HALLIBURTON

iCem® Service

CRESTONE PEAK RESOURCES-EBUS

Ft. Lupton District, COLORADO

Lone Tree 4-65 15-16 4BH Production

Job Date: Saturday, November 26, 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

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 4BH** 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 56 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 #:** 9143623	**Quote #:**	**Sales Order #:** 0908263016
Customer: CRESTONE PEAK RESOURCES-EBUS		**Customer Rep:** Brett	
Well Name: LONE TREE 4-65 15-16	**Well #:** 4BH		**API/UWI #:** 05-005-07498
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:** Kyle Bath	

Job

Formation Name				
Formation Depth (MD)	**Top**		**Bottom**	
Form Type			**BHST**	
Job depth MD	18766ft		**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	8.921	36			0	3740	0	0
Casing	0	5.5	4.778	20			0	18766	0	8049
Open Hole Section			8.5				3740	18769	0	8049

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Guide Shoe	5.5			18766		**Top Plug**	5.5	1	
Float Shoe	5.5					**Bottom Plug**	5.5	1	
Float Collar	5.5					**SSR plug set**	5.5		HES
Insert Float	5.5					**Plug Container**	5.5	1	HES
Stage Tool	5.5					**Centralizers**	5.5	271	

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	23.63	6	1775

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
2	ElastiCem	SBM CEM ELASTICEM™ SYS	575	sack	13	1.66	8.23	8	4732

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
3	IsoBond(tm)	SBM CEM FDP-C1371 SYS	885	sack	13	1.55	7.14	8	6318

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
4	ElastiCem	SBM CEM ELASTICEM™ SYS	1525	sack	13.2	1.59	7.78	8	11864

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
5	MMCR Displacement	MMCR Displacement	416	bbl	8.33			9.33	17472
0.10 gal/bbl		**MICRO MATRIX CEMENT RETARDER, 5 GAL PAIL (100003781)**							

Comment 1004bbls mix water total used.

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	11/25/2022	14:00:00					CREW CALLED OUT, REQUESTED ON LOCATION @ 20:00
2	Depart Yard Safety Meeting	11/25/2022	16:45:00					PRE JOURNEY SAFETY MEETING WITH ALL HES PERSONNEL, DISCUSS ROUTE AND HAZARDS ASSOCIATED WITH THE JOURNEY
3	Crew Leave Yard	11/25/2022	17:00:00					ALL HES EMPLOYEES IN ROUTE TO LOCATION
4	Arrive at Location from Service Center	11/25/2022	18:00:00					CREW ON LOCATION, RECIEVED NUMBERS FROM CO REP, TD 18769, TP 18766, SJ 5, CSG 5.5 20#, PREV CSG 9 5/8 36# @ 3740, HOLE 8.5, MUD 10, TVD 8049, 271 CENTRALIZERS, WATER TEST, TEMP 70, PH 7, CHLORIDES 0
5	Assessment Of Location Safety Meeting	11/25/2022	18:15:00					ASSESSMENT OF LOCATION SAFETY MEETING WITH ALL HES EE'S TO DISCUSS SITE SPECIFIC HAZARDS
6	Safety Meeting - Pre Rig-Up	11/25/2022	18:30:00					PRE RIG UP SAFETY MEETING WITH ALL HES EE'S TO DISCUSS HAZARDS BEFORE RIGGING UP
7	Safety Meeting - Pre Job	11/26/2022	03:30:00	-1.14	0.00	-18.09	0.00	PRE JOB SAFETY MEETING WITH ALL HES EE'S, RIG HANDS AND CO REP TO DISCUSS HAZARDS DURING JOB
8	Start Job	11/26/2022	04:15:06	0.00	0.00	20.93	0.00	START RECORDING DATA
9	Drop Bottom Plug	11/26/2022	04:15:15	0.00	0.00	25.87	0.00	LAUNCH BOTTOM PLUG
10	Test Lines	11/26/2022	04:16:44	8.23	0.00	468.17	2.26	TEST LINES TO 5420 PSI

11	Pump Spacer 1	11/26/2022	04:19:49	8.16	0.00	516.42	0.00	PUMP 50 BBLS TUNED PRIME SPACER 11.5 PPG, 5 BPM 1000 PSI
12	Pump Cap Cement	11/26/2022	04:29:35	11.46	4.93	941.11	0.08	MIX AND PUMP 575 SKS 170 BBLS CAP CEMENT 13 PPG, 1.66 FT3/SK, 8.23 GAL/SK, 6 BPM 1000 PSI, CALCULATED TOCC SURFACE
13	Pump Lead Cement	11/26/2022	05:00:56	12.98	6.95	684.43	0.12	MIX AND PUMP 885 SKS 244.3 BBLS LEAD CEMENT 13 PPG, 1.55 FT3/SK, 7.14 GAL/SK, 9 BPM 1400 PSI, CALCULATED TOLC 2423
14	Other	11/26/2022	05:28:58	13.04	7.49	1795.04	223.04	BOTTOM PLUG BURST AT 1800 PSI
15	Pump Tail Cement	11/26/2022	05:33:20	12.82	7.84	940.94	0.13	MIX AND PUMP 1525 SKS 431.8 BBLS TAIL CEMENT 13.2 PPG, 1.59 FT3/SK, 7.78 GAL/SK, 9 BPM 1100 PSI, CALCULATED TOTC 8180
16	Shutdown	11/26/2022	06:28:46	13.18	0.00	134.65	456.00	SHUTDOWN, WASH PUMPS AND LINES TO TANK
17	Drop Top Plug	11/26/2022	06:36:14	7.39	0.00	24.49	469.05	LAUNCH TOP PLUG
18	Pump Displacement	11/26/2022	06:36:18	7.39	0.00	24.43	0.00	PUMP 416 BBLS FRESH WATER DISPLACEMENT, FIRST 20 BBLS W/MMCR, 10 BPM 3280 PSI, RECEIVED 50 BBLS TUNED PRIME SPACER AND 56 BBLS CEMENT TO SURFACE
19	Bump Plug	11/26/2022	07:28:51	7.70	0.00	3074.43	410.96	BUMP PLUG AT 2800 PSI TOOK TO 3120 PSI
20	Check Floats	11/26/2022	07:32:16	7.64	0.00	3219.93	410.96	CHECK FLOATS, TOOK 4.5 BBLS BACK
21	End Job	11/26/2022	07:34:24	7.43	0.00	37.87	0.00	STOP RECORDING DATA, USED 1013 BBLS FRESH WATER FOR JOB
22	Safety Meeting - Pre Rig-Down	11/26/2022	07:36:00					PRE RIG DOWN SAFETY MEETING WITH ALL HES EE'S TO DISCUSS HAZARDS ASSOCIATED WITH RIGGING DOWN
23	Depart Location Safety Meeting	11/26/2022	08:55:00					PRE DEPARTURE SAFETY MEETING WITH ALL HES EE'S TO DISCUSS ROUTES AND HAZARDS ASSOCIATED WITH THE JOURNEY

24	Crew Leave Location	11/26/2022	09:25:00	THANK YOU FOR USING HALLIBURTON, KYLE BATH AND CREW.

3.0 Attachments

3.1 Real Time iCem Job Chart