

## REPORT ON BOILERS.

No. 93528

Received at London Office -5 MAR 1936

 Date of writing Report 3<sup>rd</sup> March, 1936 When handed in at Local Office 3<sup>rd</sup> March, 1936 Port of NEWCASTLE-ON-TYNE

 Survey held at Newcastle-on-Tyne Date, First Survey 7.10.35 Last Survey 29.2.1936

 on the J.M. s.s. "HOPESTAR" (Number of Visits 11.) Gross 4885 Tons Net 2192

 Built at Wallsend-on-Tyne By whom built Wan, Hunter & Wig. Rm. H. No. 1513 When built 1936

 Engines made at Wallsend-on-Tyne By whom made Parsons Marine Steam Turbine Co. Ltd. Engine No. 288 When made 1936

 Boilers made at Wallsend-on-Tyne By whom made Wallsend Shipway & Eng. Co. Ltd. Boiler No. 372 When made 1936

 Indicated Horse Power 400 Owners Wallsend Shipping Co. Ltd. (Arthur Stott & Co. Ltd.) Port belonging to Newcastle
ULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR~~ DONKEY.
 Manufacturers of Steel The Steel Company of Scotland, Ltd. (Letter for Record S. ✓)

 Total Heating Surface of Boilers 1470 Is forced draught fitted yes. ✓ Coal or Oil fired coal ✓

 No. and Description of Boilers One Single Ended 1 S.B. ✓ Working Pressure 120 lbs./sq. in. ✓

 Tested by hydraulic pressure to 230 lbs./sq. in. Date of test 18.12.35 No. of Certificate 667 Can each boiler be worked separately -

 Area of Firegrate in each Boiler 39.875 No. and Description of safety valves to each boiler Two Cockburns Improved High Lift ✓

 Area of each set of valves per boiler per Rule 6.8 ✓ Pressure to which they are adjusted 125 lbs./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 no ✓

 Smallest distance between ~~boilers~~ uptakes and bunkers 5'-3" Is oil fuel carried in the double bottom under boilers no

 Smallest distance between shell of boiler and tank top plating yes. Is the bottom of the boiler insulated yes.

 Largest internal dia. of boilers 12'-4 9/16" ✓ Length 10'-9" ✓ Shell plates: Material Steel Tensile strength 29/33 tons/sq. in. ✓

 Thickness 23/32" ✓ Are the shell plates welded or flanged no ✓ Description of riveting: circ. seams end D.R. lap ✓

 Rivet seams T.R.D.B.S. Diameter of rivet holes in circ. seams 29/32" long. seams 29/32" Pitch of rivets 3.351"

 Percentage of strength of circ. end seams plate 73 rivets 42.25 ✓ Percentage of strength of circ. intermediate seam plate - rivets -

 Percentage of strength of longitudinal joint plate 81.6 rivets 81.4 ✓ Working pressure of shell by Rules 121 lbs./sq. in.

 Thickness of butt straps outer 19/32" inner 23/32" ✓ No. and Description of Furnaces in each Boiler 2 Brightons ✓

 Material Steel Tensile strength 26/30 tons/sq. in. ✓ Smallest outside diameter 3'-7 1/2" ✓

 Length of plain part top ✓ Thickness of plates crown 3/8" bottom 3/8" ✓ Description of longitudinal joint weld ✓

 Dimensions of stiffening rings on furnace or c.c. bottom yes. Working pressure of furnace by Rules 122 lbs./sq. in.

 End plates in steam space: Material Steel ✓ Tensile strength 26/30 tons/sq. in. ✓ Thickness 29/32" ✓ Pitch of stays 16" x 16 1/2" ✓

 How are stays secured D. nuts ✓ Working pressure by Rules 144 lbs./sq. in. ✓

 Tube plates: Material front Steel back Steel ✓ Tensile strength 26/30 tons/sq. in. ✓ Thickness 3/4" 3/4" ✓

 Clean pitch of stay tubes in nests 11 5/8" ✓ Pitch across wide water spaces 13 1/2" ✓ Working pressure front 139 lbs./sq. in. back 148 lbs./sq. in. ✓

 Orders to combustion chamber tops: Material Steel ✓ Tensile strength 29/33 tons/sq. in. ✓ Depth and thickness of girder

 Centre 6 7/8" x 2 @ 3/4" ✓ Length as per Rule 2'-8" ✓ Distance apart 10" ✓ No. and pitch of stays

 Each 2 @ 10" ✓ Working pressure by Rules 124 lbs./sq. in. ✓ Combustion chamber plates: Material Steel ✓

 Tensile strength 26/30 tons/sq. in. ✓ Thickness: Sides 19/32" ✓ Back 9/16" ✓ Top 19/32" ✓ Bottom 19/32" ✓

 Pitch of stays to ditto: Sides 10" x 10" ✓ Back 9" x 9 1/8" ✓ Top 10" x 10" ✓ Are stays fitted with nuts or riveted over nuts ✓

 Working pressure by Rules 121 lbs./sq. in. ✓ Front plate at bottom: Material Steel ✓ Tensile strength 26/30 tons/sq. in. ✓

 Thickness 3/4" ✓ Lower back plate: Material Steel ✓ Tensile strength 26/30 tons/sq. in. ✓ Thickness 23/32" ✓

 Pitch of stays at wide water space 14" x 9 7/8" ✓ Are stays fitted with nuts or riveted over nuts ✓

 Working Pressure 142 lbs./sq. in. ✓ Main stays: Material Steel ✓ Tensile strength 28/32 tons/sq. in. ✓

 Diameter At body of stay, 2 1/4" Over threads, 2 1/4" ✓ No. of threads per inch 6 ✓ Area supported by each stay 264 sq. in. ✓

 Working pressure by Rules 131 lbs./sq. in. ✓ Screw stays: Material Steel ✓ Tensile strength 26/30 tons/sq. in. ✓

 Diameter At turned off part, 1 1/2" Over threads, 1 1/2" ✓ No. of threads per inch 9 ✓ Area supported by each stay 100 sq. in. ✓



Working pressure by Rules  $125 \frac{11}{16}$  Are the stays drilled at the outer ends *no* Margin stays: Diameter { At turned off part,  $1 \frac{1}{8}$ "  
 No. of threads per inch *9* Area supported by each stay  $113.56 \text{ in}^2$  Working pressure by Rules  $134 \frac{11}{16}$   
 Tubes: Material *Iron* External diameter { Plain  $2 \frac{1}{2}$ "  
 Stay  $2 \frac{1}{2}$ " Thickness  $11 \text{ L.S.G.}$  No. of threads per inch *9*  
 Pitch of tubes  $4 \times 3 \frac{3}{4}$  Working pressure by Rules  $125 \frac{11}{16}$  Manhole compensation: Size of open  
 End plate  $16 \times 12$  Section of compensating ring No. of rivets and diameter of rivet holes  
 Outer row rivet pitch at ends Depth of flange if manhole flanged  $3 \frac{5}{16}$  Steam Dome: Material *None*  
 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 Working pressure by Rules Thickness of crown No. and diameters made at  
 stays Inner radius of crown Working pressure by Rules  
 How connected to shell Size of doubling plate under dome Diameter of rivet holes and  
 of rivets in outer row in dome connection to shell

Type of Superheater *None* Manufacturers of { Tubes  
 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  
 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 Working pressure  
 Rules Pressure to which the safety valves are adjusted Hydraulic test pressure  
 tubes castings and after assembly in place Are drain cocks or valves  
 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 THE WALLSEND SHIPWAY & ENGINEERING CO. LIMITED.

DIRECTOR

Dates of Survey { During progress of work in shops - - - *6.7.15. 7.11.14. 18.20.25.*  
 while building { During erection on board vessel - - - *29. Dec. 9.13.18.*  
 Are the approved plans of boiler and superheater forwarded herewith *Yes*  
 (If not state date of approval.)  
 Total No. of visits *11*

Is this Boiler a duplicate of a previous case *no* 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 Rules and Approved Plan; the materials and workmanship are good. Boiler examined under working conditions found satisfactory.*

Survey Fee ... *See Report on Machinery.* When applied for, 19  
 Travelling Expenses (if any) £ When received, 19

*H. B. Forster*

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute *FRI. 13 MAR 1936*

Assigned

*See minute on  
 F.B. Rpt.*



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