

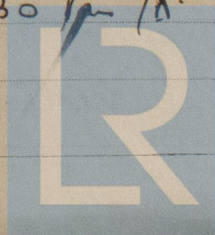
## REPORT ON BOILERS.

No. 51666.

Date of writing Report 27.6.1942. When handed in at Local Office 10 JUL 1942  
Port of HULL.  
No. in Survey held at HULL.  
Date, First Survey 6.12.41. Last Survey 25.6.1942.  
(Number of Visits 50) Gross 511.  
Tons Net 167.  
on the H.M.T. INKPEN.  
Built at BEVERLEY. By whom built Cork. Webb & Gemmell Ltd. Yard No. 689. When built 1942  
Engines made at HULL. By whom made Chas. D. Holmes Ltd. Engine No. 1607. When made "  
Boilers made at HULL. By whom made Chas. D. Holmes Ltd. Boiler No. 1605. When made "  
Nominal Horse Power 156. Owners Port belonging to ✓

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby Frodingham Steel Co. Ltd. (Letter for Record S. ✓  
Total Heating Surface of Boilers 2358 ft. ✓ Is forced draught fitted Yes. Coal or Oil fired Coal ✓  
No. and Description of Boilers One S.B. ✓ Working Pressure 220 lb./sq. in. ✓  
Tested by hydraulic pressure to 380 lb. Date of test 9-5-42 No. of Certificate 4143. Can each boiler be worked separately ✓  
Area of Firegrate in each Boiler 63 1/4 ft. No. and Description of safety valves to each boiler 2. Spring loaded ✓  
Area of each set of valves per boiler (per Rule 15.15. ✓ Pressure to which they are adjusted 220 lb./sq. in. Are they fitted with easing gear Yes.  
In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓  
Smallest distance between boilers or uptakes and bunkers or woodwork 12" ✓ Is oil fuel carried in the double bottom under boilers ✓  
Smallest distance between shell of boiler and tank top plating ✓ Is the bottom of the boiler insulated ✓  
Largest internal dia. of boilers 15'-6" ✓ Length 11'-0" ✓ Shell plates: Material Steel. ✓ Tensile strength 31-35 ton/in. ✓  
Thickness 1 3/32" ✓ Are the shell plates welded or flanged No. ✓ Description of riveting: circ. seams end D.R. Lap. ✓  
Long. seams T.R. - D.B.S. ✓ Diameter of rivet holes in (circ. seams 1 3/32" ✓ Pitch of rivets 3 3/4" ✓  
Percentage of strength of circ. end seams (plate 62.5% ✓ Percentage of strength of circ. intermediate seam (plate ✓  
Percentage of strength of longitudinal joint (plate 84-66% ✓ rivets 85-73% ✓ combined 86-47% ✓  
Thickness of butt straps (outer 1 3/32" ✓ No. and Description of Furnaces in each Boiler 3 cf. Deighan Section ✓  
Material Steel. Tensile strength 26/30 ton/in. ✓ Smallest outside diameter 2'-9 1/8" ✓  
Length of plain part (top ✓ Thickness of plates (crown 3 1/16" ✓ Description of longitudinal joint Weld ✓  
Dimensions of stiffening rings on furnace or c.c. bottom None ✓  
End plates in steam space: Material Steel ✓ Tensile strength 26-30 ton/in. ✓ Thickness 1 3/32" ✓ Pitch of stays 18 1/2" x 18 3/4" ✓  
How are stays secured Nut washers inside seat. ✓  
Tube plates: Material (front Steel ✓ Tensile strength 26-30 ton/in. ✓ Thickness 15/16" ✓  
(back Steel. ✓ Tensile strength 26-30 ton/in. ✓ Thickness 29/32" ✓  
Lean pitch of stay tubes in nests 9 1/4" x 9" 10.53" ✓ Pitch across wide water spaces 14 1/2" x 9" ✓  
Risers to combustion chamber tops: Material Steel. ✓ Tensile strength 29-33 ton/in. ✓ Depth and thickness of girder  
centre 9 1/2" x 7 1/8" angle ✓ Length as per Rule 2'-9 1/32" ✓ Distance apart 9 1/4" ✓ No. and pitch of stays  
each 3 @ 7 7/8" ✓  
Tensile strength 26-30 ton/in. ✓ Thickness: Sides 23/32" ✓ Back 1/16" ✓ Top 1/16" ✓ Bottom 15/16" ✓  
Pitch of stays to ditto: Sides 8 1/4" x 9 1/2" ✓ Back 8 1/4" x 9" ✓ Top 7 7/8" x 9 1/4" ✓ Are stays fitted with nuts or riveted over Nuts ✓  
Front plate at bottom: Material Steel ✓ Tensile strength 26-30 ton/in. ✓  
Thickness 15/16" ✓ Lower back plate: Material Steel. ✓ Tensile strength 26-30 ton/in. ✓ Thickness 29/32" ✓  
Pitch of stays at wide water space 14 1/2" x 9" ✓ Are stays fitted with nuts or riveted over Nut. ✓  
Main stays: Material Steel ✓ Tensile strength 28-32 ton/in. ✓  
Diameter (At body of stay, 3 1/4" ✓ No. of threads per inch 8.6 ✓  
(Over threads 3 1/4" ✓  
Crew stays: Material Steel ✓ Tensile strength 26-30 ton/in. ✓  
Diameter (At turned off part, 1 3/4" ✓ No. of threads per inch 9 (10) ✓  
(Over threads 1 3/4" ✓



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Are the stays drilled at the outer ends No. ✓  
Margin stays: Diameter { At turned off part, ✓  
or Over threads 1 7/8", 2", 2 1/8".  
No. of threads per inch 10. ✓  
Tubes: Material L.W. Iron. ✓ External diameter { Plain 3 1/2"  
Stay 3 1/4". Thickness { 8.  
5/16", 3/8", 7/16". No. of threads per inch 9.  
Pitch of tubes 4 1/2" x 4 7/8". ✓ Manhole compensation: Size of opening in  
shell plate 16" x 12". Section of compensating ring 34 7/8" x 1 13/32" No. of rivets and diameter of rivet holes 118 @ 1 7/16".  
Outer row rivet pitch at ends 10 31/64". Depth of flange of manhole flanged 3 3/8". ✓ Steam Dome: Material Steel ✓  
Tensile strength 26-30 Ton/10". Thickness of shell 3/4". Description of longitudinal joint S.R. Lap. ✓  
Diameter of rivet holes 1 1/32". ✓ Pitch of rivets 2 1/4" ✓ Percentage of strength of joint { Plate 54%.  
Rivets 43-8%.  
Internal diameter 2'-9". ✓ Thickness of crown 7/8". No. and diameter of  
stays 2-2 3/8". ✓ Inner radius of crown Flat.  
How connected to shell Rivetted. ✓ Size of doubling plate under dome 4'-11 1/4" x 1 13/32". ✓ Diameter of rivet holes and pitch  
of rivets in outer row in dome connection to shell 1 7/16" Dia 4". ✓ 10 3/4" under double

Type of Superheater None.

Manufacturers of

Number of elements Material of tubes Internal diameter and thickness of tubes  
Material of headers Tensile strength Thickness Can the superheater be shut off and  
the boiler be worked separately Is a safety valve fitted to every part of the superheater which can be shut off from the boiler  
Area of each safety valve Are the safety valves fitted with easing gear  
Pressure to which the safety valves are adjusted Hydraulic test pressure  
tubes forgings and castings and after assembly in place Are drain cocks or  
valves fitted to free the superheater from water where necessary

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes.

The foregoing is a correct description,  
FOR CHARLES D. HOLMES & CO., LTD.  
W.R. Evans Manufacturer

Dates of Survey { During progress of work in shops - -  
while building { During erection on board vessel - -  
See machinery report.

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) ✓

Total No. of visits ✓

Is this Boiler a duplicate of a previous case If so, state Vessel's name and Report No.

### GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This Boiler has been constructed under Special Survey in accordance with the approved Admiralty plans, and the Rules.  
The Workmanship and Material are good and, when subjected to a hydraulic test of 380 lbs/10" it was found satisfactory in every respect.

Survey Fee ... £ : : When applied for, 19  
Travelling Expenses (if any) £ : : When received, 19

Committee's Minute

Assigned

FRI. 17 JUL 1942

See Incl 26. 51666

J. P. H. Evans  
Engineer Surveyor to Lloyd's Register of Shipping.



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