

HALLIBURTON

iCem[®] Service

CRESTONE PEAK RESOURCES

Ft. Lupton District, CO

SKY RANCH 4-65 10-9-8-7 1BH Production

Arapahoe County

Job Date: Wednesday, October 04, 2023

Sincerely,

Rafael Giorgana

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.....	11
Sky Ranch 4-65 10-9-8-7 1BH-JOB CHART.png	Error! Bookmark not defined.

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Sky Ranch 4-65 10-9-8-7 1BH PRODUCTION CEMENT CASING**. 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.

- **30 bbls of cement Returns 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 #:	05-005-07538-00
City, County:	WATKINS, ARAPAHOE COUNTY
SO#:	908884183

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	10/4/2023	1200
Called Out Time:	10/4/2023	0600
Arrived On Location:	10/4/2023	1115
Job Started:	10/4/2023	2004
Job Completed:	10/5/2023	0047
Departed Location:	10/5/2023	0230

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	67
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	9.3
4	Casing set depth (shoe)	ft	28914'
5	TVD	ft	7910'
6	Float collar depth	ft	28916'
7	Length of rate hole	ft	10'
8	Previous casing shoe depth	ft	3359'
9	Pre-job mud circulation time	hh:mm	03:00
10	Pre-job mud circulation rate	bpm	10

11	Pre-job mud circulation volume	bbls	1149+
12	Mud circulation pressure at start of cement	psi	1840
13	Annual flow before the start of job	Y/N	Y
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	759
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	120/30
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	3200
20	Number of Centralizers	-	
21	Number of bottom plugs	-	1
22	Number of trucks used preparing/during job	-	?/2
23	Add hours? If Yes, put #	Y/N and hours	5
24	NPT? If Yes, put #	Y/N and hours	N

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	66	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

Stage 1

	Density (ppg)	Volume (bbls)	Yield (ft3/sk)	Water Requirement (gal/sk)	Bulk Sacks (sks)	Total Water (gals)
Spacer Fluid	11.5	120	2.57	16.21		4250
Cap Cement	13	191	1.65	8.07	650	5246
Lead Cement	13	180	1.58	7.43	640	4756
Tail Cement	13.2	823.8	1.56	7.51	2965	22267
Top Plug	1					
Displacement Fluid	8.33	759				

List of materials returned to yard:0

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq No.	Activity	Date	Time	Comments
1	Call Out	10/4/2023	06:00:00	CREW CALLED OUT 10/4/2023 0600 HRS. REQUESTED ON LOCATION 10/4/2023 1200 HRS.
2	Pre-Convoy Safety Meeting	10/4/2023	09:30:00	DISCUSS ROUTE AND HAZARDS OF DRIVING
3	Crew Leave Yard	10/4/2023	10:00:00	CREW LEAVES YARD
4	Rig-Up Equipment	10/4/2023	10:05:00	RIG-UP EQUIPMENT
5	Arrive At Loc	10/4/2023	11:15:00	ARRIVE AT LOCATION. MEET WITH CUSTOMER
6	Pre-Rig Up Safety Meeting	10/4/2023	12:00:00	DISCUSS RIG-UP AND ANY HAZARDS THAT MAY EXIST
7	Pre-Job Safety Meeting	10/4/2023	19:30:00	DISCUSS JOB PROCEDURES AND HAZARDS OF JOB, PRESSURE AND HAZARDS OF HES EQUIPMENT. RIG CIRCULATES BOTTOMS UP PLUS. 10 BPM/1840 PSI. PRESSURE DID FLATLINE ON PASON WHEN RIG HANDED OVER TO HES.
8	Start Job	10/4/2023	19:56:04	MIX UP SPACER
9	Start Job	10/4/2023	20:04:06	START RECORDING DATA
10	Drop Bottom Plug	10/4/2023	20:06:47	CITADEL 1000 PSI RUPTURE BOTTOM PLUG VERIFIED BY JOSH KLEISEN
11	Test Lines	10/4/2023	20:07:18	TEST HES LINES TO 5300 PSI

12	Pump Spacer 1	10/4/2023	20:14:06	120 BBLs TUNED PRIME SPACER. 11.5 PPG. 6 BPM/900 PSI. MIX D-AIR ON FLY
13	Pump Cap Cement	10/4/2023	20:34:08	650 SACKS ELASTICEM CAP CEMENT. 191 BBLs. 13 PPG. 8 BPM/520 PSI. TOCC=0'
14	Pump Lead Cement	10/4/2023	20:58:45	640 SACKS SBM FDP-C1371 SYS LEAD CEMENT. 180 BBLs. 13 PPG. 8.5 BPM/700 PSI TOLC=3442' PRE-JOB CALCULATIONS
15	Pump Tail Cement	10/4/2023	21:22:28	2965 SACKS ELASTICEM TAIL CEMENT. 823.8 BBLs. 13.2 PPG. 9.3 BPM/720 PSI. TOTC=8013' PRE-JOB CALCULATIONS
16	Shutdown	10/4/2023	22:58:41	SHUTDOWN
17	Clean Lines	10/4/2023	23:04:14	CLEAN PUMPS AND LINES. APPROX 14 BBLs
18	Shutdown	10/4/2023	23:08:55	SHUTDOWN
19	Drop Top Plug	10/4/2023	23:11:06	CITADEL TOP PLUG FOLLOWED BY 2 FOAM BALLS VERIFIED BY JOSH KLIESEN
20	Pump Displacement	10/4/2023	23:11:32	759 BBLs DISPLACEMENT. 1ST 540 BBLs HAS 100 GALLONS MICRO MATRIX CEMENT RETARDER TO COVER WELLBOSS 10K TOE SLEEVE @ 28893.1' AND WELLBOSS 10K TOE SLEEVE @ 28878' AND 121 POCKET PLUGS FROM 28914' TO 8396'.
21	Bump Plug	10/5/2023	00:41:24	FCP 3200 PSI/4 BPM. BUMP PRESSURE 3700 PSI
22	Check Floats	10/5/2023	00:45:20	FLOATS HOLD, 10 BBLs BACK. APPROX 30 BBLs CAP CEMENT TO SURFACE.
23	End Job	10/5/2023	00:47:39	STOP RECORDING DATA. FLUSH RIG STACK W/20 BBLs WATER/100 LBS SUGAR. TOTAL JOB WATER APPROX 1667 BBLs
24	Pre-Rig Down Safety Meeting	10/5/2023	01:07:37	DISCUSS HAZARDS OF RIG-DOWN AND ANY OTHER HAZARDS THAT MAY EXIST

25	Rig-Down Equipment	10/5/2023	01:15:14	RIG-DOWN EQUIPMENT
26	Rig-Down Completed	10/5/2023	02:11:57	RIG-DOWN COMPLETED
27	Crew Leave Location	10/5/2023	03:00:00	CREW DEPARTS LOCATION. THANK YOU FOR CHOOSING HALLIBURTON.

3.0 Attachments

3.1 Real Time Job Chart

Civitas Sky Ranch 4-65 10-9-8-7 1BH Cement 6" Production Casing

