

# HALLIBURTON

iCem<sup>®</sup> Service

**NOBLE ENERGY INC-EBUS**

**GUTTERSEN D10-745**

Production Casing

Job Date: Tuesday, February 22, 2022

Sincerely,

**KYLE BATH**

## 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 Gutteresen D10-745 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 7.36 bbl/min. Cement was displaced with 20 bbl. of treated water with retarder and 379 bbl. of treated freshwater displacement. Plug was landed at 2,700 psi and bumped to 3,263 psi. Pressure was bled off and 5.5 bbl. of fluid was returned to the truck. Approximately 50 bbl. of spacer was returned to surface indicating a top of cement around 1,461'.

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*

<b>Sold To #:</b> 345242		<b>Ship To #:</b> 3925432		<b>Quote #:</b>		<b>Sales Order #:</b> 0907691487				
<b>Customer:</b> NOBLE ENERGY INC-EBUS					<b>Customer Rep:</b> Job Drahota					
<b>Well Name:</b> GUTTERSEN			<b>Well #:</b> D10-745			<b>API/UWI #:</b> 05-123-48918-00				
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> KERSEY		<b>County/Parish:</b> WELD			<b>State:</b> COLORADO			
<b>Legal Description:</b> SW SE-34-4N-64W-466FSL-1715FEL										
<b>Contractor:</b> H & P DRLG					<b>Rig/Platform Name/Num:</b> H & P 517					
<b>Job BOM:</b> 7523										
<b>Well Type:</b> HORIZONTAL OIL										
<b>Sales Person:</b> HALAMERICA\HX41066					<b>Srvc Supervisor:</b> Kyle Bath					
<b>Job</b>										
<b>Job depth MD</b>		17238ft			<b>Job Depth TVD</b>		6676ft			
<b>Well Data</b>										
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	1949	0	1949
Casing		5.5	4.892	17			0	17238	0	6676
Open Hole Section			8.5				1949	17252	1949	6676
<b>Tools and Accessories</b>										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Float Shoe	5.5	1	HES	17238		Top Plug	5.5	1	HES	
Float Collar	5.5	1	HES	17194		Bottom Plug	5.5	2	HES	
						Centralizers	5.5	212	SUMMIT	

Fluid Data									
<b>Stage #: 1</b>									
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 Cement Spacer	120	bbl	11.5	3.92			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	8	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™	697	sack	13.2	1.67	8.03	8	5597
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™	1165	sack	13.2	2.04	9.79	8	11405
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	Treated Fresh Water	399	bbl	8.33				16723
<b>Cement Left In Pipe</b>									
<b>Amount</b>		47 ft			<b>Reason</b>			Shoe Joint	
<b>Mix Water:</b>		pH 7		<b>Mix Water Chloride:</b>		0 ppm		<b>Mix Water Temperature:</b> 50 °F	
<b>Plug Bumped?</b>		Yes		<b>Plug Displaced by:</b>		8.33 lb/gal Treated Water		<b>Disp. Temperature:</b> 50 °F	
<b>Cement Returns:</b>		0 bbl.		<b>Bump Pressure:</b>		2700 psi		<b>Floats Held?</b> Yes	
<b>Comment:</b> RECIEVED 50 BBL TUNED PRIME SPACER TO SURFACE									

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Seq. No.	Activity	Date	Time	Comments
1	Call Out	2/21/2022	12:30:00	CREW CALLED OUT, REQUESTED ON LOCATION 18:30
2	Depart Yard Safety Meeting	2/21/2022	17:15:00	PRE CONVOY SAFETY MEETING WITH ALL HES EE
3	Crew Leave Yard	2/21/2022	17:30:00	CREW DEPART YARD FOR LOCATION
4	Arrive At Loc	2/21/2022	18:30:00	ARRIVE ON LOCATION, RECIEVED NUMBERS FROM CO REP, TD 17252, TP 17238, SJ 44, CSG 5.5 17#, PREV CSG 9 5/8 36# @ 1949, HOLE 8.5, MUD 10.2, TVD 6676, 212 CENTALIZERS, WATER TEST, TEMP 50, CHLORIDES 0, PH 7
5	Assessment Of Location Safety Meeting	2/21/2022	18:45:00	SAFETY MEETING WITH ALL HES EE TO ASSESS ALL HAZARDS
6	Safety Meeting - Pre Rig-Up	2/21/2022	19:00:00	PRE RIG UP SAFETY MEETING WITH ALL HES EE
7	Safety Meeting - Pre Job	2/21/2022	20:30:00	PRE JOB SAFETY MEETING WITH RIG CREW AND CO REP
8	Start Job	2/21/2022	21:47:05	START RECORDING DATA
9	Drop Bottom Plug	2/21/2022	21:47:12	LAUNCH BOTTOM PLUG
10	Test Lines	2/21/2022	21:51:45	TEST LINES TO 4800 PSI
11	Pump Spacer 1	2/21/2022	22:05:27	PUMP 120 BBLs TUNED PRIME SPACER 11.5 PPG, 7.5 BPM, 630 PSI
12	Check Weight	2/21/2022	22:12:54	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
13	Drop Bottom Plug	2/21/2022	22:24:01	LAUNCH BOTTOM PLUG
14	Pump Cap Cement	2/21/2022	22:24:04	MIX AND PUMP 140 SKS 39.9 BBLs CAP CEMENT 13.2 PPG, 1.6 FT3/SK, 7.63 GAL/SK, 9 BPM 700 PSI, CALCULATED TOCC 997

15	Pump Lead Cement	2/21/2022	22:30:07	MIX AND PUMP 697 SKS 207 BBLS LEAD CEMENT 13.2 PPG, 1.67 FT3/SK, 8.03 GAL/SK, 9 BPM, 600 PSI, CALCULATED TOLC 1830
16	Check Weight	2/21/2022	22:34:10	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
17	Shutdown	2/21/2022	22:45:53	LEAK ON RIG FLOOR
18	Pump Tail Cement	2/21/2022	23:00:04	MIX AND PUMP 1165 SKS 423 BBLS TAIL CEMENT 13.2 PPG, 2.04 FT3/SK, 9.79 GAL/SK 8.5 BPM 1250 PSI, CALCULATED TOTC 6890
19	Check Weight	2/21/2022	23:06:07	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
20	Check Weight	2/21/2022	23:47:02	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
21	Shutdown	2/22/2022	00:01:05	SHUTDOWN, WASH PUMPS AND LINES TO TANK
22	Drop Top Plug	2/22/2022	00:12:58	LAUNCH TOP PLUG
23	Pump Displacement	2/22/2022	00:13:02	PUMP 399 BBLS BIOCIDES DISPLACEMENT, FIRST 20 BBLS W/MMCR, 10 BPM 2950 PSI, RECIEVED 50 BBLS TUNED PRIME SPACER TO SURFACE
24	Bump Plug	2/22/2022	01:06:42	BUMPED PLUG AT 2700 PSI TOOK TO 3263 PSI
25	Check Floats	2/22/2022	01:12:59	FLOATS HELD TOOK 5.5 BBLS BACK
26	End Job	2/22/2022	01:15:27	STOP RECORDING DATA
27	Safety Meeting - Pre Rig-Down	2/22/2022	01:20:00	PRE RIG DOWN SAFETY MEETING WITH ALL HES EE
28	Depart Location Safety Meeting	2/22/2022	02:30:00	PRE DEPARTURE SAFETY MEETING WITH ALL HES EE
29	Crew Leave Location	2/22/2022	03:00:00	THANK YOU FOR USING HALLIBURTON, KYLE BATH AND CREW

3.0 Attachments

3.1 Job Chart

