

# HALLIBURTON

iCem<sup>®</sup> Service

## **CRESTONE PEAK RESOURCES-EBUS**

Ft. Lupton District, Colorado

**Lone Tree 4-65 15-16 2BH Production**

Job Date: Saturday, November 05, 2022

Sincerely,

**Meghan Van Zyl**

## Legal Notice

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### Disclaimer:

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## Table of Contents

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Cementing Job Summary .....	4
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

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### 1.1 Executive Summary

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Halliburton appreciates the opportunity to perform the cementing services on the **Lone Tree 4-65 15-16 2BH** 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 52 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**

<b>Sold To #:</b> 324725	<b>Ship To #:</b> 9143744	<b>Quote #:</b>	<b>Sales Order #:</b> 0908218204
<b>Customer:</b> CRESTONE PEAK RESOURCES-EBUS		<b>Customer Rep:</b> Manny	
<b>Well Name:</b> LONE TREE 4-65 15-16		<b>Well #:</b> 2BH	<b>API/UWI #:</b>
<b>Field:</b>	<b>City (SAP):</b> WATKINS	<b>County/Parish:</b> ARAPAHOE	<b>State:</b> COLORADO
<b>Legal Description:</b>			
<b>Contractor:</b> PATTERSON-UTI ENERGY		<b>Rig/Platform Name/Num:</b> PATTERSON 572	
<b>Job BOM:</b> 7523 7523			
<b>Well Type:</b> OIL			
<b>Sales Person:</b> HALAMERICA\HX41066		<b>Srvc Supervisor:</b> Nick Peterson	

**Job**

<b>Formation Name</b>	
<b>Formation Depth (MD)</b>	<b>Top</b>     <b>Bottom</b>
<b>Form Type</b>	BHST
<b>Job depth MD</b>	18,214'     <b>Job Depth TVD</b> 8,065'
<b>Water Depth</b>	<b>Wk Ht Above Floor</b> 5'
<b>Perforation Depth (MD)</b>	<b>From</b>     <b>To</b>

**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	3328	0	0
Casing	0	5.5	4.778	20			0	18213	0	0
Open Hole Section			8.5				3328	18214	0	0

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Float Shoe	5.5	1	Citadel	18,214'	Top Plug	5.5	1	Citadel
Float Collar	5.5	1	Citadel	18,209'	Bottom Plug	5.5	1	Citadel
Toe Sleeve	5.5	1		18,195'				
Toe Sleeve	5.5	1		18,180'	Plug Container	5.5	1	HES
Air Lock Sub	5.5	1		7,320'	Centralizers	5.5	270	

**Fluid Data**

<b>Stage/Plug #: 1</b>									
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Spacer	TUNED PRIME	50	bbl	11.5	3.74	23.64	6	1,775
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	Cap	SBM CEM ELASTICEM™	575	sack	13	1.66	8.23	7	4,733

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	Lead	SBM CEM FDP-C1371 SYS	800	sack	13	1.55	7.14	9	5,712
4	Tail	SBM CEM ELASTICEM™	1510	sack	13.2	1.59	7.78	9	11,748
5	Displacement	MMCR Displacement	405	bbl	8.33			10	17,010
<b>Comment</b> 975bbbls 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	11/5/2022	06:00:00					CREW CALLED OUT NOVEMBER 05, 2022 @ 06:00, REQUESTED ON LOCATION @ 12:00. CREW PICKED UP CEMENT, CHEMICALS (D-AIR 60-GALS, MMCR 10-GALS, SUGAR 100 LBS) AND PLUG CONTAINER FROM FT. LUPTON, CO. BULK 660 11398319, PUMP 11368474, P/U 12992451 AND 12913560.
2	Depart Yard Safety Meeting	11/5/2022	10:00:00					CREW DISCUSSED ROUTES, HAZARDS AND COMMUNICATION WITH CREW.
3	Crew Leave Shop	11/5/2022	10:15:00					CREW BEGINS CONVOY TO LOCATION.
4	Arrive at Location from Service Center	11/5/2022	11:30:00					MET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9.625" 36 LB/FT @ 3,328', 5.5" CASING: 20 LB/FT TOTAL 18,214', 8.5" OH, TD 18,214', TVD- 8,065', SHOE TRAC 5', TOE SLEEVE @ 18,195' AND 18,180', 270 CENTRALIZERS, TWO CEMENT BASKETS, AIR LOCK SUB @ 7,320'. CITADEL FLOAT EQUIPMENT TOP AND BOTTOM PLUG, WF 9.4 LB. RIG PUMPED 25 BBLS D8 AFTER CIRCULATION PRIOR TO CEMENT JOB.
5	Pre-Rig Up Safety Meeting	11/5/2022	11:45:00					HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
6	Rig-Up Equipment	11/5/2022	12:00:00					CREW STAGED EQUIPMENT, RIGGED UP BULK, IRON AND WATER HOSES TO PERFORM JOB.

7	Rig-Up Completed	11/5/2022	14:00:00						WAITED ON RIG TO FINISH CASING RUN AND CIRCULATE WELL.
8	Pre-Job Safety Meeting	11/5/2022	17:00:00	8.50	0.00	25.75	0.00		MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
9	Start Job	11/5/2022	17:22:44	8.35	0.00	26.07	0.00		BEGIN RECORDING JOB DATA.
10	Test Lines	11/5/2022	17:25:19	8.51	0.00	374.10	2.32		PRESSURE TESTED IRON TO 4,500 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1,380 PSI, 5TH GEAR STALL OUT @ 1,950 PSI.
11	Pump Spacer 1	11/5/2022	17:29:35	8.52	0.00	23.09	0.00		PUMP 50 BBLS OF TUNED PRIME SPACER @ 11.5 LB/GAL, 3.74 FT3/SK, 23.64 GAL/SK. INJECTED 15 GALLONS D-AIR ON THE FLY, DRY SURFACTANTS MIXED IN WITH BLEND. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 6 BBLS/MIN @ 490 PSI.
12	Pump Cap Cement	11/5/2022	17:40:09	12.01	6.47	466.63	0.11		PUMPED 575 SKS OF ELASTICEM CAP @ 13.0 LB/GAL, 1.66 FT3/SK, 8.23 GAL/SK. 170 BBLS, HOC CALCULATED @ 2,321', TOC CALCULATED @ SURFACE GETTING 52 BBLS BACK TO SURFACE. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 7 BBLS/MIN 411 PSI.
13	Pump Lead Cement	11/5/2022	18:07:28	13.32	5.52	311.29	0.09		PUMPED 800 SKS OF ISOBOND LEAD @ 13.0 LB/GAL, 1.55 FT3/SK, 7.14 GAL/SK. 220.84 BBLS, HOL CALCULATED @ 5,413', TOL CALCULATED @ 2,321'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8.5 BBLS/MIN 920 PSI.
14	Check Weight	11/5/2022	18:31:19	13.07	8.75	849.02	195.35		DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
15	Pump Tail Cement	11/5/2022	18:35:55	12.65	6.81	483.11	0.11		PUMPED 1510 SKS OF ELASTICEM TAIL @ 13.2 LB/GAL, 1.59 FT3/SK, 7.78 GAL/SK. 427.60 BBLS. HOT CALCULATED @ 10,480', TOL CALCULATED @ 7,734'. DENSITY VERIFIED BY

PRESSURIZED MUD SCALES. PUMP RATE 9 BBLS/MIN 746 PSI.

16	Check Weight	11/5/2022	18:37:36	13.21	8.77	636.60	13.35	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
17	Clean Lines	11/5/2022	19:32:33	14.71	0.00	24.28	0.00	WASH LINES WITH 10 BBLS FRESH WATER PRIOR TO DROPPING PLUG.
18	Drop Top Plug	11/5/2022	19:40:02	7.71	0.00	5.88	19.85	PLUG LOADED BY CUSTOMER.
19	Pump Displacement	11/5/2022	19:40:04	7.71	0.00	7.11	0.00	BEGIN CALCULATED DISPLACEMENT OF 405 BBLS FRESH WATER WITH 10-GALS MMCR IN FIRST 20 BBLS. SPACER TO SURFACE @ 303 BBLS INTO DISPLACEMENT. CEMENT TO SURFACE @ 353 BBLS AWAY WITH TOTAL OF 52 BBLS CEMENT TO SURFACE. PUMP RATE 10 BBLS/MIN @ 3,200 PSI.
20	Bump Plug	11/5/2022	20:24:57	8.72	3.99	2490.47	396.59	PLUG BUMPED AT CALCULATED DISPLACEMENT. 2,590 PSI PRESSURED 500 PSI OVER BUMP.
21	Check Floats	11/5/2022	20:26:36	8.77	0.00	3008.70	398.34	RELEASED PRESSURE, FLOATS HELD, 4.5 BBLS BACK.
22	End Job	11/5/2022	20:28:01	8.59	0.00	18.94	0.00	STOP RECORDING JOB DATA.
23	Safety Meeting - Pre Rig-Down	11/5/2022	20:35:00	8.60	0.00	5.03	0.00	DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION SPECIFIC HAZARDS, PINCH POINTS RIGGING DOWN/RACKING UP IRON AND HOSES.
24	Rig-Down Equipment	11/5/2022	20:45:00					RIG DOWN BULK AND MIXING EQUIPMENT.
25	Rig-Down Completed	11/5/2022	21:45:00					ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL AND LOCATION WAS CLEAN.
26	Depart Location Safety Meeting	11/5/2022	21:50:00					CREW DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
27	Crew Leave Location	11/5/2022	22:00:00					THANK YOU FOR USING HALLIBURTON – MIKE LOUGHRAN AND CREW.



3.0 Attachments

3.1 Real Time iCem Job Chart

