

REPORT ON BOILERS.

No. 11436

-8 JAN 1935

Received at London Office

Date of writing Report 19 11 Jan 1935 When handed in at Local Office 11 Jan 1935 Port of BELFAST
 Included in F.R. Mch. rpt
 No. in Survey held at BELFAST Date, First Survey 1935 Last Survey 1935
 Reg. Book 89758 on the Imperial Star (Number of Visits 1) Gross Tons 1935 Net Tons 1935
 Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 933 When built 1935
 Engines made at Belfast By whom made Harland & Wolff Ltd. Engine No. 933 When made 1935
 Boilers made at do. By whom made do. Boiler No. 933 When made 1935
 Owners Blue Star Line Ltd. Port belonging to Belfast

VERTICAL DONKEY BOILER.

Made at Belfast By whom made Harland & Wolff Ltd. Boiler No. 933 When made 1934 Where fixed upper deck of motor room
 Manufacturers of Steel Bolton's Ltd.
 Total Heating Surface of Boiler each 275 sq ft Is forced draught fitted No. Exhaust gas or Coal or Oil fired Yes
 No. and Description of Boilers Two Clarkson Shindle type waste heat Working pressure 100 lbs
 Tested by hydraulic pressure to 200 lbs Date of test 27 & 31 Oct. 1934 No. of Certificate 985-6
 Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler Two Spring loaded
 Area of each set of valves per boiler per rule 3.54 sq ft Pressure to which they are adjusted 100 lbs Are they fitted with easing gear Yes
 as fitted 4.8 sq ft
 State whether steam from main boilers can enter the donkey boiler ✓ Smallest distance between boiler or uptake and bunkers or woodwork Is oil fuel carried in the double bottom under boiler ✓ Smallest distance between base of boiler and tank top plating Is the base of the boiler insulated ✓ Largest internal dia. of boiler 5'-11 1/16" Height overall 15'-0"
 Shell plates: Material Steel Tensile strength 28-32 Tons Thickness 1 3/32"
 Are the shell plates welded or flanged E.R. beyond butt straps Description of riveting: circ. seams end single & double long. seams double
 Dia. of rivet holes in circ. seams 25/32" Pitch of rivets 1 3/16" - 2 7/8" Percentage of strength of circ. seams plate 56.9 of Longitudinal joint plate 72.8
long. seams 25/32" 2 3/8" rivets 53.5 combined 108.8
 Working pressure of shell by rules 113 lbs Thickness of butt straps outer 3/8" inner 3/8"
 Shell Crown: Whether complete hemisphere, dished partial spherical, or flat dished partly spherical Material Steel
 Tensile strength 26/30 Tons Thickness 2 1/32" Radius 5'-6" Working pressure by rules 119 lbs
 Description of Furnace: Plain, spherical, or dished crown dished crown Material Steel Tensile strength 26/30 Tons
 Thickness 3/4" External diameter top 66" Length as per rule Working pressure by rules
 Pitch of support stays circumferentially ✓ and vertically ✓ Are stays fitted with nuts or riveted over ✓
 Diameter of stays over thread ✓ Radius of spherical or dished furnace crown 66" Working pressure by rule 135 lbs
 Thickness of Ogee Ring ✓ Diameter as per rule D Working pressure by rule ✓
 Combustion Chamber: Material Steel Tensile strength 26-30 Tons Thickness of top plate 7/8"
 Radius if dished 36" Working pressure by rule 205 lbs Thickness of back plate 1 1/16" Diameter if circular 36"
 Length as per rule 72" Pitch of Thimbles 6 vert 5337 holes Are stays fitted with nuts or riveted over ✓
 Diameter of stays over thread 2 3/4" Thickness No. 9 W.G. Working pressure of back plate by rules 235 lbs
 Tube Plates: Material front back Tensile strength Thimbles Thickness Chamber Mean pitch of stay tubes in nests front back
 comprising shell, Dia. as per rule front back Pitch in outer vertical rows front back Dia. of tube holes FRONT stay plain BACK stay plain
 each alternate tube in outer vertical rows a stay tube Working pressure by rules front back
 Orders to combustion chamber tops: Material Thimbles Tensile strength Chamber Length as per rule Working pressure by rule
 Depth and thickness of girder at centre Thimbles No. and pitch of stays in each Working pressure by rule

Crown stays: Material _____ Tensile strength _____ Diameter ^{at body of stay,} _____ ^{over threads,} _____
 No. of threads per inch _____ Area supported by each stay _____ Working pressure by rules _____
Screw stays: Material _____ Tensile strength _____ Diameter ^{at turned off part,} _____ ^{or} _____ ^{over threads,} _____ No. of threads per inch _____
 Area supported by each stay _____ Working pressure by rules _____ Are the stays drilled at the outer ends _____
Tubes: Material _____ External diameter ^{plain} _____ ^{stay} _____ Thickness _____
 No. of threads per inch _____ Pitch of tubes _____ Working pressure by rules _____
Manhole Compensation: Size of opening in shell plate $16'' \times 12''$ ✓ Section of compensating ring $4 \frac{3}{4}'' \times 1 \frac{3}{16}''$ ✓ No. of rivets and diameter _____
 of rivet holes $10 - \frac{13}{16}''$ Outer row rivet pitch at ends $2 \frac{7}{8}''$ Depth of flange ^{shell crown} $3''$ ✓
Uptake: External diameter $21 \frac{1}{16}''$ Thickness of uptake plate $\frac{12}{32}''$
Cross Tubes: No. _____ ✓ External diameters _____ ✓ Thickness of plates _____ ✓
 Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes.

The foregoing is a correct description,
For HARLAND AND WOLFF, LIMITED.

As Marshall Manufacture
Assistant Secretary

Dates of Survey ^{During progress of} _____ ^{work in shops -} _____
 while building ^{During erection on} _____ ^{board vessel -} _____
 Is the approved plan of boiler forwarded herewith _____
 (If not state date of approval.) 19-1-34
 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.)

These boilers were constructed under special survey & to an approved design. The workmanship and materials are good.
 They were tested by hydraulic pressure in accordance with the rules, were installed & fastened on an upper deck of the motor room.
 The safety valves were adjusted under steam. The accumulation tests were satisfactory. The boilers are eligible, in our opinion,
 for use on a classed vessel.

See Rpt 43
 Survey Fee ... £ ~~8~~ : When applied for, 1st Jan. 1935
 Travelling Expenses (if any) £ : When received, 1 1935

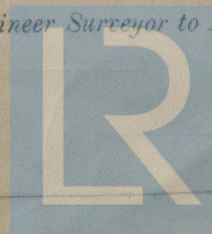
R Lee *Amess & Charles W. Hunter*
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 11 JAN 1935

Assigned

See Bel. 76. 11436



Lloyd's Register
Foundation