

HALLIBURTON

iCem[®] Service

BONANZA CREEK ENERGY-EBUS

State Antelope13-43-2HN Production

Job Date: Wednesday, November 02, 2022

Sincerely,

Meghan Van Zyl

Legal Notice

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Table of Contents

Cementing Job Summary4

 Executive Summary 4

Real-Time Job Summary.....7

 Job Event Log 7

Attachments.....9

 Real Time iCem Job Chart..... 9

1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **State Antelope 13-43-2HN** 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 58 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 #: 9127016		Quote #:		Sales Order #: 0908214474				
Customer: BONANZA CREEK ENERGY-EBUS				Customer Rep: Josh Johnson						
Well Name: STATE ANTELOPE			Well #: 13-43-2HN.			API/UWI #: 05-123-51723-00				
Field:		City (SAP): GILL		County/Parish: WELD			State: COLORADO			
Legal Description: 02-5N-62W										
Contractor: PATTERSON-UTI ENERGY				Rig/Platform Name/Num: PATTERSON 345						
Job BOM: 7523 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX41066				Srvc Supervisor: Steven Markovich						
Job										
Formation Name										
Formation Depth (MD)		Top				Bottom				
Form Type				BHST						
Job depth MD		11441ft		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	1643	0	0
Casing	0	5.5	4.778	20			0	11443	0	0
Open Hole Section			8.5				1643	11448	0	0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	5.5			11441		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 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	23.65	6	1775	

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	ElastiCem	SBM CEM ELASTICEM™ SYS	555	sack	13	1.66	8.3	8	4606
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	IsoBond(tm)	SBM CEM FDP-C1371 SYS	550	sack	13	1.55	7.14	8	3927
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	ElastiCem	SBM CEM ELASTICEM™ SYS	760	sack	13.2	1.59	7.78	8	5913
Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
5	MMCR Displacement	MMCR Displacement	254	bbl	8.33			8.99	10668
Comment 640bbbls 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	Check Floats	11/2/2022	05:00:00					Job called out with an on location time of 1100.
2	Pre-Convoy Safety Meeting	11/2/2022	09:00:00					JSA with HES crew on driving safety and route to rig.
3	Arrive at Location from Service Center	11/2/2022	10:15:00					Arrived on location, rig still running casing approx 2600' left to run.
4	Pre-Rig Up Safety Meeting	11/2/2022	10:25:00					JSA and hazard hunt with HES crew.
5	Rig-Up Equipment	11/2/2022	10:30:00					Rig up HES lines and equipment.
6	Pre-Job Safety Meeting	11/2/2022	14:00:00	8.83	0.00	33.77	0.00	JSA with HES and rig crew on job safety and procedure.
7	Start Job	11/2/2022	14:01:04	8.63	2.00	137.45	1.05	TD 11448' TP 11443' FC 11438' 5 1/2" Production Casing, 8.5" Open hole, 9 5/8" Surface Casing set at 1643', TVD 6182', Estimated Top of Tail Cement 6167', Estimated Top of Lead Cement 2430'.
8	Test Lines	11/2/2022	14:02:53	8.33	0.00	86.48	3.80	Set kick outs to 500psi and check low pressure kick outs. Then bring pressure up to 6500psi and hold.
9	Drop Bottom Plug	11/2/2022	14:13:24	8.47	0.00	26.29	3.85	Plug loaded into HES head. Plug loaded and dropped in front of company rep.
10	Pump Spacer 1	11/2/2022	14:15:25	8.49	0.00	31.15	0.00	Pump 50bbls of 11.5ppg 3.74yield Tuned Prime Spacer.
11	Pump Lead Cement	11/2/2022	14:29:26	12.99	8.72	533.78	0.15	Pump 164.1bbls (555sks) of 13ppg 1.66yield Cap Cement.
12	Check Weight	11/2/2022	14:41:35	13.43	7.09	418.81	68.94	Weight verified by pressurized scales.

13	Check Weight	11/2/2022	14:50:35	12.84	1.66	42.92	106.23	Weight verified by pressurized scales.
14	Pump Lead Cement	11/2/2022	15:00:42	12.88	7.40	472.89	0.19	Pump 151.8bbls (550sks) of 13ppg 1.55yield Lead Cement.
15	Pump Tail Cement	11/2/2022	15:19:50	13.04	8.09	623.17	0.88	Pump 215.2bbls (760sks) of 13.2ppg 1.59yield Tail Cement.
16	Check Weight	11/2/2022	15:21:36	13.50	9.22	615.81	16.31	Weight verified by pressurized scales.
17	Check Weight	11/2/2022	15:24:58	13.10	8.98	644.43	46.76	Weight verified by pressurized scales.
18	Drop Top Plug	11/2/2022	16:01:10	8.13	0.00	-2.01	23.40	Plug loaded into HES head. Plug loaded and dropped in front of company rep.
19	Pump Displacement	11/2/2022	16:01:14	8.13	0.00	-1.42	0.00	Pump 253.9bbls of H2O. First 20bbls with MMCR. Pumped at 10bbl/min and slowed rate with pressure increase. Spacer to surface at 145bbls away, Cement to surface at 195bbls away bringing 58bbls of cement to surface.
20	Bump Plug	11/2/2022	16:29:49	8.42	4.01	2050.92	253.40	Bumped plug at calculated displacement. Final lift pressure was 2050psi. Took pressure 500psi over and held.
21	Check Floats	11/2/2022	16:31:46	8.50	0.00	2666.60	253.75	Pressure was 2666psi before we checked floats. After 2.5bbls back floats held.
22	End Job	11/2/2022	16:33:53	8.35	0.00	-1.04	253.75	Thank you, Steven Markovich and crew.
23	Safety Meeting	11/2/2022	16:45:00					Pre-rig down JSA
24	Rig-Down Equipment	11/2/2022	17:00:00					Rig down HES lines and equipment.
25	Crew Leave Location	11/2/2022	18:45:00					

3.0 Attachments

3.1 Real Time iCem Job Chart

