

# HALLIBURTON

iCem® Service

## **BONANZA CREEK ENERGY-EBUS**

Ft. Lupton District, Colorado

**State Antelope 42-12-3HN Production**

Job Date: Monday, November 07, 2022

Sincerely,

**Meghan Van Zyl**

## Legal Notice

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### Disclaimer:

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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 **State Antelope 42-12-3HN** 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 32 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> 9142982		<b>Quote #:</b>		<b>Sales Order #:</b> 0908225836					
<b>Customer:</b> BONANZA CREEK ENERGY-EBUS					<b>Customer Rep:</b> Same Mares						
<b>Well Name:</b> STATE ANTELOPE			<b>Well #:</b> 42-12-3HN			<b>API/UWI #:</b> 05-123-51728					
<b>Field:</b>		<b>City (SAP):</b> GILL		<b>County/Parish:</b> WELD			<b>State:</b> COLORADO				
<b>Legal Description:</b>											
<b>Contractor:</b> PATTERSON-UTI ENERGY					<b>Rig/Platform Name/Num:</b> PATTERSON 345						
<b>Job BOM:</b> 7523 7523											
<b>Well Type:</b> OIL											
<b>Sales Person:</b> HALAMERICA\HX41066					<b>Srvc Supervisor:</b> Michael Loughran						
<b>Job</b>											
<b>Formation Name</b>											
<b>Formation Depth (MD)</b>		<b>Top</b>				<b>Bottom</b>					
<b>Form Type</b>				<b>BHST</b>							
<b>Job depth MD</b>		11786ft		<b>Job Depth TVD</b>							
<b>Water Depth</b>				<b>Wk Ht Above Floor</b>		4					
<b>Perforation Depth (MD)</b>		<b>From</b>		<b>To</b>							
<b>Well Data</b>											
<b>Description</b>	<b>New / Used</b>	<b>Size in</b>	<b>ID in</b>	<b>Weight lbm/ft</b>	<b>Thread</b>	<b>Grade</b>	<b>Top MD ft</b>	<b>Bottom MD ft</b>	<b>Top TVD ft</b>	<b>Bottom TVD ft</b>	
Casing		9.625	8.921	36			0	1654	0		
Casing	0	5.5	4.778	20			0	11769	0		
Open Hole Section			8.5				1654	11786	0		
<b>Tools and Accessories</b>											
<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>	<b>Depth ft</b>		<b>Type</b>	<b>Size in</b>	<b>Qty</b>	<b>Make</b>		
Guide Shoe	5.5					Top Plug	5.5	1	citadel		
Float Shoe	5.5	1	citadel	11769		Bottom Plug	5.5	1	citadel		
Float Collar	5.5	1	citadel	11764		SSR plug set	5.5		HES		
Insert Float	5.5					Plug Container	5.5		HES		
Stage Tool	5.5					Centralizers	5.5		scepter		
<b>Fluid Data</b>											
<b>Stage/Plug #: 1</b>											
<b>Fluid #</b>	<b>Stage Type</b>	<b>Fluid Name</b>			<b>Qty</b>	<b>Qty UoM</b>	<b>Mixing Density lbm/gal</b>	<b>Yield ft<sup>3</sup>/sack</b>	<b>Mix Fluid Gal</b>	<b>Rate bbl/min</b>	<b>Total Mix Fluid Gal</b>
1	Tuned Prime Cement Spacer	TUNED PRIME CEMENT SPACER SYS			50	bbl	11.5	3.74	23.65	6	1775

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	ElastiCem	SBM CEM ELASTICEM™ SYS	555	sack	13	1.66	8.3	9	4606
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
3	IsoBond(tm)	SBM CEM FDP-C1371 SYS	540	sack	13	1.55	7.14	9	3855
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
4	ElastiCem	SBM CEM ELASTICEM™ SYS	755	sack	13.2	1.59	7.78	9	5874
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
5	MMCR Displacement	MMCR Displacement	261	bbl	8.33			10	10962
<b>Comment</b> 645bbbls 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	11/6/2022	11:00:00					CREW CALLED OUT NOVEMBER 06, 2022 @ 06:00, REQUESTED ON LOCATION @ 17:00. 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, 13685547 AND 12913560.
2	Depart Yard Safety Meeting	11/6/2022	15:15:00					CREW DISCUSSED ROUTES, HAZARDS AND COMMUNICATION WITH CREW.
3	Crew Leave Shop	11/6/2022	15:30:00					STARTED JOURNEY MANAGEMENT.
4	Arrive at Location from Service Center	11/6/2022	17:00:00					
5	Pre-Rig Up Safety Meeting	11/6/2022	17:15:00					HAZARD HUNT. DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH LOCATION, RIG UP AND WEATHER.
6	Rig-Up Equipment	11/6/2022	17:30:00					CREW STAGED EQUIPMENT, RIGGED UP BULK, IRON AND WATER HOSES TO PERFORM JOB.
7	Rig-Up Completed	11/6/2022	18:30:00					WAITED ON RIG TO FINISH CIRCULATING.
8	Pre-Job Safety Meeting	11/6/2022	19:15:00	8.36	0.00	6.63	0.00	MEETING WITH HALLIBURTON AND RIG PERSONNEL. COMMUNICATED POTENTIAL SAFETY HAZARDS AND JOB DETAILS.
9	Start Job	11/6/2022	19:34:12	8.32	0.00	10.00	0.00	BEGIN RECORDING JOB DATA.

10	Test Lines	11/6/2022	19:37:14	8.60	0.00	139.69	2.08	PRESSURE TESTED IRON TO 4,500 PSI. KICKOUTS SET @ 500 PSI, KICKED OUT @ 1,380 PSI, 5TH GEAR STALL OUT @ 1,650 PSI.
11	Pump Spacer 1	11/6/2022	19:41:08	8.53	0.00	40.59	0.00	PUMP 50 BBLS OF TUNED PRIME SPACER @ 11.5 LB/GAL, 3.74 FT3/SK, 23.65 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	11/6/2022	19:49:28	11.97	6.07	346.97	0.05	PUMPED 555 SKS OF ELASTICEM CAP @ 13.0 LB/GAL, 1.65 FT3/SK, 8.3 GAL/SK. 163 BBLS, HOC CALCULATED @ 2,924', TOC CALCULATED @ SURFACE GETTING 32 BBLS BACK TO SURFACE. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN 690 PSI.
13	Pump Lead Cement	11/6/2022	20:09:15	13.04	8.52	606.29	0.07	PUMPED 540 SKS OF ISOBOND LEAD @ 13.0 LB/GAL, 1.55 FT3/SK, 7.14 GAL/SK. 149.10 BBLS, HOL CALCULATED @ 3,654', TOL CALCULATED @ 2,924'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8.5 BBLS/MIN 880 PSI.
14	Check Weight	11/6/2022	20:11:17	12.72	8.60	744.19	17.57	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
15	Pump Tail Cement	11/6/2022	20:27:20	13.20	8.55	778.81	0.07	PUMPED 755 SKS OF ELASTICEM TAIL @ 13.2 LB/GAL, 1.58 FT3/SK, 7.78 GAL/SK. 212.45 BBLS. HOT CALCULATED @ 5,207', TOL CALCULATED @ 6,578'. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8.5 BBLS/MIN 646 PSI.
16	Check Weight	11/6/2022	20:30:48	13.29	8.01	548.50	28.35	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
17	Shutdown	11/6/2022	20:58:09	13.12	0.00	93.09	238.70	
18	Clean Lines	11/6/2022	21:00:29	13.07	0.00	19.87	0.00	WASH LINES WITH 16 BBLS FRESH WATER PRIOR TO DROPPING PLUG.
19	Shutdown	11/6/2022	21:05:28	8.50	0.00	37.07	15.78	



20	Drop Top Plug	11/6/2022	21:06:43	8.48	0.00	23.36	15.78	PLUG LOADED BY CUSTOMER.
21	Pump Displacement	11/6/2022	21:07:19	8.35	4.42	61.03	0.15	BEGIN CALCULATED DISPLACEMENT OF 262 BBLS FRESH WATER WITH 10-GALS MMCR IN FIRST 20 BBLS. SPACER TO SURFACE @ 180 BBLS INTO DISPLACEMENT. CEMENT TO SURFACE @ 230 BBLS AWAY WITH TOTAL OF 32 BBLS CEMENT TO SURFACE. PUMP RATE 9 BBLS/MIN @ 2,500 PSI.
22	Bump Plug	11/6/2022	21:36:29	8.57	4.11	1965.59	256.65	PLUG BUMPED AT CALCULATED DISPLACEMENT. FINAL CIRCULATING PRESSURE 1,970 PSI PRESSURED 500 PSI OVER BUMP.
23	Check Floats	11/6/2022	21:39:12	8.46	0.00	159.40	258.26	RELEASED PRESSURE, FLOATS HELD, 2.5 BBLS BACK.
24	End Job	11/6/2022	21:39:32	8.63	0.00	38.66	0.00	STOP RECORDING JOB DATA
25	Safety Meeting - Pre Rig-Down	11/6/2022	21:45:00					DISCUSSED POSSIBLE HAZARDS ASSOCIATED WITH WEATHER, LOCATION SPECIFIC HAZARDS, PINCH POINTS RIGGING DOWN/RACKING UP IRON AND HOSES.
26	Rig-Down Equipment	11/6/2022	22:00:00					RIG DOWN BULK AND MIXING EQUIPMENT.
27	Rig-Down Completed	11/6/2022	23:00:00					ALL HALLIBURTON ITEMS WERE STOWED FOR TRAVEL AND LOCATION WAS CLEAN.
28	Depart Location Safety Meeting	11/6/2022	23:15:00					CREW DISCUSSED ROUTES HAZARDS AND COMMUNICATION WITH CREW.
29	Crew Leave Location	11/6/2022	23:30:00					THANK YOU FOR USING HALLIBURTON – MIKE LOUGHRAN AND CREW.

3.0 Attachments

3.1 Real Time iCem Job Chart

