

# HALLIBURTON

iCem<sup>®</sup> Service

**NOBLE ENERGY INC-EBUS**

**GUTTERSON D10-735**

Production Casing

Job Date: Thursday, February 17, 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 Guttersen D10-735 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 13.19 ppg at 7.04 bbl/min. Cement was displaced with 20 bbl. of treated water with retarder and 380 bbl. of treated freshwater displacement. Plug was landed at 2,575 psi and bumped to 3,245 psi. Pressure was bled off and 5.5 bbl. of fluid was returned to the truck. Approximately 45 bbl. of spacer was returned to surface indicating a top of cement around 1,566'.

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> 3925499		<b>Quote #:</b>		<b>Sales Order #:</b> 0907682548					
<b>Customer:</b> NOBLE ENERGY INC-EBUS				<b>Customer Rep:</b> Jon Drahota							
<b>Well Name:</b> GUTTERSEN			<b>Well #:</b> D10-735			<b>API/UWI #:</b> 05-123-48914-00					
<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-1693FEL											
<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>		17302ft			<b>Job Depth TVD</b>		6756ft				
<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	1928	0	1928	
Casing		5.5	4.892	17			0	17302	0	6756	
Open Hole Section			8.5				1928	17315	1937	6756	
<b>Tools and Accessories</b>											
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make		
Float Shoe	5.5	1	HES	17302		Top Plug	5.5	1	HES		
Float Collar	5.5	1	HES	17258		Bottom Plug	5.5	2	HES		
						Centralizers	5.5	216	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™	1171	sack	13.2	2.04	9.79	8	11464	
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	400	bbl	8.33				16765	
<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>		66 °F
<b>Plug Bumped?</b>		Yes		<b>Plug Displaced by:</b>		8.3 lb/gal Treated Water		<b>Disp. Temperature:</b>		66 °F
<b>Cement Returns:</b>		0 bbl.		<b>Bump Pressure:</b>		2575 psi		<b>Floats Held?</b>		Yes

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Seq. No.	Activity	Date	Time	Comments
1	Call Out	2/17/2022	10:00:00	CREW CALLED OUT, REQUESTED ON LOCATION 16:00
2	Depart Yard Safety Meeting	2/17/2022	13:45:00	PRE CONVOY SAFETY MEETING WITH ALL HES EE
3	Crew Leave Yard	2/17/2022	14:00:00	CREW DEPART YARD FOR LOCATION
4	Arrive At Loc	2/17/2022	15:00:00	ARRIVE ON LOCATION, RECIEVED NUMBERS FROM CO REP, TD 17315, TP 17301.8, SJ 43.89, CSG 5.5 17#, PREV CSG 9 5/8 36#, HOLE 8.5, MUD 10.2, TVD 6756, 216 CENTALIZERS, WATER TEST, TEMP 66, CHLORIDES 0, PH 7
5	Assessment Of Location Safety Meeting	2/17/2022	15:15:00	SAFETY MEETING WITH ALL HES EE TO ASSESS ALL HAZARDS
6	Safety Meeting - Pre Rig-Up	2/17/2022	15:30:00	PRE RIG UP SAFETY MEETING WITH ALL HES EE
7	Safety Meeting - Pre Job	2/17/2022	19:00:00	PRE JOB SAFETY MEETING WITH RIG CREW AND CO REP
8	Start Job	2/17/2022	19:54:57	START RECORDING DATA
9	Test Lines	2/17/2022	19:58:23	TEST LINES TO 4700 PSI, TEST IBOP TO 2000 PSI
10	Pump Spacer 1	2/17/2022	20:08:09	PUMP 120 BBLs TUNED PRIME SPACER 11.5 PPG, 8.5 BPM 600 PSI
11	Check Weight	2/17/2022	20:19:18	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
12	Pump Cap Cement	2/17/2022	20:25:50	MIX AND PUMP 140 SKS 39.9 BBLs CAP CEMENT 13.2 PPG, 1.6 FT3/SK, 7.63 GAL/SK 7 BPM 500 PSI, CALCULATED TOCC 999

13	Pump Lead Cement	2/17/2022	20:33:55	MIX AND PUMP 697 SKS 207.3 BBLS LEAD CEMENT 13.2 PPG, 1.67 FT3/SK, 8.03 GAL/SK 9 BPM 700 PSI, CALCULATED TOLC 1832
14	Check Weight	2/17/2022	20:37:20	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
15	Check Weight	2/17/2022	20:46:25	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
16	Check Weight	2/17/2022	20:54:32	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
17	Pump Tail Cement	2/17/2022	21:03:45	MIX AND PUMP 1171 SKS 425.5 BBLS TAIL CEMENT 13.2 PPG, 2.04 FT3/SK, 9.79 GAL/SK 9 BPM 1300 PSI, CALCULATED TOTC 6897
18	Check Weight	2/17/2022	21:31:59	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
19	Shutdown	2/17/2022	22:02:18	SHUTDOWN, WASH UP PUMPS AND LINES TO TANK
20	Drop Top Plug	2/17/2022	22:15:36	LAUNCH TOP PLUG
21	Pump Displacement	2/17/2022	22:15:38	PUMP 400 BBLS BIOCIDES DISPLACEMENT, FIRST 20 BBLS W/MMCR, 10 BPM 2950 PSI, RECEIVED 45 BBLS TUNED PRIME SPACER TO SURFACE
22	Bump Plug	2/17/2022	23:06:52	BUMPED PLUG AT 2575 PSI TOOK TO 3245 PSI
23	Check Floats	2/17/2022	23:11:52	FLOATS HELD TOOK 5.5 BBLS BACK
24	End Job	2/17/2022	23:13:43	STOP RECORDING DATA
25	Safety Meeting - Pre Rig-Down	2/17/2022	23:15:00	PRE RIG DOWN SAFETY MEETING WITH ALL HES EE
26	Depart Location Safety Meeting	2/18/2022	00:15:00	PRE DEPARTURE SAFETY MEETING WITH ALL HES EE
27	Crew Leave Location	2/18/2022	00:50:00	THANK YOU FOR USING HALLIBURTON, KYLE BATH AND CREW

3.0 Attachments

3.1 Job Chart

