

HALLIBURTON

iCem[®] Service

CRESTONE PEAK RESOURCES-EBUS

Ft. Lupton District, Colorado

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

Job Date: Wednesday, March 22, 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 2AH – 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 57 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 #:	05-005-07517
City, County:	Watkins, Arapahoe

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	3/21/2023	15:00
Called Out Time:	3/21/2023	09:00
Arrived On Location:	3/21/2023	15:00
Job Started:	3/22/2023	04:00
Job Completed:	3/22/2023	09:45
Departed Location:	3/22/2023	14:00

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	28
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	10.1
4	Casing set depth (shoe)	ft	23,918
5	TVD	ft	7,652
6	Float collar depth	ft	23,913
7	Length of rate hole	ft	5
8	Previous casing shoe depth	ft	3,613
9	Pre-job mud circulation time	hh:mm	2
10	Pre-job mud circulation rate	bpm	10
11	Pre-job mud circulation volume	bbls	1,700

12	Mud circulation pressure at start of cement	psi	650
13	Annual flow before the start of job	Y/N	Yes
14	Pipe movement during cement job	Y/N	No
15	Calculated displacement	bbls	530
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100%
18	Fluid returns to surface	Spacer/Cement, bbls	120 / 56
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	2,450 @ 4
20	Number of Centralizers	-	350
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	50 F	F	60 - 80 F	Can can pre-mature setting of cement
Chlorides	0	ppm	3000 ppm	Can shorten thickening time

1.4 Actual Pump Schedule

	Density (ppg)	Volume (bbls)	Yield (ft3/sk)	Water Requirement (gal/sk)	Bulk Sacks (sks)	Total Water (gals)
Spacer Fluid	11.5	120	3.83	24.16	175	4250
Cap Cement	13	171	1.67	8.25	575	4,744
Lead Cement	13	258	1.55	7.16	935	6,695
Tail Cement	13.2	650	1.59	7.78	2295	17,855
Top Plug						
Displacement Fluid	8.33	530				530

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq No.	Activity	Date	Time	Comments
1	Call Out	3/21/2023	09:00:00	CREW CALLED OUT MARCH 22, 2023 @ 9:00, REQUESTED ON LOCATION @ 15:00. CREW WAS IN A SAFTEY MEETING.
2	Arrive At Loc	3/21/2023	15:00:00	MET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9.625" 36 LB/FT @ 3,613', 5.5" CASING: 20 LB/FT TOTAL 23,918', 8.75" OH FROM 3,613' TO 9,137', TD 23,941', TVD- 7,652', SHOE TRAC 5', 350 CENTRALIZERS. CITADEL FLOAT EQUIPMENT TOP AND BOTTOM PLUG, WF 10.1 LB. RIG LANDED CASING @ 1:00 AM AND CIRCULATED TILL 4:00 AM
3	Pre-Rig Up Safety Meeting	3/21/2023	17:00:00	HELD PRE-RIG UP SAFTY MEETING.
4	Rig-Up Equipment	3/21/2023	17:30:00	RIGGED UP ALL LINES PUMPS AND EQUIPMENT FOR THE JOB.
5	Rig-Up Completed	3/21/2023	19:00:00	CREW WAS RIGGED UP AND READY TO SART THE JOB.
6	Pre-Job Safety Meeting	3/22/2023	04:30:00	HELD PRE JOB SAFTY-MEETING WITH ALL AFECTED AND APPLICABAL PERSONELL ON LOCTION.
7	Start Job	3/22/2023	05:13:00	BEGIN RECORDING JOB DATA.
8	Pressure Test	3/22/2023	05:18:13	PRESSURE TESTED IRON TO 4:500 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 800 PSI, 5TH GEAR STALL OUT @ 2,500 PSI.
9	Pump Spacer	3/22/2023	05:25:37	PUMP 120 BBLS OF TUNED PRIME SPACER @ 11.5 LB/GAL, 3.83 FT3/SK, 24.16 GAL/SK. INJECTED 15 GALLONS D-AIR ON THE FLY, DRY SURFACTANTS MIXED IN WITH BLEND. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 7 BBLS/MIN @ 850 PSI.

10	Pump Cap Cement	3/22/2023	05:44:21	PUMPED 575 SKS OF ELASTICEM CAP @ 13.0 LB/GAL, 1.67 FT3/SK, 8.25 GAL/SK. 171 BBLS, HOC CALCULATED @ 2,439', TOC CALCULATED @ SURFACE GETTING 54 BBLS BACK TO SURFACE. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 7 BBLS/MIN 350 PSI.
11	Pump Lead Cement	3/22/2023	06:16:25	PUMPED 935 SKS OF ISOBOND LEAD @ 13.0 LB/GAL, 1.55 FT3/SK, 7.16 GAL/SK. 258.BBLS, HOL CALCULATED @ 5,660', TOL CALCULATED @ 2,439'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN 525 PSI.
12	Pump Tail Cement	3/22/2023	06:48:41	PUMPED 2295 SKS OF ELASTICEM TAIL @ 13.2 LB/GAL, 1.59 FT3/SK, 7.78 GAL/SK. 650 BBLS. HOT CALCULATED @ 15,819, TOL CALCULATED @ 8,098'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 9 BBLS/MIN 520 PSI.
13	Drop Top Plug	3/22/2023	08:07:35	PLUG LOADED BY CUSTOMER.
14	Clean Lines	3/22/2023	08:10:31	WASH LINES WITH 20 BBLS FRESH WATER PRIOR TO DROPPING PLUG.
15	Pump Displacement	3/22/2023	08:20:50	BEGIN CALCULATED DISPLACEMENT OF 530 BBLS FRESH WATER WITH 10-GALS MMCR IN FIRST 20 BBLS. SPACER TO SURFACE @ 356 AWAY, MUD ENGINEER OVERBOARDED AT 300 BBLS INTO DISPLACEMENT. CEMENT TO SURFACE @ 476 BBLS AWAY WITH TOTAL OF 54 BBLS CEMENT TO SURFACE. PUMP RATE 8 BBLS/MIN @ 3,200 PSI.
16	Bump Plug	3/22/2023	09:44:55	PLUG BUMPED AT CALCULATED DISPLACEMENT. FINAL CIRCULATING PRESSURE 2,950 PSI PRESSURED 500 PSI OVER BUMP.
17	Check Floats	3/22/2023	09:47:30	RELEASED PRESSURE, FLOATS HELD, 4.5 BBLS BACK.
18	End Job	3/22/2023	09:48:00	STOP RECORDING JOB DATA.
19	Rig-Down Equipment	3/22/2023	10:00:00	CREW HELD PRE RIG DOWN MEETINMG, BLEW DOWN ALL CEMENT EQUIPMENT, AND RIGGED DOWN ALL LINES HOSES AND EQUIPMENT.
20	Rig-Down Completed	3/22/2023	11:30:00	CREW SECURED AND STOWED ALL LOSE ITEMS AND EQUIPMENT ONTO AND IN VEHICALS.
21	Crew Leave Location	3/22/2023	14:00:00	CREW DEPARTED BACK TO THE YARD.

3.0 Attachments

3.1 Real Time iCem Job Chart

