

# HALLIBURTON

iCem<sup>®</sup> Service

## **BONANZA CREEK ENERGY-EBUS**

Ft. Lupton District, COLORADO

**Pronghorn Fed F21-J24-31HNB Production**

Job Date: Monday, December 20, 2021

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..... 10  
    Real Time iCem Job Chart ..... 10

## 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 **Pronghorn Fed F21-J24-31HNB** 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 27 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> 369404	<b>Ship To #:</b> 9058938	<b>Quote #:</b>	<b>Sales Order #:</b> 0907577275
<b>Customer:</b> EXTRACTION OIL & GAS-EBUS		<b>Customer Rep:</b> Frank Kinney	
<b>Well Name:</b> PRONGHORN FEDERAL		<b>Well #:</b> F21-J24-31HNB	<b>API/UWI #:</b> 05-123-51321-00
<b>Field:</b> WATTENBERG	<b>City (SAP):</b> KERSEY	<b>County/Parish:</b> WELD	<b>State:</b> COLORADO
<b>Legal Description:</b> 30-5N-61W-2119FSL-659FWL			
<b>Contractor:</b> PATTERSON-UTI ENERGY		<b>Rig/Platform Name/Num:</b> PATTERSON 345	
<b>Job BOM:</b> 7523 7523			
<b>Well Type:</b> HORIZONTAL OIL			
<b>Sales Person:</b> HALAMERICA\HX41066		<b>Srvc Supervisor:</b> Kyle Bath	

**Job**

<b>Formation Name</b>	
<b>Formation Depth (MD)</b>	<b>Top</b> <input type="text"/> <b>Bottom</b> <input type="text"/>
<b>Form Type</b>	<b>BHST</b>
<b>Job depth MD</b>	11600ft <b>Job Depth TVD</b> <input type="text"/>
<b>Water Depth</b>	<b>Wk Ht Above Floor</b> <input type="text"/>
<b>Perforation Depth (MD)</b>	<b>From</b> <input type="text"/> <b>To</b> <input type="text"/>

**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	1606	0	1606
Casing		5.5	4.892	17			0	11585	0	6070
Open Hole Section			7.875				1606	11600	1606	6070

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5			11585	Top Plug	5.5		HES
Float Shoe	5.5				Bottom Plug	5.5		HES
Float Collar	5.5				SSR plug set	5.5		HES
Insert Float	5.5				Plug Container	5.5		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 <sup>3</sup> /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	Tuned Prime	TUNED PRIME CEMENT SPACER SYS	50	bbl	11.5	3.73			

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™ SYS	525	sack	13	1.66		8	8.29

0.30 %		<b>SCR-100, 1200 LB BAG - (1126328)</b>							
8.29 Gal		<b>FRESH WATER</b>							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
3	FDP-C1371 SYS	SBM CEM FDP-C1371 SYS	430	sack	13	1.55		6	7.21
7.21 Gal		<b>FRESH WATER</b>							
5 %		<b>CHANNELFIX, 44 LB BAG - (1107429)</b>							
0.25 %		<b>SCR-100, 1200 LB BAG - (1126328)</b>							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
4	ElastiCem	SBM CEM ELASTICEM™ SYS	575	sack	13.2	1.59		8	7.76
0.65 %		<b>HR-5, 50 LB SK (100005050)</b>							
7.76 Gal		<b>FRESH WATER</b>							
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft3/sack	Mix Fluid Gal	Rate bbl/mi n	Total Mix Fluid Gal
5	Displacement	Displacement	256	bbl	8.33			8	
<b>Cement Left In Pipe</b>									
<b>Amount</b>		5 ft			<b>Reason</b>			<b>Shoe Joint</b>	
Mix Water: pH ##		Mix Water Chloride: ## ppm			Mix Water Temperature: ## °F °C				
Cement Temperature: ## °F °C		Plug Displaced by: ## lb/gal kg/m3 XXXX			Disp. Temperature: ## °F °C				
Plug Bumped? Yes/No		Bump Pressure: ##### psi MPa			Floats Held? Yes/No				
Cement Returns: ## bbl m3		Returns Density: ## lb/gal kg/m3			Returns Temperature: ## °F °C				
<b>Comment</b>									

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Seq No.	Activity	Graph Label	Date	Time	Dwnhole Density (ppg)	Cmb Pump Rate (bbl/min)	Pump A Pressure (psi)	Cmb Stg Total (bbl)	Comments
1	Call Out	Call Out	12/19/2021	23:30:00					CREW CALLED OUT, REQUESTED ON LOCATION 05:30
2	Depart Yard Safety Meeting	Depart Yard Safety Meeting	12/20/2021	01:15:00					PRE CONVOY SAFETY MEETING WITH ALL HES EE
3	Crew Leave Yard	Crew Leave Yard	12/20/2021	01:30:00					CREW DEPART YARD FOR LOCATION
4	Arrive At Loc	Arrive At Loc	12/20/2021	03:00:00					ARRIVE ON LOCATION, RECIEVED NUMBERS FROM CO REP, TD 11600, TP 11585, SJ 6, CSG 5.5 20#, PREV CSG 9 5/8 36# @ 1616, HOLE 7 7/8, MUD 9.3, TVD 6030, 208 CENTALIZERS, WATER TEST, TEMP 70, CHLORIDES 0, PH 7
5	Assessment Of Location Safety Meeting	Assessment Of Location Safety Meeting	12/20/2021	06:00:00					SAFETY MEETING WITH ALL HES EE TO ASSESS ALL HAZARDS
6	Safety Meeting - Pre Rig-Up	Safety Meeting - Pre Rig-Up	12/20/2021	06:30:00					PRE RIG UP SAFETY MEETING WITH ALL HES EE
7	Safety Meeting - Pre Job	Safety Meeting - Pre Job	12/20/2021	09:00:00	0.00	0.00	26.00	0.00	PRE JOB SAFETY MEETING WITH RIG CREW AND CO REP
8	Start Job	Start Job	12/20/2021	09:47:47	7.61	0.00	23.94	0.00	START RECORDING DATA
9	Drop Bottom Plug	Drop Bottom Plug	12/20/2021	09:49:13	7.22	0.00	24.95	0.00	LAUNCH BOTTOM PLUG

10	Test Lines	Test Lines	12/20/2021	09:51:08	8.00	0.00	233.25	1.89	TEST LINES TO 5500 PSI
11	Pump Spacer 1	Pump Spacer 1	12/20/2021	09:59:20	8.31	0.00	82.96	0.00	PUMP 50 BBLS TUNED PRIME SPACER 11.5 PPG 7 BPM 670 PSI
12	Pump Cap Cement	Pump Cap Cement	12/20/2021	10:05:56	11.72	6.92	570.66	0.12	MIX AND PUMP 525 SKS 155 BBLS CAP CEMENT 13 PPG, 1.66 FT3/SK, 8.29 GAL/SK 9 BPM 702 PSI, CALCULATED TOCC SURFACE
13	Pump Lead Cement	Pump Lead Cement	12/20/2021	10:23:53	12.86	9.17	471.46	0.08	MIX AND PUMP 430 SKS 119 BBLS LEAD CEMENT 13 PPG, 1.55 FT3/SK, 7.21 GAL/SK 9 BPM 680 PSI, CALCULATED TOLC 2492
14	Pump Tail Cement	Pump Tail Cement	12/20/2021	10:36:21	12.88	9.23	617.41	0.08	MIX AND PUMP 575 SKS 163 BBLS TAIL CEMENT 13.2 PPG, 1.59 FT3/SK, 7.76 GAL/SK 9 BPM 500 PSI, CALCULATED TOTC 6343
15	Shutdown	Shutdown	12/20/2021	10:58:08	14.27	0.00	22.29	167.24	SHUTDOWN, WASH PUMPS AND LINES
16	Drop Top Plug	Drop Top Plug	12/20/2021	11:12:36	7.68	0.00	17.26	179.09	LAUNCH TOP PLUG
17	Pump Displacement	Pump Displacement	12/20/2021	11:12:40	7.69	0.00	16.63	0.00	PUMP 256 BBLS FRESH WATER DISPLACEMENT, FIRST 20 BBLS W/MMCR, 10 BPM 2860 PSI, RECIEVED 50 BBLS TUNED PRIME SPACER AND 27 BBLS CEMENT TO SURFACE
18	Bump Plug	Bump Plug	12/20/2021	11:46:32	8.26	3.92	2387.44	256.26	BUMP PLUG AT 2360 PSI TOOK TO 3480 PSI
19	Check Floats	Check Floats	12/20/2021	11:49:32	8.14	0.00	1317.28	257.42	FLOATS HELD TOOK 3 BBLS BACK
20	End Job	End Job	12/20/2021	11:50:29	8.28	0.00	12.61	0.00	STOP RECORDING DATA
21	Safety Meeting - Pre Rig-Down	Safety Meeting - Pre Rig-Down	12/20/2021	11:55:00					PRE RIG DOWN SAFETY MEETING WITH ALL HES EE
22	Depart Location Safety Meeting	Depart Location Safety Meeting	12/20/2021	12:55:00					PRE DEPARTURE SAFETY MEETING WITH ALL HES EE

23	Crew Leave Location	Crew Leave Location	12/20/2021	13:25:00
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THANK YOU FOR USING HALLIBURTON, KYLE BATH AND  
CREW

3.0 Attachments

3.1 Real Time iCem Job Chart

