

## REPORT ON BOILERS.

No. 52562.

6 SEP 1944

Received at London Office

7 SEP 1944

Date of writing Report 13-7-1944 When handed in at Local Office 19 Port of HULL.

No. in Survey held at HULL.  
Reg. Book.

Date, First Survey 15.2.44 Last Survey 30.8.1944

on the H.M. TRAWLER

GUARDSMAN

J. 2743.

(Number of Visits 28.)

Gross 581.39.  
Net 180.44.

Built at BEVERLEY By whom built Cook Walter &amp; Gennell Ltd Yard No. 732. When built 1944

Engines made at HULL By whom made Chas. D. Holmes Ltd Engine No. 1681 When made

Boilers made at HULL By whom made Chas. D. Holmes Ltd Boiler No. 1681 When made

Nominal Horse Power 165. Owners The Admiralty Port belonging to

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Appleby, Frodingham Steel Co Ltd &amp; Clvilles Ltd (Letter for Record 5.)

Total Heating Surface of Boilers 2551 sq ft Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers One single ended Working Pressure 225

Tested by hydraulic pressure to 388 lb/sq Date of test 7.4.44 No. of Certificate 4224 Can each boiler be worked separately -

Area of Firegrate in each Boiler 64 sq ft No. and Description of safety valves to each boiler 3 1/2" Dia two spring loaded

Area of each set of valves per boiler (per Rule 14.5263 (superheater) 13.28 without Opt. as fitted 19.242 Pressure to which they are adjusted 225 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 no

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated no

Largest internal dia. of boilers 15'-9 1/16" Length 11'-0" Shell plates: Material Steel Tensile strength 31-35 tons.

Thickness 1 5/32" Are the shell plates welded or flanged no Description of riveting: circ. seams end double

long. seams T.R. D.B.S. Diameter of rivet holes in circ. seams 1 5/32" Pitch of rivets 3 7/8" 1 1/2" 9 9/16"

Percentage of strength of circ. end seams plate 62.1% rivets 44% Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 84.31% rivets 86.9% combined 85.98%

Thickness of butt straps outer 1 5/32" inner 1 9/32" No. and Description of Furnaces in each Boiler 3 of Deighton Section

Material Steel Tensile strength 26-30 tons/sq. Smallest outside diameter 3'-10"

Length of plain part top Thickness of plates crown 23/32 Description of longitudinal joint welded bottom

Dimensions of stiffening rings on furnace or c.c. bottom

End plates in steam space: Material Steel Tensile strength 26-30 Thickness 1 1/4" Pitch of stays 19 1/4" x 19 1/8"

How are stays secured nuts &amp; large washers inside and outside

Tube plates: Material front steel Tensile strength 26-30 tons Thickness 3 1/8" back steel 26-30 tons 29/32

Mean pitch of stay tubes in nests 10.645 Pitch across wide water spaces 14 1/4" x 9 1/2"

Girders to combustion chamber tops: Material Steel Tensile strength 29-33 tons Depth and thickness of girder

at centre double 9" x 1/8" Length as per Rule 32 1/2" Distance apart 9 1/4" No. and pitch of stays

in each 3 at 7 1/2" Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 23/32 Back 23/32 Top 1 1/16 Bottom 15/16

Pitch of stays to ditto: Sides 9 7/8 x 8 Back 9 1/2 x 8 1/4 Top 9 1/4 x 7 1/2 Are stays fitted with nuts or riveted over nuts

Front plate at bottom: Material Steel Tensile strength 26-30 tons

Thickness 3 1/32 Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 29/32

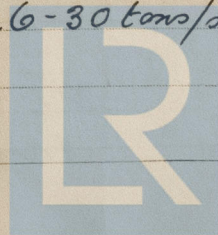
Pitch of stays at wide water space 14 1/2" x 9 1/2" Are stays fitted with nuts or riveted over nuts

Main stays: Material Steel Tensile strength 28-32 tons/sq.

Diameter At body of stay, or Over threads 3 3/8" No. of threads per inch 8

Screw stays: Material Steel Tensile strength 26-30 tons/sq.

Diameter At turned off part, or Over threads 1 3/4" No. of threads per inch 10

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Are the stays drilled at the outer ends no. ✓ Margin stays: Diameter { At turned off part,  $1\frac{7}{8}$  - 2 -  $2\frac{1}{8}$  " or Over threads

No. of threads per inch 10 ✓

Tubes: Material L/W. Iron External diameter { Plain  $3\frac{1}{2}$  Stay  $3\frac{1}{2}$  Thickness {  $\frac{1}{16}$  -  $\frac{3}{8}$  -  $\frac{1}{16}$  No. of threads per inch 9 ✓

Pitch of tubes  $4\frac{3}{4}$  " x  $4\frac{3}{4}$  " Manhole compensation: Size of opening in shell plate  $16$  " x  $12$  " Section of compensating ring  $3$  -  $8\frac{1}{4}$  " x  $1\frac{5}{32}$  " No. of rivets and diameter of rivet holes  $62$  @  $1\frac{1}{2}$  " dia ✓

Outer row rivet pitch at ends  $10$  .  $74$  " Depth of flange if manhole flanged  $3\frac{1}{2}$  " Steam Dome: Material dome not fitted but compensation plate fitted for future alteration.

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint { Plate Rivets

Internal diameter Thickness of crown No. and diameter of stays Inner radius of crown

How connected to shell Size of doubling plate under dome  $4$  -  $11\frac{1}{4}$  dia x  $1\frac{5}{32}$  " Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell

Type of Superheater NONE (Safety valves fitted to allow of changeover to Superheater) Manufacturers of { Tubes Steel forgings Steel castings

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

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

Dates of Survey { During progress of work in shops - - } 1944 Feb. 15. Mar. 2. 3. 10. 30. Apr. 3. 4. 7. 26. May 18  
while building { During erection on board vessel - - } June 15. Are the approved plans of boiler and superheater forwarded herewith 29. 5. 42.  
(If not state date of approval.)

Total No. of visits 28.

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. H.M.T. Grenadier.

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 & the Rules.  
The workmanship and materials are good and when subjected to an hydraulic test of 388 lb/sq" it was found satisfactory in every respect.

Boiler examined under steam, safety valves adjusted as required, accumulation test held and boiler tried under working conditions with satisfactory results on completion of all tests.  
W. L. Shields.

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

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

Committee's Minute

Assigned

see minute  
on 28. Apr.



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