/2023	14:00:00	Crew Leaves yard in convoy at 1400 hrs.
4	Arrive At Loc	4/9/2023	16:00:00	Crew arrived on location at 1600 hrs. Meet with costumer TD 23657', 8.75 OH till 12,011, 8.5 OH from 12,011-23657', TP 23648 5.5' 20#, FC 23642', TVD 7074', P/C 3347' 9.625 36#, OBM WEIGHT 9.5 PPG.
5	Safety Meeting - Pre Rig-Up	4/9/2023	16:30:00	Discuss hazards around rig up area.
6	Rig-Up Completed	4/9/2023	17:30:00	Rig up completed.
7	Safety Meeting - Pre Job	4/10/2023	06:00:00	Pre job safety meeting discussed all hazards prior to job and reviewed job procedure.
8	Start Job	4/10/2023	06:38:56	Start recording data.
9	Drop Bottom Plug	4/10/2023	06:39:40	Bottom plug verified by DSR.
10	Test Lines	4/10/2023	06:41:02	Pressure tested HES lines to 4700 psi. Electronic kick outs working.
11	Pump Spacer 1	4/10/2023	06:45:37	Pumped 120 bbls of Tuned Prime spacer @11.5ppg, 3.83ft3, 24.16gal/sack. Pre calculated mix gallons was 4,250 gal. Average rate was 6bpm with 600 psi on the line.
12	Check Weight	4/10/2023	06:47:51	Weight verified by Mud scales.

13	Pump Cap Cement	4/10/2023	07:04:40	Pumped 169.5 bbls (570 sks) of ElastiCem cap cement @13ppg, 1.67ft3, 8.25gal/sack. Pre calculated mix gallons was 4,702 gal. Average rate was 6.5bpm with 500 psi on the line. TOCC=0', HOCC=2,019'.
14	Check Weight	4/10/2023	07:13:30	Weight verified by Mud scales.
15	Pump Lead Cement	4/10/2023	07:31:15	Pumped 237 bbls (860 sks) of IsoBond lead cement @13ppg, 1.55ft3, 7.16gal/sack. Pre calculated mix gallons was 6,157 gal. Average rate was 8bpm with 900 psi on the line. TOLC=2019', HOLC=7,285'.
16	Check Weight	4/10/2023	07:36:16	Weight verified by mud scales.
17	Pump Tail Cement	4/10/2023	08:01:40	Pumped 668 bbls (2360 sks) of ElastiCem tail @13.2ppg, 1.59ft3, 7.78gal/sack. Pre calculated mix gallons was 18,360 gal. Average rate was 8.5bpm with 1000 psi on the line. TOLC= 7,285'.
18	Check Weight	4/10/2023	08:07:15	Weight verified by Mud scales.
19	Shutdown	4/10/2023	09:21:49	Shutdown to swap over to wash up pit.
20	Clean Lines	4/10/2023	09:23:30	Washed pumps & lines with 20 bbls of water.
21	Drop Top Plug	4/10/2023	09:31:41	Top plug verified by DSR.
22	Pump Displacement	4/10/2023	09:31:58	Pumped 522.5 bbls of fresh water with 10 gal of biocide provided by rig & 80 gal of MMCR provided by HES. Average rate was 8bpm threw out.
23	Bump Plug	4/10/2023	10:44:47	FCP@ 4bpm was 3,000 psi bumped up to 3,500 psi.
24	Check Floats	4/10/2023	10:47:15	3,511 psi held before checking floats. 6 bbls back to pump truck. 49.5 bbls of cement to surface.
25	End Job	4/10/2023	10:47:34	Stop recording data. Washed rig stack with 30 bbls of freshwater with 100 lbs of sugar added.
26	Safety Meeting - Pre Rig-Down	4/10/2023	11:15:00	Discuss blow down and any new hazards that could have come up during job.
27	Rig-Down Completed	4/10/2023	11:45:00	Rig down completed.
28	Pre-Convoy Safety Meeting	4/10/2023	11:50:00	Fit for duty check and check road conditions.

29	Crew Leave Location	4/10/2023	12:00:00	Crew departs location. Thank you for using Halliburton.
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3.0 Attachments

3.1 iCem Real Time Job Chart

