

# HALLIBURTON

iCem<sup>®</sup> Service

## **BONANZA CREEK ENERGY-EBUS**

**State Antelope C13-W43-2HN Production**

Job Date: Monday, October 31, 2022

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 **State Antelope C13-W43-2HN** 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 42 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> 9143416	<b>Quote #:</b>	<b>Sales Order #:</b> 0908207883
<b>Customer:</b> BONANZA CREEK ENERGY-EBUS		<b>Customer Rep:</b> Sam Mares	
<b>Well Name:</b> STATE ANTELOPE C13-W43		<b>Well #:</b> 2HN	<b>API/UWI #:</b> 123-51722
<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> Brandon Parker	
<b>Job</b>			

<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>	11701ft	<b>Job Depth TVD</b>	6240
<b>Water Depth</b>		<b>Wk Ht Above Floor</b>	4
<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	1665	0	
Casing	0	5.5	4.778	20			0	11692	0	6240
Open Hole Section			8.5				1665	11701	1665	6240

**Tools and Accessories**

Type	Size in	Qty	Make	Depth ft	Type	Size in	Qty	Make
Guide Shoe	5.5				Top Plug	5.5	1	citadel
Float Shoe	5.5	1	citadel	11692	Bottom Plug	5.5	1	citadel
Float Collar	5.5	1	citadel	11687	SSR plug set	5.5		HES
Insert Float	5.5				Plug Container	5.5	1	HES
Stage Tool	5.5				Centralizers	5.5	216	Scepter

**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	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/mi n	Total Mix Fluid Gal
2	ElastiCem	SBM CEM ELASTICEM™ SYS	555	sack	13	1.66	8.3	9	4607
3	IsoBond(tm)	SBM CEM FDP-C1371 SYS	595	sack	13	1.55	7.14	9	4248
4	ElastiCem	SBM CEM ELASTICEM™ SYS	730	sack	13.2	1.59	7.78	9	5680
5	MMCR Displacement	MMCR Displacement	259	bbl	8.33			10	10895
<b>Comment</b> 648bbbls 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	10/30/2022	15:30:00					crew called out to 5.5" production casing with an on location time 21:00 for Civitas Resources
2	Pre-Convoy Safety Meeting	10/30/2022	19:50:00					meeting with crew to discuss safety/hazards associated with traveling
3	Depart from Service Center or Other Site	10/30/2022	20:00:00					convoy to location
4	Assessment Of Location Safety Meeting	10/30/2022	21:30:00					hazard hunt, check location, bulk and water volumes, check compressor skid for fuel, started unit, td 11701, tp 11692, sj 5', fc 11684.8, sp 1665, surface casing 9.625 36#, production casing 5.5" 20#, wf 9.1ppg, tvd 6240, eob 6869, kop 5858 Citadel top/bottom plugs and fe, cnt 215
5	Arrive at Location from Service Center	10/30/2022	21:30:00					met with Mr. Josh Johnson/Sam Mares with Civitas and went over job numbers, water sources, cmt volumes and iron placment
6	Safety Meeting - Pre Rig-Up	10/30/2022	21:40:00					meeting with hes personnel to discuss safety/hazards associated with rigging up
7	Rig-Up Equipment	10/30/2022	21:50:00					rig up iron to red zone, water and bulk
8	Casing on Bottom	10/30/2022	23:30:00	0.00	0.00	0.19	0.00	rig landed casing . TRK casing compnay
9	Rig-Up Equipment	10/30/2022	23:35:00					stab hes plug container so rig could circulate through it

10	Circulate Well	10/30/2022	23:42:00					start circulation, pumped at 11bpm, psi 800 and pumped 7500 strokes
11	Pre-Job Safety Meeting	10/31/2022	00:28:00	0.00	0.00	-1.35	0.00	meeting with all personnel on location to discuss safety/hazards associated with job, also covered job procedures. all personnel signed jsa
12	Break Circulation	10/31/2022	00:41:00	0.00	0.00	6.24	0.00	ko rig pumps, rig hes iron
13	Start Job	10/31/2022	00:47:02	8.38	0.00	5.27	0.00	start recording real time data
14	Drop Bottom Plug	10/31/2022	00:47:08	8.38	0.00	5.57	0.00	bottom plug pre loaded prior to starting cmt job. plug loaded by Sam Mares with Civitas
15	Pump Water	10/31/2022	00:47:12	8.37	0.00	5.80	0.00	pumped 3bbls at 3bpm top psi was 330
16	Test Lines	10/31/2022	00:49:37	8.54	0.00	122.33	0.00	test eko, 5th gear stall and high psi test 5049. psi held solid final psi 5037. 2 minute test
17	Pump Spacer 1	10/31/2022	00:58:17	8.40	1.51	7.03	0.01	pumped 50bbls of tuned prime, 11.5ppg, 3.74 yield, 23.65 gal/sk pumped at 6bpm and average psi was 320. weight confirmed using pressurized mud scales. calculated all 50bbls of spacer to surface
18	Check Weight	10/31/2022	01:05:56	11.62	6.08	261.64	38.49	
19	Pump Cement	10/31/2022	01:07:07	11.54	6.05	223.21	45.62	pumped 164bbls of cap cement, 555sks, 13ppg, 1.66 yield, 8.3 gal/sk pumped at 9bpm and average psi was 700. weight confirmed using pressurized mud scales. set time at 70bc 5:42hrs. calculated 46bbls of cap cmt to surface, 79.8bbls left inside surface casing. MW 4607
20	Check Weight	10/31/2022	01:09:35	12.91	6.01	334.19	14.70	
21	Other	10/31/2022	01:25:44	12.89	9.23	653.15	164.28	slow rate to assure cap silo was mt
22	Pump Lead Cement	10/31/2022	01:26:13	12.74	6.78	404.61	167.85	pumped 164.3bbls of latex cmt, 595sks, 13ppg, 1.55 yield, 7.14gal/sk pumped at 9bpm and average psi was 800.

weight confirmed using pressurized mud scales. set time at 70bc 5:31hrs. calculated top of lead cmt at 2599.36ft. MW 4248

23	Slow Rate	10/31/2022	01:43:41	12.97	9.42	888.17	164.48	slow rate from 9bpm to 6bpm to assure lead silo was mt
24	Pump Tail Cement	10/31/2022	01:44:31	12.77	6.45	479.05	0.22	pumped 206.7bbls of tail cmt, 30sks, 13.2ppg, 1.59 yield, 7.78 gal/sk pumped at 9bpm and average psi was 700. weight confirmed using pressurized mud scales. set time at 70bc is 5:34hrs. calculated top of tail cmt at 6626.32ft. MW 5680
25	Check Weight	10/31/2022	01:47:53	13.21	6.53	434.28	22.24	
26	Check Weight	10/31/2022	01:59:47	13.33	9.32	679.31	130.48	
27	Check Weight	10/31/2022	02:05:28	13.18	9.34	673.78	183.63	
28	Slow Rate	10/31/2022	02:07:25	13.24	9.26	666.77	202.02	slow rate from 9bpm to 5bpm to assure tail silo was mt, to assure lines are clear and to maintain 13.2ppg density
29	Shutdown	10/31/2022	02:11:01	13.23	6.17	395.72	224.25	done pumping cmt.
30	Clean Lines	10/31/2022	02:15:06	0.20	0.00	65.69	0.00	closed three valves on hes manifold to well. cleaned lines and pump to 4sided tank below rig stairs. pumped 25bbls to clean lines and pump
31	Shutdown	10/31/2022	02:23:09	8.45	0.75	94.07	24.98	offline
32	Drop Top Plug	10/31/2022	02:24:49	8.41	0.00	28.30	0.00	top plug pre loaded while hes was washing lines and pumps. loaded by Civitas company rep Sam Mares and witnessed by HES supervisor
33	Pump Displacement	10/31/2022	02:24:53	8.36	0.81	41.54	0.01	calculated disp. fc st at 11684.8ft x .0222 =259.4bbls. 10 gallons mmcr in the first 20bbls of displacement
34	Other	10/31/2022	02:27:00	8.34	10.13	618.00	19.22	displacement caught cmt (19bbls in)

35	Slow Rate	10/31/2022	02:50:07	8.37	5.52	2694.41	241.56	slow rate at 240bbbls, 9bpm 2850psi to 4bpm, 2175psi
36	Bump Plug	10/31/2022	02:55:26	8.41	0.07	2718.17	261.06	plug bumped at calculated volume 259.4bbbls, psi 2200 and ko pumps at 2700, psi climbed to 3004 and held solid, confirmed by Mr. Sam Mares
37	Check Floats	10/31/2022	02:57:54	8.43	0.00	2974.60	0.00	citadel floats held 3bbbls back to the pump truck, verified by Mr. Sam Mares
38	End Job	10/31/2022	02:58:49	8.18	0.00	42.02	0.00	cmt job complete
39	Resume	10/31/2022	03:03:07	8.16	0.50	22.72	0.00	clean hes hts
40	Pump Water	10/31/2022	03:08:32	8.21	1.54	43.21	0.03	pumped 40bbbls to flush stack/used 100lbs sugar
41	End Job	10/31/2022	03:15:46	0.26	0.00	48.76	42.84	offline
42	Spacer Returns to Surface	10/31/2022	03:16:00	0.26	0.00	31.11	42.84	rig took back 50bbbls of tuned prime spacer
43	Cement Returns to Surface	10/31/2022	03:16:34	0.26	0.00	22.70	42.84	rig took back 42bbbls of cap cmt
44	Pre-Rig Down Safety Meeting	10/31/2022	03:18:00	0.26	0.00	14.51	42.84	meeting to discuss safety/hazards associated with rigging down
45	Rig-Down Equipment	10/31/2022	03:20:01	0.26	0.00	11.29	0.00	
46	Depart Location for Service Center or Other Site	10/31/2022	04:30:00					
47	Other	10/31/2022	04:31:00					Thank You for Choosing Halliburton Cement. Parker and Crew. (970)397-4969

3.0 Attachments

3.1 Real Time iCem Job Chart

