HALLIBURTON

iCem® Service

NOBLE ENERGY INC-EBUS

Guttersen D12-765
Production Casing
Job Date: Wednesday, May 04, 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 D12-765** 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 13.1 ppg at 8.59 bbl/min. Cement was displaced with 20 bbl. of treated water with retarder and 382 bbl. of treated freshwater displacement. Plug was landed at 2,739 psi and bumped to 3,209 psi. Pressure was bled off and 5.5 bbl. of fluid was returned to the truck. Approximately 70 bbl. of spacer was returned to surface indicating a top of cement around 973'.

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 #:** 3928759	**Quote #:**	**Sales Order #:** 0907840510
Customer: NOBLE ENERGY INC-EBUS		**Customer Rep:** Charles Collver	
Well Name: GUTTERSEN	**Well #:** D12-765		**API/UWI #:** 05-123-49073-00
Field: WATTENBERG	**City (SAP):** KERSEY	**County/Parish:** WELD	**State:** COLORADO
Legal Description: NE NW-1-3N-64W-316FNL-1685FWL			
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:** Nicholas Roles	

Job

Job depth MD	17376ft	**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	1939	0	0
Casing		5.5	4.892	17			0	17376	0	0
Open Hole Section			8.5				1939	17386	0	0

Tools and Accessories

Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make
Float Shoe	5.5			17376		**Top Plug**	5.5	1	HES
Float Collar	5.5			17332.5		**Bottom Plug**	5.5	2	HES
						Centralizers	5.5	210	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	1.592	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	9	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	1170	sack	13.2	2.04	9.75	9	11407

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			10	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			10	16044

Cement Left In Pipe	**Amount**	44 ft	Reason	**Shoe Joint**

Mix Water:	pH 7	**Mix Water Chloride:**	>3000 ppm	Mix Water Temperature:	**65 °F**
Plug Bumped?	Yes	**Plug Displaced by:**	8.33 lb/gal Water	Disp. Temperature:	**65 °F**
Cement Returns:	0 bbl	**Bump Pressure:**	2700 psi	Floats Held?	**Yes**

2.0 Real-Time Job Summary

2.1 Job Event Log

Seq. No.	Activity	Date	Time	Comments
1	Call Out	5/3/2022	20:00:00	Called out by service coordinator for OL time of 0200.
2	Pre-Convoy Safety Meeting	5/3/2022	23:45:00	Discuss all hazards associated with journey, directions to destination, complete journey managment if needed, and ensure all convoy is fit for duty.
3	Depart from Service Center or Other Site	5/4/2022	00:00:00	Depart from service center or other job site.
4	Arrive at Location from Service Center	5/4/2022	01:00:00	Upon arrival to location, signed in with onsite safety personel. Met with company man and discussed job specific requirements and specifications.
5	Pre-Rig Up Safety Meeting	5/4/2022	05:00:00	Held pre rig up JSA for hazards, hazard hunt with crew, and discussed plan for spotting equipment and rigging up lines for job. Discussed muster points and closest emergency location as well as coordinates.
6	Rig-Up Equipment	5/4/2022	05:15:00	Begin rig up with crew.
7	Other	5/4/2022	06:00:00	Mix water test results- PH-7, Chlo-0, Temp-65F.
8	Rig-Up Completed	5/4/2022	06:00:00	Complete rig up for job to nearest point before red zone.
9	Safety Meeting - Pre Job	5/4/2022	06:15:00	Held job specific hazards as well as confirming job procedure with co man and rest of crew associated with job.
10	Start Job	5/4/2022	06:51:18	TD-17386', TP-17376' 5.5" 17#, FC-17332.5', TVD-6732', SURF-1939.4' 9.625" 36#, OH-8.5" MUD-9.8#
11	Test Lines	5/4/2022	06:56:48	Pumped 5bbls fresh water to fill lines, closed 2" lo torc, performed 500psi k/o function test, followed with 5th gear stall at 1290psi, perform 4500psi test on line. Held pressure, no leaks. Bled off pressure, pumped 1bbl to ensure lines

				still full and closed valve. Proceeded to bring pressure to 2000psi on Kelly line, pressure stabilized and held with no leaks.
12	Drop Bottom Plug	5/4/2022	07:04:23	Dropped by HES supervisor, witnessed by company man.
13	Pump Spacer 1	5/4/2022	07:04:33	Pumped 120bbls Tuned Prime 11.5# 3.88y 24.46g/s with 20g D-Air at 6bpm 340psi
14	Check Weight	5/4/2022	07:07:14	Weight verified with pressurized mud scales.
15	Check Weight	5/4/2022	07:10:22	Weight verified with pressurized mud scales.
16	Check Weight	5/4/2022	07:14:09	Weight verified with pressurized mud scales.
17	Drop Bottom Plug	5/4/2022	07:25:47	Dropped by HES supervisor, witnessed by company man.
18	Pump Cap Cement	5/4/2022	07:25:51	Pumped 140sks or 40bbls Elasticem w/o CBL 13.2# 1.59y 7.63g/s at 8bpm 580psi.
19	Pump Lead Cement	5/4/2022	07:33:18	Pumped 710sks or 211bbls Elasticem w/CBL 13.2# 1.67y 8.03g/s at 9bpm 612psi.
20	Check Weight	5/4/2022	07:40:40	Weight verified with pressurized mud scales.
21	Check Weight	5/4/2022	07:55:32	Weight verified with pressurized mud scales.
22	Pump Tail Cement	5/4/2022	07:59:39	Pumped 1170sks or 425bbls 13.2# 2.04y 9.75g/s Neocem at 9bpm 900psi.
23	Check Weight	5/4/2022	07:59:47	Weight verified with pressurized mud scales.
24	Check Weight	5/4/2022	08:01:08	Weight verified with pressurized mud scales.
25	Check Weight	5/4/2022	08:12:53	Weight verified with pressurized mud scales.
26	Check Weight	5/4/2022	08:33:04	Weight verified with pressurized mud scales.
27	Shutdown	5/4/2022	08:49:27	Shutdown, washed up through pumps and down wash up line to pits until clean water was seen. Pumped total of 20bbls to clean truck and lines
28	Drop Top Plug	5/4/2022	08:57:54	Dropped by HES supervisor, witnessed by company man.

29	Pump Displacement	5/4/2022	08:57:56	Pumped 402bbls production water with 10g MMCR in first 20bbls, 10gal MCMX and 15gal Bellacide throughout.
30	Shutdown	5/4/2022	09:16:30	Rig crew had HES shutdown to change out their packer cup on CRT, due to leak.
31	Bump Plug	5/4/2022	10:04:13	Slowed down to 4bpm at 375bbls away, final circulating pressure- 2700psi, Bump pressure-3200psi.
32	Other	5/4/2022	10:08:23	Released pressure and got 5.5bbls fresh water to truck, floats held.
33	End Job	5/4/2022	10:10:56	Got 70bbls spacer to surface. Estimated TOCap-973', TOL-1808', TOT-6959'.
34	Pre-Rig Down Safety Meeting	5/4/2022	10:15:00	Held safety meeting with crew prior to rig down, discussed possibiltity of trapped pressure, swing radius, slips trips and falls, pinch points and risks associated with rig down.
35	Rig Down Lines	5/4/2022	10:30:00	Begin rig down
36	Rig-Down Completed	5/4/2022	11:30:00	Rig down complete with no injuries, spills or damage to equipment.
37	Pre-Convoy Safety Meeting	5/4/2022	11:45:00	Held safety meeting with convoy, discussed trip hazards, directions and all crew fit for duty prior to depature.
38	Depart Location for Service Center or Other Site	5/4/2022	12:00:00	Depart location, if applicable journey will be submitted.

3.0 Attachments

3.1 Job Chart