

# HALLIBURTON

iCem<sup>®</sup> Service

**NOBLE ENERGY INC-EBUS**

**RAMPART A33-790**

Production Casing

Job Date: Thursday, September 23, 2021

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 Rampart A33-790 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 13.20 ppg at 7.49 bbl/min. Cement was displaced with 20 bbl. of treated water with retarder and 375 bbl. of treated displacement. Plug was landed at 2,275 psi and bumped to 2,884 psi. Pressure was bled off and 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> 9037115		<b>Quote #:</b>		<b>Sales Order #:</b> 0907394432				
<b>Customer:</b> NOBLE ENERGY INC-EBUS					<b>Customer Rep:</b> Chevron Rep					
<b>Well Name:</b> RAMPART			<b>Well #:</b> A33-790			<b>API/UWI #:</b> 05-123-50932-00				
<b>Field:</b> WATTENBERG		<b>City (SAP):</b> GILL		<b>County/Parish:</b> WELD			<b>State:</b> COLORADO			
<b>Legal Description:</b> SW SE-20-6N-64W-470FSL-1414FEL										
<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>		17055ft			<b>Job Depth TVD</b>		6850ft			
<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	1924	0	1924
Casing		5.5	4.892	17			0	17055	0	6850
Open Hole Section			8.5				1924	17064	1924	6850
<b>Tools and Accessories</b>										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Float Shoe	5.5			17055		Top Plug	5.5	1	HES	
Float Collar	5.5			17009		Bottom Plug	5.5	2	HES	
						Centralizers	5.5	207	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	3.7			4234	
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	Cement	ElastiCem Cap Cement	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	Cement	ElastiCem Lead Cement	745	sack	13.2	1.67	8.03	8	5982	
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	Cement	NeoCem Tail Cement	1103	sack	13.2	2.04	9.79	8	10798	
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 Water	395	bbl	8.33				16590	
<b>Cement Left In Pipe</b>										
<b>Amount</b>		46 ft			<b>Reason</b>			Shoe Joint		
<b>Mix Water:</b>		pH 7		<b>Mix Water Chloride:</b>		0 ppm		<b>Mix Water Temperature:</b>		68 °F
<b>Plug Bumped?</b>		Yes		<b>Plug Displaced by:</b>		8.33 lb/gal Treated Water		<b>Disp. Temperature:</b>		68 °F
<b>Cement Returns:</b>		0 bbl.		<b>Bump Pressure:</b>		2275 psi		<b>Floats Held?</b>		Yes
<b>Comment:</b> RECIEVED 45 BBLs TUNED PRIME SPACER TO SURFACE										

## 2.0 Real-Time Job Summary

### 2.1 Job Event Log

Seq. No.	Activity	Date	Time	Comb Pump Rate (bbl/min)	DH Density (ppg)	DS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
1	Call Out	9/22/2021	09:30:00					CREW CALLED OUT, REQUESTED ON LOCATION 16:00
2	Depart Yard Safety Meeting	9/22/2021	13:30:00					PRE CONVOY SAFETY MEETING WITH ALL HES EE
3	Crew Leave Yard	9/22/2021	13:45:00					CREW DEPART YARD FOR LOCATION
4	Arrive At Loc	9/22/2021	15:00:00					ARRIVE ON LOCATION, RECIEVED NUMBERS FROM CO REP, TD 17064, TP 17054.8, SJ 45.86, CSG 5.5 17#, PREV CSG 9 5/8 36# @ 1924, HOLE 8.5, MUD 10.1, TVD 6850, 207 CENTALIZERS, WATER TEST, TEMP 68, CHLORIDES 0, PH 7
5	Assessment Of Location Safety Meeting	9/22/2021	15:15:00					SAFETY MEETING WITH ALL HES EE TO ASSESS ALL HAZARDS
6	Safety Meeting - Pre Rig-Up	9/22/2021	15:30:00					PRE RIG UP SAFETY MEETING WITH ALL HES EE
7	Safety Meeting - Pre Job	9/22/2021	18:30:00	0.00	8.26	0.00	16.80	PRE JOB SAFETY MEETING WITH RIG CREW AND CO REP
8	Start Job	9/22/2021	19:09:03	0.00	1.04	-4.00	0.00	START RECORDING DATA
9	Drop Bottom Plug	9/22/2021	19:09:29	0.90	0.53	-3.00	0.10	LAUNCH BOTTOM PLUG
10	Test Lines	9/22/2021	19:11:52	0.00	8.05	131.00	4.80	TEST LINES TO 4655 PSI
11	Pump Spacer 1	9/22/2021	19:16:44	0.00	8.09	48.00	5.10	PUMP 120 BBLs TUNED PRIME SPACER 11.5 PPG, 5 BPM, 310 PSI
12	Check Weight	9/22/2021	19:22:15	4.90	11.64	309.00	23.80	VERIFY WEIGHT ON PRESSURIZED MUD SCALES

13	Drop Bottom Plug	9/22/2021	19:41:52	0.00	12.46	40.00	117.90	LAUNCH BOTTOM PLUG
14	Pump Cap Cement	9/22/2021	19:42:43	0.00	12.45	41.00	0.00	MIX AND PUMP 140 SKS 39.9 BBLS CAP CEMENT 13.2 PPG 1.6 FT3/SK, 7.63 GAL/SK 6 BPM 280 PSI, CALCULATED TOCC 1009'
15	Pump Lead Cement	9/22/2021	19:51:03	3.20	13.28	286.00	41.00	MIX AND PUMP 745 SKS 221.6 BBLS LEAD CEMENT 13.2 PPG, 1.67 FT3/SK, 8.03 GAL/SK 8 BPM 600 PSI, CALCULATED TOLC 1842'
16	Check Weight	9/22/2021	19:54:30	8.20	13.19	530.00	24.10	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
17	Pump Tail Cement	9/22/2021	20:22:41	7.90	13.02	454.00	250.40	MIX AND PUMP 1103 SKS 400.4 BBLS TAIL CEMENT 13.2 PPG, 2.04 FT3/SK, 9.79 GAL/SK, 8 BPM 640 PSI, CALCULATED TOTC 7260'
18	Check Weight	9/22/2021	20:25:32	8.00	13.30	632.00	22.70	VERIFY WEIGHT ON PRESSURIZED MUD SCALES
19	Shutdown	9/22/2021	21:22:02	0.00	13.04	65.00	451.30	SHUTDOWN WASH PUMPS AND LINES TO TANK
20	Drop Top Plug	9/22/2021	21:28:31	0.00	8.01	50.00	14.10	LAUNCH TOP PLUG
21	Pump Displacement	9/22/2021	21:28:38	0.00	8.00	37.00	14.10	PUMP 395 BBLS BIOCIDES DISPLACEMENT, FIRST 20 BBLS W/MMCR, 8 BPM 2500 PSI, RECIEVED 45 BBLS TUNED PRIME SPACER TO SURFACE
22	Bump Plug	9/22/2021	22:31:45	0.00	7.97	2782.00	418.20	BUMPED PLUG AT 2275 PSI TOOK TO 2884 PSI
23	Check Floats	9/22/2021	22:36:48	0.00	7.96	2743.00	0.00	FLOATS HELD TOOK 5 BBLS BACK
24	End Job	9/22/2021	22:39:32	0.00	8.03	2.00	0.00	STOP RECORDING DATA
25	Safety Meeting - Pre Rig-Down	9/22/2021	22:45:00					PRE RIG DOWN SAFETY MEETING WITH ALL HES EE
26	Depart Location Safety Meeting	9/22/2021	23:50:00					PRE DEPARTURE SAFETY MEETING WITH ALL HES EE
27	Crew Leave Location	9/23/2021	00:15:00					THANK YOU FOR USING HALLIBURTON, KYLE BATH AND CREW

3.0 Attachments

3.1 Job Chart

