

HALLIBURTON

iCem® Service

CRESTONE PEAK RESOURCES-EBUS

Ft. Lupton District, CO

Prosper Farms 4-65 2-1-6 1BH Production

Job Date: Wednesday, March 15, 2023

Sincerely,

Meghan Van Zyl

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 **Prosper Farms 4-65 2-1-6 1BH – 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 54 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 #:	05-005-07515
City, County:	Watkins, Arapahoe

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	03/15/23	05:00
Called Out Time:	03/14/23	22:45
Arrived On Location:	03/15/23	02:00
Job Started:	03/15/23	18:57
Job Completed:	03/15/23	23:21
Departed Location:	03/16/23	00:45

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	50
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	10.0
4	Casing set depth (shoe)	ft	24080'
5	TVD	ft	7727
6	Float collar depth	ft	24075
7	Length of rate hole	ft	14
8	Previous casing shoe depth	ft	3619
9	Pre-job mud circulation time	hh:mm	1:56
10	Pre-job mud circulation rate	bpm	11
11	Pre-job mud circulation volume	bbls	1032

12	Mud circulation pressure at start of cement	psi	1842
13	Annual flow before the start of job	Y/N	Y
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	533.7
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	95
18	Fluid returns to surface	Spacer/Cement, bbls	120/54
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	2600
20	Number of Centralizers	-	
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	69	F	60 - 80 F	Can pre-mature setting of cement
Chlorides	Less 200	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)
Spacer Fluid	11.5	120	3.83	24.16		4251
Cap Cement	13	171.02	1.67	8.25	575	4744
Lead Cement	13	262.25	1.55	7.16	950	6802
Tail Cement	13.2	654.14	1.59	7.78	2310	17972
Top Plug	1					
Displacement Fluid	8.33	533.7				

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq No.	Activity	Date	Time	Comments
1	Call Out	3/14/2023	22:45:00	CREW CALLED OUT 3/14/2023 2245 HRS. REQUESTED ON LOCATION 3/15/2023 0500 HRS.
2	Pre-Convoy Safety Meeting	3/15/2023	00:15:00	DISCUSS ROUTE AND HAZARDS OF DRIVING
3	Crew Leave Yard	3/15/2023	00:30:00	CREW LEAVES YARD
4	Arrive At Loc	3/15/2023	02:00:00	ARRIVE AT LOCATION. MEET WITH CUSTOMER. TD 24094, 20# P-110 SHOE 24080', F/C 24075', 8.75" HOLE TO 9456', 8.5" HOLE TO TD, TVD 7727', 36# J-55 SHOE 3619', OBM 10 PPG, WATER 69 DEGREES, PH 7, CHLORIDES LESS TAAN 200 PPM. MAX PSI 3200 PSI
5	Pre-Rig Up Safety Meeting	3/15/2023	02:30:00	DISCUSS RIG-UP AND ANY HAZARDS THAT MAY EXIST
6	Rig-Up Equipment	3/15/2023	02:35:00	RIG-UP EQUIPMENT
7	Pre-Job Safety Meeting	3/15/2023	18:30:00	DISCUSS JOB PROCEDURES AND HAZARDS OF JOB, PRESSURE AND HAZARDS OF HES EQUIPMENT. RIG CIRCULATES BOTTOMS UP 11 BPM/1842 PSI
8	Start Job	3/15/2023	18:57:44	
9	Start Job	3/15/2023	19:11:07	BEGIN RECORDING DATA
10	Drop Bottom Plug	3/15/2023	19:11:40	CITADEL BOTTOM PLUG BY MANNY
11	Test Lines	3/15/2023	19:14:24	TEST HES LINES 5250 PSI
12	Pump Spacer 1	3/15/2023	19:18:10	120 BBLS TUNED PRIME SPACER. 11.5 PPG, 3.83 YIELD, 24.16 GAL/SACK. MIX D-AIR ON FLY

13	Pump Cap Cement	3/15/2023	19:40:55	575 SACKS ELASTICEM CAP CEMENT. 171.02 BBLS. 13 PPG, 1.67 YIELD, 8.25 GAL/SACK TOCC=0'
14	Pump Lead Cement	3/15/2023	20:08:25	950 SACKS ISO-BOND LEAD CEMENT. 262.25 BBLS. 13 PPG, 1.55 YIELD, 7.16 GAL/SACK. TOLC=2451' PRE-JOB CALCULATIONS
15	Pump Tail Cement	3/15/2023	20:39:34	2310 SACKS ELASTICEM TAIL CEMENT. 654.14 BBLS. 13.2 PPG, 1.59 YIELD, 7.78 GAL/SACK. TOTC=8181' PRE-JOB CALCULATIONS.
16	Shutdown	3/15/2023	21:56:09	SHUTDOWN
17	Clean Lines	3/15/2023	21:59:04	CLEAN PUMPS AND LINES. APPROX 20 BBLS
18	Shutdown	3/15/2023	22:04:12	SHUTDOWN
19	Drop Top Plug	3/15/2023	22:05:14	CITADEL TOP PLUG BY MANNY
20	Pump Displacement	3/15/2023	22:06:16	533.7 BBLS FRESH WATER DISPLACEMENT. 1ST 20 BBLS HAS 10 GALLONS MICRO MATRIX CEMENT RETARDER. REMAINING HAS 10 GALLONS RIG PROVIDED BIOCID
21	Slow Rate	3/15/2023	23:05:36	RETURNS SLOWED AT 450 AWAY, SLOW RATE AT 460 BBLS TO 5 BBL/MIN
22	Bump Plug	3/15/2023	23:19:00	FCP 2600 PSI/4 BPM. BUMP 3100 PSI. APPROX 54 BBLS CEMENT SURFACE
23	Check Floats	3/15/2023	23:20:26	FLOATS HOLD. 6 BBLS BACK
24	End Job	3/15/2023	23:21:11	STOP RECORDING DATA. FLUSH RIG STACK 80 BBLS/100 LBS SUGAR. USED 50 GALLONS D-AIR TOTAL JOB. USED 1439 BBLS WATER TOTAL JOB
25	Pre-Rig Down Safety Meeting	3/15/2023	23:50:38	DISCUSS HAZARDS OF RIG-DOWN AND ANY OTHER HAZARDS THAT MAY EXIST
26	Rig-Down Equipment	3/15/2023	23:55:00	RIG-DOWN EQUIPMENT
27	Rig-Down Completed	3/16/2023	00:35:00	RIG-DOWN COMPLETED
28	Crew Leave Location	3/16/2023	00:45:00	CREW DEPARTS LOCATION. THANK YOU FOR CHOOSING HALLIBURTON.

3.0 Attachments

3.1 Real Time iCem Job Chart

