

# HALLIBURTON

iCem<sup>®</sup> Service

## **BONANZA CREEK ENERGY-EBUS**

**Pronghorn Federal F11-J14-31HNB Production**

Job Date: Friday, December 17, 2021

Sincerely,

**Meghan Van Zyl**

## Legal Notice

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## 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 F11-J14-31HNB** 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 35 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> 9059004	<b>Quote #:</b>	<b>Sales Order #:</b> 0907570031
<b>Customer:</b> Bonanza Creek		<b>Customer Rep:</b> Frank	
<b>Well Name:</b> PRONGHORN FEDERAL		<b>Well #:</b> F11-J14-31HNB	<b>API/UWI #:</b> 05-123-51327-00
<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-2146FSL-645FWL			
<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> Joseph Fantasia	

**Job**

<b>Job depth MD</b>	11525ft	<b>Job Depth TVD</b>	6091
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**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	1639	0	1639
Casing		5.5	4.892	20			0	11525	0	6091
Open Hole Section			7.875				1639	11540	1639	6091

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make

**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		5		
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	
8.29 Gal		<b>FRESH WATER</b>								

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	FDP-C1371 SYS	SBM CEM FDP-C1371 SYS	430	sack	13	1.55		8	7.21	
7.21 Gal		<b>FRESH WATER</b>								
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	
4	ElastiCem	SBM CEM ELASTICEM™ SYS	575	sack	13.2	1.59		8	7.76	
7.76 Gal		<b>FRESH WATER</b>								
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	
5	Displacement	Displacement	254	bbl	8.33			8		
Cement Left In Pipe		Amount	5 ft		Reason			Shoe Joint		
Mix Water:		pH 7	Mix Water Chloride: 0 ppm			Mix Water Temperature: 50 °F °C				
Cement Temperature:		50 °F °C	Plug Displaced by: 8.33 lb/gal			Disp. Temperature: 32 °F °C				
Plug Bumped?		Yes	Bump Pressure: 2400 psi			Floats Held? Yes				
Cement Returns:		35 bbl	Returns Density:			Returns Temperature:				
<b>Comment</b> Approx 50 bbls spacer and 35 bbls cement to surface										

## 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	12/16/2021	20:00:00					Crew called out at 2000 for an on location time of 0300.
2	Arrive At Loc	Arrive on Location	12/17/2021	02:00:00					Arrive on location at 0200. Met with customer and held site assessment and pre rig up safety meeting with crew prior to spotting in equipment and rigging up. Rig running casing. TD 11540 TP 11525 FC 11520 TVD 6091 SC 9.625 36# @ 1639 MW9.5 OH 7 7/8"
3	Start Job	Start Job	12/17/2021	08:17:51	8.30	0.00	33.29	58.34	Held prejob safety meeting with all present personnel prior to starting job.
4	Test Lines	Test Lines	12/17/2021	08:19:28	8.84	0.00	272.66	61.18	Pressure test lines to 4800 psi.
5	Drop Plug	Drop Bottom Plug	12/17/2021	08:20:00	8.88	0.00	998.17	61.19	3rd Party Bottom plug dropped prior Pumping Spacer.
6	Pump Spacer 1	Pump Spacer	12/17/2021	08:38:34	12.54	0.00	238.36	0.00	Pump 50 bbls Tuned Prime Spacer at 11.5 ppg. 5 bbls/min @ 400 psi. Density verified using pressurized scales.

7	Pump Cement	Pump Cement	12/17/2021	08:56:56	11.29	0.00	5.02	0.00	Pump 155 bbls (525 sks) Cap Cement mixed at 13 ppg. 8 bbls/min @ 480 Psi. Density verified using pressurized scales.
8	Check Weight	Check Weight	12/17/2021	09:15:13	13.12	7.99	334.72	133.76	
9	Pump Lead Cement	Pump Lead Cement	12/17/2021	09:17:41	12.89	7.96	324.72	0.13	Pump 118 bbls (430 sks) Lead Cement mixed at 13 ppg. 8 bbls/min @ 420 PSI. Density verified using pressurized scales.
10	Pump Tail Cement	Pump Tail Cement	12/17/2021	09:33:06	13.18	5.18	193.46	0.04	Pump 162 bbls (575 sks) Tail cement mixed at 13.2 ppg. 8 bbls/min @ 470 PSI. Density verified using pressurized scales.
11	Shutdown	Shutdown / Wash Up	12/17/2021	09:54:41	14.39	0.00	-13.03	159.02	Shutdown. Wash pumps and lines.
12	Drop Top Plug	Drop Top Plug	12/17/2021	10:03:41	7.64	0.00	-21.91	183.21	3rd Party Top Plug dropped during shutdown.
13	Pump Displacement	Pump Displacement	12/17/2021	10:03:45	7.64	0.00	-22.19	0.00	Displace using 254 bbls Fresh Water. 5 gal MMCR added to the first 10 bbls. Good returns throughout. Spacer to Surface at 170 bbls away. Approx 50 bbls spacer and 35 bbls cement to surface.
14	Bump Plug	Bump Plug	12/17/2021	10:41:11	8.38	0.00	2845.14	254.72	Plug landed at 254 bbls away at 2400 psi. Pressure brought to 3000 psi and held for 2 min.
15	Check Floats	Check Floats	12/17/2021	10:43:00	8.37	0.00	2869.60	254.72	Floats held. 2.5 bbls back.
16	End Job	End Job	12/17/2021	10:43:59	8.15	0.00	22.62	254.72	Held pre rig down safety meeting with all present personnel prior to rigging down equipment.
17	Depart Location	Depart Location Safety Meeting	12/17/2021	12:00:00					Held safety meeting to discuss travel precautions.

Safety  
Meeting

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3.0 Attachments

3.1 Real Time iCem Job Chart

