

HALLIBURTON

iCem[®] Service

CRESTONE PEAK RESOURCES-EBUS

Ft. Lupton District, CO

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

Job Date: Wednesday, March 29, 2023

Sincerely,

Meghan Van Zyl

Legal Notice

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Table of Contents

Cementing Job Summary	4
Executive Summary	4
Job Overview	5
Water Field Test	7
Actual Pump Schedule	7
Real-Time Job Summary	8
Job Event Log	8
Attachments	10
Real Time iCem Job Chart	10

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 2BH - 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 #:	005-07514-00
City, County:	WATKINS, ARAPAHOE

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	03/29/2023	0700
Called Out Time:	3/29/2023	0100
Arrived On Location:	3/29/2023	0500
Job Started:	3/29/2023	1824
Job Completed:	3/29/2023	2230
Departed Location:	3/29/2023	2359

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	30
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	9.7
4	Casing set depth (shoe)	ft	23981
5	TVD	ft	7702
6	Float collar depth	ft	23976
7	Length of rate hole	ft	4
8	Previous casing shoe depth	ft	3327
9	Pre-job mud circulation time	hh:mm	1:30
10	Pre-job mud circulation rate	bpm	12
11	Pre-job mud circulation volume	bbls	1026

12	Mud circulation pressure at start of cement	psi	700
13	Annual flow before the start of job	Y/N	Y
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	531.5
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	3100
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	52	F	60 - 80 F	Can 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	245.69	1.55	7.16	890	6373
Tail Cement	13.2	656.98	1.59	7.78	2320	18050
Top Plug	1					
Displacement Fluid	8.33	531.5				

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq No.	Activity	Date	Time	Comments
1	Pre-Convoy Safety Meeting	3/28/2023	21:00:00	DISCUSS ROUTE AND HAZARDS OF DRIVING
2	Call Out	3/29/2023	01:00:00	CREW CALLED OUT 3/29/2023 2000 HRS. REQUESTED ON LOCATION 3/29/2023 0700 HRS.
3	Crew Leave Yard	3/29/2023	03:30:00	CREW LEAVES YARD
4	Arrive At Loc	3/29/2023	05:00:00	ARRIVE AT LOCATION. MEET WITH CUSTOMER TD 23985', 20# P-110 SHOE 23981', F/C 23976', 8.75" HOLE TO 9139', 8.5" HOLE 9139-23985', TVD 7702', 36# J-55 SHOE 3327', 9.7 PPG OBM,
5	Pre-Rig Up Safety Meeting	3/29/2023	10:00:00	DISCUSS RIG-UP AND ANY HAZARDS THAT MAY EXIST
6	Rig-Up Equipment	3/29/2023	10:05:00	RIG-UP EQUIPMENT
7	Start Job	3/29/2023	17:43:55	BEGIN RECORDING DATA
8	Pre-Job Safety Meeting	3/29/2023	18:00:00	DISCUSS JOB PROCEDURES AND HAZARDS OF JOB, PRESSURE AND HAZARDS OF HES EQUIPMENT. RIG CIRCULATES 12 BPM/2100 PSI BOTTOMS UP
9	Start Job	3/29/2023	18:24:41	BEGIN RECORDING DATA
10	Drop Bottom Plug	3/29/2023	18:24:55	CITADEL BOTTOM PLUG BY DANNY
11	Test Lines	3/29/2023	18:26:58	TEST HES LINES 4560 PSI
12	Pump Spacer 1	3/29/2023	18:31:38	120 BBLS TUNED PRIME SPACER. 11.5 PPG, 3.83 YIELD, 24.16 GAL/SACK. MIX D-AIR ON FLY

13	Pump Cap Cement	3/29/2023	18:52:57	575 SACKS ELASTICEM CAP CEMENT. 171.02 BBLS. 13 PPG, 1.67 YIELD, 8.25 GAL/SACK. TOCC=0'
14	Pump Lead Cement	3/29/2023	19:14:00	890 SACKS ISO BOND LEAD CEMENT. 245.69 BBLS, 13 PPG, 1.55 YIELD, 7.16 GAL/SACK. TOLC=2586' PRE-JOB CALCULATIONS
15	Pump Tail Cement	3/29/2023	19:43:41	2320 SACKS ELASTICEM TAIL CEMENT. 656.98 BBLS. 13.2 PPG, 1.59 YIELD, 7.78 GAL/SACK. TOTC=7999' PRE-JOB CALCULATIONS
16	Shutdown	3/29/2023	21:04:12	SHUTDOWN
17	Clean Lines	3/29/2023	21:06:26	CLEAN PUMPS AND LINES. APPROX 19 BBS
18	Shutdown	3/29/2023	21:13:15	SHUTDOWN
19	Drop Top Plug	3/29/2023	21:14:00	CITADEL TOP PLUG BY DANNY
20	Pump Displacement	3/29/2023	21:14:05	531.5 BBLS. FRESH WATER DISPLACEMENT. 1ST 20 BBLS HAS 10 GALLONS MICRO MATRIX CEMENT RETARDER. REMAINING DISPLACEMENT HAS 10 GALLONS BIOCIDES PROVIDED BY RIG
21	Slow Rate	3/29/2023	22:23:17	SLOW RATE 4 BPM/500 BBLS
22	Bump Plug	3/29/2023	22:28:15	FCP 3100 PSI/4 BPM, BUMP PRESSURE 3600 PSI. 120 BBLS SPACER AND 47 BBLS CEMENT TO SURFACE
23	Check Floats	3/29/2023	22:29:31	FLOATS HOLD/6.5 BBLS BACK
24	End Job	3/29/2023	22:30:55	STOP RECORDING DATA. FLUSH RIG STACK 80 BBLS WATER AND 100 LBS SUGAR. USED APPROX 1429 BBLS WATER TOTAL JOB/FLUSH STACK
25	Pre-Rig Down Safety Meeting	3/29/2023	23:10:00	DISCUSS HAZARDS OF RIG-DOWN AND ANY OTHER HAZARDS THAT MAY EXIST
26	Rig-Down Equipment	3/29/2023	23:15:00	RIG-DOWN EQUIPMENT
27	Rig-Down Completed	3/29/2023	23:50:00	RIG-DOWN COMPLETED
28	Crew Leave Location	3/29/2023	23:59:00	CREW DEPARTS LOCATION. THANK YOU FOR CHOOSING HALLIBURTON.

3.0 Attachments

3.1 Real Time iCem Job Chart

