

HALLIBURTON

iCem[®] Service

CRESTONE PEAK RESOURCES-EBUS

Lone Tree 4-65 15-16 2AH Production

Job Date: Thursday, November 10, 2022

Sincerely,

Meghan Van Zyl

Legal Notice

Disclaimer:

All information in this report is provided subject to the terms and conditions which govern the services provided by Halliburton. Halliburton personnel use their best efforts in gathering information and their best judgment in interpreting it, but any interpretation, research, analysis or recommendation furnished by Halliburton are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and empirical relationships and assumptions are not infallible, and with respect to which professionals in the industry may differ. iCem 3D Displacement results are used to understand how fluids intermix during a cement job. Simulation and 3D displacement results are not intended as and should not be used as a replacement for bond logs in determining top of cement. Current 3D model calculations are known to model more volume than the input volume for standard cases due to known calculation improvements required. For rotational cases, the modeled volume will be impacted by the same calculations impacting the standard cases, as well as additional constraints imposed to make the calculation time required operationally feasible. Therefore, until further notice, 3D displacement results should not be used for replacement of a bond log, or used as an identifier of top of cement. **HALLIBURTON IS UNABLE TO GUARANTEE THE ACCURACY OF ANY CHART INTERPRETATION, RESEARCH ANALYSIS, OR JOB RECOMMENDATION** and any interpretation or recommendation is not for use of or reliance upon by any third party. The customer has full responsibility for any of its decisions which are based on the information provided in this report.

Table of Contents

Cementing Job Summary4
 Executive Summary..... 4
Real-Time Job Summary.....7
 Job Event Log 7
Attachments..... 11
 Real Time iCem Job Chart..... 11

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 2AH** 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 50 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 #: 324725		Quote #:		Sales Order #: 0908226255					
Customer: CRESTONE PEAK RESOURCES-EBUS				Customer Rep: Danny Herrera							
Well Name: Lone Tree 4-65 15-16			Well #: 2AH			API/UWI #: 05-005-07495-00					
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 & GAS WELL											
Sales Person: HALAMERICA\HX41066				Srvc Supervisor: Brandon Parker							
Job											
Formation Name											
Formation Depth (MD)		Top			Bottom						
Form Type											
BHST											
Job depth MD		18135ft			Job Depth TVD		7946				
Water Depth											
Wk Ht Above Floor 4											
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	8.921	36			0	3350	0	0	
Casing	0	5.5	4.778	20			0	18132	0	0	
Open Hole Section			8.5				3350	18135	0	7946	
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	1	citadel	18132		Bottom Plug	5.5	1	citadel		
Float Collar	5.5	1	citadel	18127		SSR plug set	5.5		HES		
Insert Float	5.5					Plug Container	5.5	1	HES		
Stage Tool	5.5					Centralizers	5.5		scepter		
Fluid Data											
Stage/Plug #: 1											
Fluid #	Stage Type	Fluid Name			Qty	Qty UoM	Mixing Density lbm/gal	Yield ft³/sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Tuned Prime Cement Spacer	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	8.23	9	4732
3	IsoBond(tm)	SBM CEM FDP-C1371 SYS	810	sack	13	1.55	7.14	9	5783
4	ElastiCem	SBM CEM ELASTICEM™ SYS	1485	sack	13.2	1.59	7.78	9	11553
5	MMCR Displacement	MMCR Displacement	402	bbl	8.33			10	16884
Comment 970bbbls mix water total used.									

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq No.	Activity	Date	Time	Dnwhole Density (ppg)	Cmb Pump Rate (bbl/min)	Pump A Pressure (psi)	Cmb Stg Total (bbl)	Comments
1	Call Out	11/9/2022	16:00:00					crew called out to 5.5" production casing for Civitas on location time 22:00
2	Pre-Convoy Safety Meeting	11/9/2022	19:20:00					meeting with crew to discuss safety/hazards associated with traveling.
3	Other	11/9/2022	19:25:00					Elite 12632040 was blown down prior to leaving the yard
4	Depart from Service Center or Other Site	11/9/2022	20:00:00					convoy to location
5	Arrive at Location from Service Center	11/9/2022	20:40:00					met with Mr. Danny Herrera with Civitas and went over job numbers, water sources and iron placement
6	Assessment Of Location Safety Meeting	11/9/2022	20:41:00					hazard hunt, check location, bulk and water volumes, temp 50, ph 6, chlo 0, td 18135, tp 18132, fc 18127, sj 5, oh 8.5, sp 3350, 9.625 36# surface casing, 5.5" 20# production casing, mw, 9.2, fe Citadel, top and bottom plug Citadel, kop 7306, eob 8281, tvd 7946ft
7	Safety Meeting - Pre Rig-Up	11/9/2022	21:10:00					meeting with hes personnel to discuss safety/hazards associated with rigging up
8	Rig-Up Equipment	11/9/2022	21:15:00					rig in water, bulk and iron
9	General Standby Start	11/9/2022	23:30:00					hes went into standby mode while rig finished running casing

10	Casing on Bottom	11/10/2022	00:41:00					rig landed casing, TRK casing crew on location
11	Other	11/10/2022	00:43:00					stabbed hes plug container, so rig could begin circulation
12	Circulate Well	11/10/2022	00:51:00					rig circulated at 11.8bpm, 15500strokes and 1149psi
13	Pre-Job Safety Meeting	11/10/2022	02:25:00	0.00	0.00	-1.77	0.00	meeting with all personnel on location to discuss safety/hazards associated with job, also covered job procedures. all personnel signed jsa
14	Break Circulation	11/10/2022	02:56:00	8.33	0.00	0.26	0.00	KO pumps, load bottom plug
15	Start Job	11/10/2022	03:02:15	8.31	0.00	3.84	0.00	start recording real time data
16	Drop Bottom Plug	11/10/2022	03:02:30	8.31	0.00	4.08	0.00	plug pre loaded prior to filling lines with FW, loaded by Mr. Danny Herrera and witnessed by HES supervisor. bottom plug departed plug container
17	Pump Water - End	11/10/2022	03:02:42	8.31	0.00	2.60	0.00	pumped 3bbbls of fw at 3bpm and top psi was 540
18	Test Lines	11/10/2022	03:04:38	8.29	0.00	316.91	0.00	test eko ko, 5th gear stall and high test 5642, psi held ar 1psi/8second loss
19	Check Weight	11/10/2022	03:10:46	8.13	0.00	77.58	0.00	
20	Pump Spacer 1	11/10/2022	03:11:54	8.11	0.00	76.52	0.00	pumped 50bbbls of tuned prime spacer, 11.5ppg, yield 3.74, 23.64 gal/sk pumped at 6bpm and average psi was 650. weight confirmed using pressurized mud scales. calculated all 50bbbls of spacer to surface well. MW 1182 gallons
21	Other	11/10/2022	03:19:13	11.29	6.18	507.89	40.97	slow rate to assure spacer tier was mt
22	Pump Cap Cement	11/10/2022	03:19:33	11.25	2.75	283.05	41.98	pumped 170bbbls of cap cmt, 575sks, 13.0ppg, yield 1.66, 8.23 gal/sk pumped at 9bpm and average psi was 550. weight confirmed using pressurized mud scales. calculated 50.4bbbls of cap to surface well. MW 4732, 70BC 5:54

23	Pump Lead Cement	11/10/2022	03:46:15	13.01	7.33	512.62	172.73	pumped 223.6bbls of lead cmt, 810sks, 13.0ppg, yield 1.55, 7.14 gal/sk pumped at 9bpm and average psi was 850. weight confirmed using pressurized mud scales. calculated top of lead cmt at 2496.14. MW 5783, 70BC 6:57
24	Check Weight	11/10/2022	03:47:59	13.12	7.26	593.25	12.33	
25	Check Weight	11/10/2022	03:53:07	13.19	7.22	730.01	49.86	
26	Other	11/10/2022	04:12:22	13.04	6.54	722.54	219.47	slow rate to assure lead silo was mt
27	Pump Tail Cement	11/10/2022	04:13:45	12.97	6.32	457.87	0.21	pumped 420.5bbls of tail cmt, 1485sks, 13.2ppg, yield 1.59, 7.78 gal/sk pumped at 9bpm and average psi 700. weight confirmed using pressurized mud scales. calculated top of tail cmt at 7828.32ft. MW 11553, 70BC 5:31hrs
28	Check Weight	11/10/2022	04:16:04	13.35	6.35	419.78	14.95	
29	Other	11/10/2022	04:47:10	13.09	9.32	682.54	299.08	slow rate to assure tail silo is mt
30	Other	11/10/2022	05:05:42	13.28	6.76	585.15	430.27	slow rate to assure field bin was empty and to maintain density
31	Shutdown	11/10/2022	05:08:22	13.05	0.88	166.63	439.57	done pumping cmt
32	Other	11/10/2022	05:14:28	9.48	1.67	64.93	0.03	clean lines and pumps to 4sided tank next to cat walk, pumped 25bbls . load top plug loaded
33	Shutdown	11/10/2022	05:22:12	7.61	3.17	82.12	32.06	
34	Drop Top Plug	11/10/2022	05:23:47	8.33	0.00	24.66	0.00	top plug was preloaded while hes was cleaning lines and pumps. loaded by Mr. Danny Herrera, witnessed by HES supervisor. (plug left plug container)
35	Pump Displacement	11/10/2022	05:24:22	8.18	0.77	41.49	0.01	FC set at 18127 X .0222(5.5"20# factor)= 402.4bbls. 10 gallons MMCR in the first 20bbls of displacement. displacement pre treated with Bellacide 300W into the 400bbl upright

36	Other	11/10/2022	05:33:02	8.23	6.13	346.30	52.76	caught cmt 30bbls away at 6bpm
37	Slow Rate	11/10/2022	06:13:00	8.60	5.85	3027.74	384.67	slow rate at 380bbls, 6bpm 3000psi to 4bpm 2700psi
38	Bump Plug	11/10/2022	06:18:00	8.57	0.23	3169.46	405.53	plug bumped at calculated 402.4bbls, psi 2800 ko pumps at 3300. psi climbed to 3407
39	Other	11/10/2022	06:19:14	8.52	0.00	3395.84	0.00	Citadel floats held 5 bbbls back to the pump trk
40	End Job	11/10/2022	06:21:25	8.45	0.00	24.57	0.00	
41	Other	11/10/2022	06:23:00	8.41	0.00	23.50	0.00	rattle HTS/Flush Stack. Pumped 70bbbls through stack and gas buster. 100lbs sugar
42	Spacer Returns to Surface	11/10/2022	07:07:00					50bbbls tuned prime to surface
43	Cement Returns to Surface	11/10/2022	07:08:00					50bbbls of cap cmt to surface
44	Pre-Rig Down Safety Meeting	11/10/2022	07:09:00					meeting to discuss safety/hazards associated with rigging down
45	Rig-Down Equipment	11/10/2022	07:10:00					
46	Depart Location for Service Center or Other Site	11/10/2022	08:30:00					
47	Other	11/10/2022	08:31:00					Thank You for Choosing Halliburton Cement. Parker and Crew. (970)397-4969

3.0 Attachments

3.1 Real Time iCem Job Chart

