HALLIBURTON

iCem® Service

NOBLE ENERGY INC-EBUS

Guttersen D12-755
Production Casing
Job Date: Saturday, April 30, 2022

Sincerely,
Meghan Van Zyl

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 **Guttersen D12-755** 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.

Job was pumped per design with an average cement density of 13.14 ppg at 7.64 bbl/min. Cement was displaced with 20 bbl. of treated water with retarder and 382 bbl. of treated freshwater displacement. Plug was landed at 2,454 psi and bumped to 3,123 psi. Pressure was bled off and 4.5 bbl. of fluid was returned to the truck. Approximately 65 bbl. of spacer was returned to surface indicating a top of cement around 982'.

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 #: 345242	**Ship To #:** 3928966	**Quote #:**	**Sales Order #:** 0907835309
Customer: NOBLE ENERGY INC-EBUS		**Customer Rep:** Jim Turner	
Well Name: GUTTERSEN	**Well #:** D12-775		**API/UWI #:** 05-123-49080-00
Field: WATTENBERG	**City (SAP):** KERSEY	**County/Parish:** WELD	**State:** COLORADO
Legal Description: NE NW-1-3N-64W-316FNL-1640FWL			
Contractor: H & P DRLG		**Rig/Platform Name/Num:** H & P 517	
Job BOM: 7523 7523			
Well Type: HORIZONTAL OIL			
Sales Person: HALAMERICA\HX41066		**Srvc Supervisor:** Kyle Bath	

Job

Job depth MD	17377ft	**Job Depth TVD**	

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	1922	0	1922
Casing		5.5	4.892	17			0	17361	0	6649
Open Hole Section			8.5				1921	17377	1921	6649

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Float Shoe	5.5			17361		**Top Plug**	5.5	1	HES
Float Collar	5.5					**Bottom Plug**	5.5	2	HES
						Centralizers	5.5	213	Summit

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	TUNED PRIME CEMENT SPACER SYS	120	bbl	11.5	3.88	24.67	6	4237

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	ElastiCem Cap	SBM CEM ELASTICEM™ SYS	140	sack	13.2	1.6	7.63	6	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	ElastiCem w/ SCBL	SBM CEM ELASTICEM™ SYS	710	sack	13.2	1.67	8.03	8	5701

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	NeoCem NT1	NeoCem TM	1167	sack	13.2	2.04	9.75	8	11378

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	MMCR Displacement	MMCR Displacement	20	bbl	8.33			8	840

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	Treated Displacement	Treated Displacement	382	bbl	8.33			7.21	16044

Cement Left In Pipe	**Amount**	47 ft	Reason	**Shoe Joint**

Mix Water:	pH 7	**Mix Water Chloride:**	0 ppm	Mix Water Temperature:	**60 °F**
Plug Bumped?	Yes	**Plug Displaced by:**	8.33 lb/gal Water	Disp. Temperature:	**60 °F**
Cement Returns:	0 bbl	**Bump Pressure:**	3123 psi	Floats Held?	**Yes**

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq. No.	Activity	Date	Time	Comments
1	Call Out	4/29/2022	18:30:00	CREW CALLED OUT, REQUESTED ON LOCATION 00:30
2	Depart Yard Safety Meeting	4/29/2022	20:45:00	PRE CONVOY SAFETY MEETING WITH ALL HES EE
3	Crew Leave Yard	4/29/2022	21:00:00	CREW DEPART YARD FOR LOCATION
4	Arrive At Loc	4/29/2022	22:00:00	ARRIVE ON LOCATION, RECIEVED NUMBERS FROM CO REP, TD 17377, TP 17361, SJ 44, CSG 5.5 17#, PREV CSG 9 5/8 36# @ 1921, HOLE 8.5, MUD 9.8, TVD 6668, 213 CENTALIZERS, WATER TEST, TEMP 60, CHLORIDES 0, PH 7
5	Assessment Of Location Safety Meeting	4/29/2022	22:15:00	SAFETY MEETING WITH ALL HES EE TO ASSESS ALL HAZARDS
6	Safety Meeting - Pre Rig-Up	4/29/2022	22:30:00	PRE RIG UP SAFETY MEETING WITH ALL HES EE
7	Safety Meeting - Pre Job	4/30/2022	01:40:00	PRE JOB SAFETY MEETING WITH RIG CREW AND CO REP
8	Start Job	4/30/2022	01:57:02	START RECORDING DATA
9	Drop Bottom Plug	4/30/2022	01:57:14	LAUNCH BOTTOM PLUG
10	Test Lines	4/30/2022	02:00:05	TEST LINES TO 5150 PSI, TEST IBOP TO 2000 PSI
11	Pump Spacer 1	4/30/2022	02:07:58	PUMP 120 BBLS TUNED PRIME SPACER 11.5 PPG 7 BPM 330 PSI
12	Check Weight	4/30/2022	02:14:37	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
13	Drop Bottom Plug	4/30/2022	02:30:00	LAUNCH BOTTOM PLUG
14	Pump Cap Cement	4/30/2022	02:30:50	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 982

15	Check Weight	4/30/2022	02:32:50	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
16	Pump Lead Cement	4/30/2022	02:37:47	MIX AND PUMP 710 SKS 211 BBLS LEAD CEMENT 13.2 PPG, 1.67 FT3/SK, 8.03 GAL/SK, 9 BPM 780 PSI, CALCULATED TOLC 1817
17	Check Weight	4/30/2022	02:43:37	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
18	Pump Tail Cement	4/30/2022	03:06:50	MIX AND PUMP1167 SKS 424 BBLS TAIL CEMENT 13.2 PPG, 2.04 FT3/SK, 9.75 GAL/SK, 9 BPM 1200 PSI, CALCULATED TOTC 6971
19	Check Weight	4/30/2022	03:08:52	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
20	Shutdown	4/30/2022	04:17:29	SHUTDOWN, WASH PUMPS AND LINES TO TANK
21	Drop Top Plug	4/30/2022	04:27:50	LAUNCH TOP PLUG
22	Pump Displacement	4/30/2022	04:27:55	PUMP 402 BBLS BIOCIDE DISPLACEMENT, FIRST 20 BBLS W MMCR, 10 BPM 3000 PSI, RECIEVED 65 BBLS TUNED PRIME SPACER TO SURFACE
23	Bump Plug	4/30/2022	05:16:01	BUMPED PLUG AT 2500 PSI TOOK TO 3200 PSI, PRESSURE NOT HOLDING AS CRT LEAKING
24	Other	4/30/2022	05:20:38	CHECK FLOATS, FLOATS HELD TOOK 4.5 BBLS BACK
25	End Job	4/30/2022	05:24:28	STOP RECORDING DATA
26	Safety Meeting - Pre Rig-Down	4/30/2022	05:27:00	PRE RIG DOWN SAFETY MEETING WITH ALL HES EE
27	Depart Location Safety Meeting	4/30/2022	06:30:00	PRE DEPARTURE SAFETY MEETING WITH ALL HES EE
28	Crew Leave Location	4/30/2022	07:00:00	THANK YOU FOR USING HALLIBURTON, KYLE BATH AND CREW

3.0 Attachments

3.1 Job Chart