

HALLIBURTON

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CIVITAS RESOURCES-EBUS

For: Civitas Resources

Date: Friday, August 16, 2024

LUSSING TRUST 4-64 19-20 2BH Production

API: 05-005-07566

Job Date: Sunday, August 11, 2024

Sincerely,

ANDREW GLOVER & Juan H Martinez

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Lussing Trust 4-64 19-20 2BH – 5.5in Production 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.

This space is provided to enter in a brief summary of the job. Below are some important items to discuss:

- **Quality of circulation – Prejob 100% , While pumping Cement 100%, While Pumping Displacement 100%**
- **Final Circulating Pressure and Pump Rate 2500 @ 4**
- **Returns to Surface 55 BBLs CMT**
- **Any deviation from plan NO**
- **Abnormalities on job chart NO**

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 #:	05-005-07566-00
City, County:	WATKINS,ARAPAHOE
SO#:	909516943

Job Times		
	Date (mm/dd/yyyy)	Time (hh:mm)
Requested Time On Location:	8/11/24	0:30
Called Out Time:	8/10/24	18:30
Arrived On Location:	8/10/24	23:45
Job Started:	8/11/24	3:30
Job Completed:	8/11/24	7:00
Departed Location:	8/11/24	8:30

	Description	Units	Value
1	Surface temperature at the time of the job	degree F	65
2	Mud type (OBM, WBM, Synthetic, Water, Brine)	-	OBM
3	Mud density	ppg	9.2
4	Casing set depth (shoe)	ft	18246
5	TVD	ft	7680
6	Float collar depth	ft	18241
7	Length of rate hole	ft	22
8	Previous casing shoe depth	ft	3330
9	Pre-job mud circulation time	hh:mm	1:30
10	Pre-job mud circulation rate	bpm	11

11	Pre-job mud circulation volume	bbls	990
12	Mud circulation pressure at start of cement	psi	1160
13	Annual flow before the start of job	Y/N	N
14	Pipe movement during cement job	Y/N	N
15	Calculated displacement	bbls	405
16	Job displaced by	Rig/HES	HES
17	Estimated returns % during job	%	100
18	Fluid returns to surface	Spacer/Cement, bbls	CMT,55
19	Final circulation pressure, rate prior to plug bump	psi @ bpm	2500 @ 4
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	N
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	6		6.0 - 8.0	Chemicals in water can cause severe retardation
Temperature	65	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

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	16.2	262	4242
Cap Cement	13	200.4	1.65	8.02	682	5460
Lead Cement	13	193	1.58	7.38	685	5040
Tail Cement	13.2	424	1.56	7.5	1525	11424
Top Plug						
Displacement Fluid	8.4	405				17010

List of materials returned to yard:

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq No.	Activity	Graph Label	Date	Time	Source	Cmb Pump Rate (bbl/min)	Cmb Stg Total (bbl)	Dwnhole Density (ppg)	Pump A Pressure (psi)	Comments
Event	1	Summit Crew Notified Date/Time	Crew Notified Date/Time	8/10/2024	18:30:28	USER					Crew called out for CIVITAS Production
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	8/10/2024	20:30:29	USER					Discussed route and possible hazards
Event	3	Depart Location for Service Center or Other Site	Depart Location for Service Center or Other Site	8/10/2024	20:45:32	USER					Depart yard w/ 1 pump, 660, 2 pickups and 5 personnel.
Event	4	Arrive at Location from Service Center	Arrive at Location from Service Center	8/10/2024	23:45:33	USER					Requested on location @ 1230
Event	5	Safety Meeting - Assessment of Location	Safety Meeting - Assessment of Location	8/10/2024	23:55:34	USER					Discussed location and possible hazards. Water test: Temp - 65, Chlorides - 0, PH - 6, Sulfates - <200. 8 1/2 TD @ 18268'. Production casing set @ 18246'. 5.5" 20# P110, ST - 5' .0222 bbl/ft. CSG/OH - .0408 bbl/ft. CSG/CSG - .0479 bbl/ft. 9 5/8" 36# J55 set @ 3330'. TVD @ 7680'. Mud Weight - 9.2 ppg

Event	6	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	8/11/2024	00:15:34	USER						Discussed rig up and possible hazards.
Event	7	Rig-up Lines	Rig-up Lines	8/11/2024	00:25:46	USER						Rig up equipment
Event	8	Casing on Bottom	Casing on Bottom	8/11/2024	01:45:03	USER						
Event	9	Circulate Well	Circulate Well	8/11/2024	02:15:20	USER	0.00	0.00	0.00	5.79		Rig circulating well 11 bpm @ 1160 psi
Event	10	Safety Meeting - Pre Job	Safety Meeting - Pre Job	8/11/2024	03:05:32	USER	0.00	0.00	8.45	2.56		Discussed job and possible hazards with everyone on location.
Event	11	Start Job	Start Job	8/11/2024	03:25:50	NONE	0.00	0.00	8.23	4.11		
Event	12	Drop Bottom Plug	Drop Bottom Plug	8/11/2024	03:26:54	USER	3.00	1.31	8.38	215.15		
Event	13	Pump Spacer 1	Fill Lines	8/11/2024	03:27:55	USER	0.00	3.06	8.33	61.17		Pumped 3 bbls of FW
Event	14	Pressure Test	Pressure Test	8/11/2024	03:28:00	USER	0.00	3.06	8.33	55.95		Test lines to 6500 psi
Event	15	Pump Spacer 1	Pump Tuned Spacer	8/11/2024	03:32:47	USER	0.00	0.00	8.31	7.95		Pumped 120 bbls of 11.5 ppg of Tuned Spacer. 2.57 cuft/sk and 16.2 gal/sk. Verified weight with pressurized mud scales.
Event	16	Check Weight	Check Weight	8/11/2024	03:37:19	NONE	4.19	17.22	11.48	200.07		
Event	17	Pump Lead Cement	Pump Cap Cement	8/11/2024	03:57:02	USER	3.29	116.03	11.55	34.89		Pumped 200.4 bbls of 13 ppg Elasticem. 682 sks, 1.65 cuft/sk, and 8.02 gal/sk. Verified weight with pressurized mud scales.
Event	18	Check Weight	Check Weight	8/11/2024	04:02:07	NONE	5.94	23.70	13.05	354.78		

Event	19	Pump Lead Cement	Pump Lead Cement	8/11/2024	04:27:56	USER	4.18	1.61	12.95	205.00	Pumped 193 bbls of 13 ppg Isobond cmt. 685 sks, 1.58 cuft/sk, and 7.38 gal/sk. Verified weight with pressurized mud scales. Estimated TOC @ 3152.55'
Event	20	Check Weight	Check Weight	8/11/2024	04:36:47	NONE	5.97	54.14	13.06	423.69	
Event	21	Pump Tail Cement	Pump Tail Cement	8/11/2024	04:58:24	USER	4.19	200.1 2	12.93	242.32	Pumped 424 bbls of 13.2 ppg Elasticem. 1525 sks, 1.56 cuft/sk, and 7.5 gal/sk. Verified weight with pressurized mud scales. Estimated TOC @ 7853.84'
Event	22	Check Weight	Check Weight	8/11/2024	05:02:19	NONE	7.77	1.42	13.18	595.37	
Event	23	Check Weight	Check Weight	8/11/2024	05:09:21	NONE	7.69	55.81	13.21	570.30	
Event	24	Check Weight	Check Weight	8/11/2024	05:28:18	NONE	7.66	197.0 9	13.20	573.77	
Event	25	Shutdown	Shutdown/Flush Lines	8/11/2024	06:03:08	USER	0.00	416.1 9	13.25	16.44	
Event	26	Drop Top Plug	Drop Top Plug	8/11/2024	06:11:40	USER	1.33	0.04	8.32	15.08	3rd party rupture plug
Event	27	Pump Displacement	Pump Displacement	8/11/2024	06:12:42	USER	9.98	8.58	8.52	406.71	Pumped 405 bbls of displacement. 1st 20 bbls FW w/ MMCR FW w/ Chemicals
Event	28	Bump Plug	Bump Plug	8/11/2024	06:58:17	USER	3.99	394.3 7	8.69	2542.07	Bump plug 2500 - 3100 psi
Event	29	Check Floats	Check Floats	8/11/2024	07:01:32	USER	0.00	396.3 8	8.51	21.77	Floats are good. Got 4.5 bbls back.

Event	30	End Job	End Job	8/11/2024	07:02:44	NONE	0.00	0.00	8.50	0.45	Got 55 bbls of cement back to surface
Event	31	Pre-Rig Down Safety Meeting	Pre-Rig Down Safety Meeting	8/11/2024	07:15:24	USER					
Event	32	Rig-Down Equipment	Rig-Down Equipment	8/11/2024	07:30:40	USER					
Event	33	Depart Location Safety Meeting	Depart Location Safety Meeting	8/11/2024	08:15:47	USER					
Event	34	Depart Location	Depart Location	8/11/2024	08:30:56	USER					Thank you for using Halliburton cement. Andrew Glover and crew.

3.0 Attachments

3.1 Civitas - Patterson 572 - LUSSING TRUST 4-64 19-20 2BH- 5.5in Production Casing – Job Summary

