

HALLIBURTON

iCem® Service

CRESTONE PEAK RESOURCES -EBUS

Lone Tree 4-65 15-16 3CH Production

Job Date: Wednesday, November 16, 2022

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 **Lone Tree 4-65 15-16 3CH** cement **Production** casing job. 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 55 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 Fort Lupton

Sold To #: 324725		Ship To #: 9144835		Quote #:		Sales Order #: 0908233813	
Customer: CRESTONE PEAK RESOURCES-EBUS				Customer Rep:			
Well Name: LONE TREE 4-65 15-16			Well #: 3CH			API/UWI #: 05-005-07501	
Field:		City (SAP): WATKINS		County/Parish: ARAPAHOE		State: COLORADO	
Legal Description:							
Contractor: PATTERSON-UTI ENERGY				Rig/Platform Name/Num: PATTERSON 572			
Job BOM: 7523 7523							
Well Type: OIL							
Sales Person: HALAMERICA\HX41066				Srvc Supervisor: Nicholas Roles			
Job							

Formation Name							
Formation Depth (MD)	Top				Bottom		
Form Type				BHST			
Job depth MD	18408ft			Job Depth TVD			
Water Depth				Wk Ht Above Floor			
Perforation Depth (MD)	From				To		

Well Data										
Description	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Casing		9.625	8.835	40			0	3464	0	3464
Casing	0	5.5	4.892	17			0	18408	0	8049
Open Hole Section			8.5				3464	18416	3464	8049

Tools and Accessories									
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	5.5					Top Plug	5.5	1	CITADEL
Float Shoe	5.5			18408		Bottom Plug	5.5	1	CITADEL
Float Collar	5.5			18403		SSR plug set	5.5		HES
Insert Float	5.5					Plug Container	5.5	1	HES
Stage Tool	5.5					Centralizers	5.5		HES

Fluid Data									
Stage/Plug #: 1									
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Tuned Prime	TUNED PRIME CEMENT SPACER SYS	50	bbl	11.5	3.74	23.64	6	1775

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
2	ElastiCem	SBM CEM ELASTICEM™ SYS	575	sack	13	1.66	8.32	9	4732
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	IsoBond(tm)	SBM CEM FDP-C1371 SYS	815	sack	13	1.55	7.14	9	5819
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	ElastiCem	SBM CEM ELASTICEM™ SYS	1535	sack	13.2	1.59	7.78	9	11942
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
5	MMCR Displacement	MMCR Displacement	427	bbl	8.33			10	17934
0.10 gal/bbl		MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)							
Comment Total fresh water used-1050bbbls									

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq No.	Activity	Date	Time	Dwnhole Density (ppg)	Cmb Pump Rate (bbl/min)	Pump A Pressure (psi)	Cmb Stg Total (bbl)	Comments
1	Call Out	11/15/2022	08:00:00					Called out by service coordinator for OL time of 0800.
2	Pre-Convoy Safety Meeting	11/15/2022	12:45:00					Discuss all hazards associated with journey, directions to destination, complete journey management if needed, and ensure all convoy is fit for duty.
3	Depart from Service Center or Other Site	11/15/2022	13:00:00					Depart from service center or other job site.
4	Arrive at Location from Service Center	11/15/2022	15:00:00					Upon arrival to location, signed in with onsite safety personnel. Met with company man and discussed job specific requirements and specifications.
5	Other	11/15/2022	15:15:00					Mix water test results- PH-7, Chlo-0, Temp-65F.
6	Pre-Rig Up Safety Meeting	11/15/2022	15:15:00					Held pre rig up JSA for hazards, hazard hunt with crew, and discussed plan for spotting equipment and rigging up lines for job. Discussed muster points and closest emergency location as well as coordinates.
7	Rig-Up Equipment	11/15/2022	15:30:00					Begin rig up with crew.
8	Rig-Up Completed	11/15/2022	16:15:00					Complete rig up for job to nearest point before red zone.
9	Safety Meeting - Pre Job	11/15/2022	22:00:00	0.00	0.00	22.31	0.93	Held job specific hazards as well as confirming job procedure with co man and rest of crew associated with job.

10	Start Job	11/15/2022	22:25:37	8.71	0.00	28.75	0.00	TD-18416', OH-8.5", TP-18408' 5.5" 17#, FC-18403', TVD-8049', SURF-3464' 9.625" 40#, MUD 9.2#
11	Drop Bottom Plug	11/15/2022	22:26:11	8.89	2.77	308.39	1.28	Dropped by HES supervisor, witnessed by company man.
12	Test Lines	11/15/2022	22:27:01	8.30	0.00	367.04	3.01	Pumped 5bbls fresh water to fill lines at 4bpm 320psi, shut manifold, and performed 500psi k/o function test, followed with 5th gear stall at 1800psi, proceeded to bring pressure to 5000psi, pressure stabilized and held with no leaks.
13	Pump Spacer 1	11/15/2022	22:36:14	8.11	0.00	5.43	0.00	Pumped 50bbls of 11.5# 3.74y 23.64g/s FDP Spacer with 10g D-air at 6bpm 447psi.
14	Pump Cap Cement	11/15/2022	22:47:27	12.25	5.45	391.59	0.05	Pumped 575sks or 170bbls of 13# 1.66y 8.23g/s Elasticem at 9bpm 498psi. Calc mix gal=4732g
15	Check Weight	11/15/2022	23:07:33	13.02	8.58	556.08	169.50	Weight verified with pressurized mud scales.
16	Pump Lead Cement	11/15/2022	23:09:50	12.97	9.02	1110.38	0.08	Pumped 815sks 225bbls 13# 1.55y 7.14g/s Gasstop at 9bpm _psi. Calc mix gal=5819g
17	Check Weight	11/15/2022	23:16:05	13.06	9.05	1074.03	56.92	Weight verified with pressurized mud scales.
18	Check Weight	11/15/2022	23:25:09	13.58	8.52	1168.65	126.53	Weight verified with pressurized mud scales.
19	Check Weight	11/15/2022	23:36:36	12.84	6.32	570.66	186.16	Weight verified with pressurized mud scales.
20	Pump Tail Cement	11/15/2022	23:43:37	12.66	5.81	384.70	0.10	Pumped 1535sks or 435bbls 13.2# 1.59y 7.78g/s Elasticem at 9bpm 850psi. Calculated mix gal=11942g.
21	Check Weight	11/15/2022	23:56:13	13.16	8.47	771.30	106.77	Weight verified with pressurized mud scales.
22	Shutdown	11/16/2022	00:05:34	13.38	4.06	718.37	186.80	Shutdown due to leak at standpipe. Fixed leak and continued to pump cement.
23	Shutdown	11/16/2022	00:51:36	12.22	0.00	43.31	461.00	Shutdown, washed up through pumps and lines with fresh water. Pumped total of 15bbls until clean.
24	Drop Top Plug	11/16/2022	01:04:30	7.76	0.00	22.71	14.12	Dropped by HES supervisor, witnessed by company man.

25	Pump Displacement	11/16/2022	01:04:33	7.76	0.00	23.13	0.00	Pumped 427bbls fresh water at 10bpm.
26	Bump Plug	11/16/2022	01:53:28	8.73	0.00	3109.84	425.18	Slowed down at 400bbls away to 4bpm, final circulating pressure-2640psi. Bump pressure-3150psi.
27	Other	11/16/2022	01:55:17	8.70	0.00	3173.83	425.18	Released pressure and got 5bbls back. Floats held.
28	End Job	11/16/2022	01:56:57	8.49	0.00	48.88	425.18	Got 55bbls Cement to surface. Est TOT-7746', TOL-2386'. Total fresh water used-1050bbls
29	Pre-Rig Down Safety Meeting	11/16/2022	02:00:00					Held safety meeting with crew prior to rig down, discussed possibility of trapped pressure, swing radius, slips trips and falls, pinch points and risks associated with rig down.
30	Rig Down Lines	11/16/2022	02:15:00					Begin rig down
31	Rig-Down Completed	11/16/2022	03:45:00					Rig down complete with no injuries, spills or damage to equipment.
32	Pre-Convoy Safety Meeting	11/16/2022	03:45:00					Held safety meeting with convoy, discussed trip hazards, directions and all crew fit for duty prior to departure.
33	Depart Location for Service Center or Other Site	11/16/2022	04:00:00					Depart location, if applicable journey will be submitted.

3.0 Attachments

3.1 Real Time iCem Job Chart

