

HALLIBURTON

iCem® Service

NOBLE ENERGY INC-EBUS

GUTTERSEN D10-725

Production Casing

Job Date: Sunday, February 13, 2022

Sincerely,

Brad Hinkle and Crew

Legal Notice

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the Gutteresen D10-725 production casing. 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.

Job was pumped per design with an average cement density of 13.22 ppg at 8.06 bbl/min. Cement was displaced with 20 bbl. of treated water with retarder and 381 bbl. of treated freshwater displacement. Plug was landed at 2,469 psi and bumped to 3,159 psi. Pressure was bled off and 5.5 bbl. of fluid was returned to the truck. Approximately 20 bbl. of spacer was returned to surface indicating a top of cement around 2,088'.

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

The Road to Excellence Starts with Safety

Sold To #: 345242		Ship To #: 3925354		Quote #:		Sales Order #: 0907675781				
Customer: NOBLE ENERGY INC-EBUS					Customer Rep: Charles Collver					
Well Name: GUTTERSEN			Well #: D10-725			API/UWI #: 05-123-48910-00				
Field: WATTENBERG		City (SAP): KERSEY		County/Parish: WELD			State: COLORADO			
Legal Description: SWSE-34-4N-64W-465FSL-1648FEL										
Contractor: H & P DRLG					Rig/Platform Name/Num: H & P 517					
Job BOM: 7523										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HX41066					Srvc Supervisor: Bradley Hinkle					
Job										
Job depth MD		17316ft			Job Depth TVD		6668ft			
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	1926	0	1925
Casing		5.5	4.892	17			0	17316	0	6668
Open Hole Section			8.5				1925	17329	1925	6668
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Float Shoe	5.5	1	HES	17316		Top Plug	5.5	1	HES	
Float Collar	5.5	1	HES	17272		Bottom Plug	5.5	2	HES	
						Centralizers	5.5	213	SUMMIT	

Fluid Data									
Stage #: 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	Spacer	Tuned Prime Spacer	120	bbl	11.5	3.92	24.68	7	4242
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
2	Cap Cement	ElastiCem™	140	sack	13.2	1.6	7.63	7	1068
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
3	Lead Cement	ElastiCem™	696	sack	13.2	1.67	8.03	9	5310
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
4	Tail Cement	NeoCem™	1172	sack	13.2	2.04	9.79	8.5	11473
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
5	Displacement	Fresh Water with MMCR	20	bbl	8.4			10	830
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
6	Displacement	Treated Fresh Water	381	bbl	8.4			8	15977
Cement Left In Pipe		Amount	44 ft		Reason			Shoe Joint	
Mix Water:	6.5 pH	Mix Water Chloride:	0 ppm			Mix Water Temperature:	72 °F		
Plug Bumped?	Yes	Plug Displaced by:	8.33 lb/gal Treated Water			Disp. Temperature:	72 °F		
Cement Returns:	0 bbl.	Bump Pressure:	2469 psi			Floats Held?	Yes		
Comment: 20 bbl. spacer to surface. Estimated top of Cap cement at 2088 feet.									

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq. No.	Activity	Date	Time	Comments
1	Call Out	2/13/2022	02:00:00	Crew called for an on-location time of 0800. Crew was Bradley Hinkle, Cody Stalcar, Jacob Chavez and Whatitis Simpson.
2	Depart Shop for Location	2/13/2022	06:00:00	Pre-journey safety meeting. Discussed drowsy driving and wildlife.
3	Arrive at Location from Service Center	2/13/2022	07:00:00	Arrive on location, check-in and perform a site assessment.
4	Job Numbers	2/13/2022	07:15:00	TD: 17329 TP: 17316 FC: 17272 - 5.5" 17# casing inside a 8.5" OH. TVD: 6668. 9.625" 36# surface casing set at 1925. Mud weight: 10.5 ppg. 213 centralizers from 17273 - 1034.
5	Safety Meeting - Pre Job	2/13/2022	13:40:00	Pre-job safety meeting with all personnel on location. Discussed safety protocols and job procedure.
6	Start Job	2/13/2022	14:04:07	Fill lines with 4 bbl. water.
7	Test Lines	2/13/2022	14:06:06	Pressure test lines to 4600 psi with a 500-psi electronic kick-out test. Bleed off pressure and pressure test rig I-BOP to 2000 psi.
8	Drop Bottom Plug	2/13/2022	14:09:00	750psi HWE bottom plug loaded into casing. Witnessed by customer.
9	Pump Spacer 1	2/13/2022	14:10:29	Pump 120 bbl. Tuned Prime Spacer mixed at 11.5 ppg. Density verified by pressurized scales. Total mix water at 4240 gallons.
10	Check Weight	2/13/2022	14:13:50	Spacer weighed at 11.5 ppg.
11	Check Weight	2/13/2022	14:20:07	
12	Check Weight	2/13/2022	14:31:27	Spacer weighed 11.55 ppg.
13	Drop Bottom Plug	2/13/2022	14:31:41	750psi HWE bottom plug loaded into casing. Witnessed by customer.

14	Pump Cap Cement	2/13/2022	14:31:45	Pump 40 bbl. (140 sacks, 1.6 yield, 7.63 gal/sk) ElastiCem without CBL mixed at 13.2 ppg. Density verified by pressurized scales. Total mix water at 1068 gallons.
15	Check Weight	2/13/2022	14:34:09	
16	Pump Lead Cement	2/13/2022	14:38:19	Pump 207 bbl. (696 sacks, 1.67 yield, 8.03 gal/sk) ElastiCem with CBL mixed at 13.2 ppg. Density verified by pressurized scales. Total mix water at 5300 gallons.
17	Check Weight	2/13/2022	14:40:18	Cement weighed at 13.2 ppg.
18	Pump Tail Cement	2/13/2022	15:04:14	Pump 426 bbl. (1172 sacks, 2.04 yield, 9.79 gal/sk) NeoCem mixed at 13.2 ppg. Density verified by pressurized scales. Total mix water at 11,473 gallons.
19	Check Weight	2/13/2022	15:09:28	Cement weighed at 13.15 ppg.
20	Check Weight	2/13/2022	15:41:42	Cement weighed at 13.2 ppg.
21	Shutdown	2/13/2022	15:56:24	
22	Clean Lines	2/13/2022	15:58:28	Wash pumps and lines to washup tank until clean.
23	Drop Top Plug	2/13/2022	16:05:35	HWE Top Plug dropped into casing. Witnessed by customer.
24	Pump Displacement	2/13/2022	16:05:56	Pump 401 bbl. fresh water with inhibitor and biocide added throughout. First 20 bbl. with MMCR added. Good returns throughout. 20 bbl. spacer to surface. Estimated top of cap cement at 2088 feet.
25	Bump Plug	2/13/2022	16:57:27	Final circulating pressure at 2469 psi with a final bump of 3063 psi. Held for five minutes with a final pressure of 3159 psi.
26	Check Floats	2/13/2022	17:02:00	Floats held. 5.5 bbl. back.
27	End Job	2/13/2022	17:04:12	Blow down lines with rig air.
28	Pre-Rig Down Safety Meeting	2/13/2022	17:10:00	Pre-rig down safety meeting.
29	Depart Location for Service Center	2/13/2022	18:30:00	

3.0 Attachments

3.1 Job Chart

