

REPORT ON BOILERS.

No. 11966

NOV 10 1937

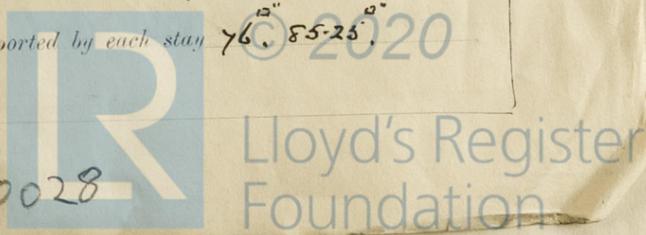
Received at London Office JUN 29 1937

Date of writing Report 1937 When handed in at Local Office 28-6-1937 Port of Belfast
 No. in Survey held at Belfast Date, First Survey Last Survey 17 June 1937
 Reg. Book. 21838 on the M.V. BROOMDALE. (Number of Visits) Gross 8334.22 Tons Net 4967.35
 Master J.M. Built at Govan By whom built Harland & Wolff Ltd. Yard No. 9736 When built 1937
 Engines made at Finneston By whom made Harland & Wolff, Ltd. Engine No. 9739 When made 1937
 Boilers made at Belfast By whom made Harland & Wolff Ltd. Boiler No. 9736 When made 1937
 Nominal Horse Power Owners The Admiralty. Port belonging to London.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles L^t. (Letter for Record S)
 Total Heating Surface of Boilers 2602 Is forced draught fitted Yes Coal or Oil fired & Exhaust gas
 No. and Description of Boilers One cylindrical with exhaust gas flue in centre Working Pressure 150 lbs
 Tested by hydraulic pressure to 275 lbs Date of test 17-6-37. No. of Certificate 1032 Can each boiler be worked separately Yes
 Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 1-2 3/4" double opening Highlift (app)
 Area of each set of valves per boiler (per Rule 9.85" as fitted 11.88" Pressure to which they are adjusted 150 lbs/10" 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 Is oil fuel carried in the double bottom under boilers yes.
 Smallest distance between shell of boiler and tank top plating 1'-6" Is the bottom of the boiler insulated yes.
 Largest internal dia. of boilers 13'-4 3/16" Length 11'-6" Shell plates: Material S Tensile strength 29/33 tons
 Thickness 29/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams DR.
 long. seams T.R. DR. Diameter of rivet holes in circ. seams 1 1/16" Pitch of rivets 3-0 1/2"
 Percentage of strength of circ. end seams (plate 64.5% rivets 50.6% Percentage of strength of circ. intermediate seam (plate rivets)
 Percentage of strength of longitudinal joint (plate 85.7% rivets 92.6% combined 89.9% Working pressure of shell by Rules 152 lbs
 Thickness of butt straps (outer 1 1/16" inner 1 3/16" No. and Description of Furnaces in each Boiler Two Dighton
 Material S Tensile strength 26/30 tons Smallest outside diameter 2'-11 1/8"
 Length of plain part (top bottom Thickness of plates (crown 7/16" bottom 7/16" Description of longitudinal joint Weld.
 Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 174 lbs.
 End plates in steam space: Material S Tensile strength 26/30 tons Thickness 1/32" Pitch of stays 20 1/2" x 16 1/2"
 How are stays secured Double nuts Working pressure by Rules 165 lbs
 Tube plates: Material (front S back S Tensile strength 26/30 tons Thickness 29/32" 13/16"
 Mean pitch of stay tubes in nests 9.8" Pitch across wide water spaces 13 3/4" Working pressure (front 163.6 lbs back 247 lbs.
 Girders to combustion chamber tops: Material S Tensile strength 28/32 tons Depth and thickness of girder
 at centre 8" x 1 3/4" Length as per Rule 30 15/32" Distance apart 11 3/4" No. and pitch of stays
 in each 3 @ 7/4" Working pressure by Rules 159 lbs Combustion chamber plates: Material S
 Tensile strength 26/30 tons Thickness: Sides 1 1/16" Back 23/32" Top 1 1/16" Bottom 3/4"
 Pitch of stays to ditto: Sides 7 1/4" x 10 1/2" Back 9 x 8" Top 11 3/4" x 7 1/4" Are stays fitted with nuts or riveted over mudded.
 Working pressure by Rules 167 lbs Front plate at bottom: Material S Tensile strength 26/30 tons
 Thickness 29/32" Lower back plate: Material S Tensile strength 26/30 tons Thickness 15/16"
 Pitch of stays at wide water space 13" Are stays fitted with nuts or riveted over Nuts
 Working Pressure 289 lbs Main stays: Material S Tensile strength 28/32 tons
 Diameter (At body of stay, 2 5/8" No. of threads per inch 6 Area supported by each stay 310"
 Working pressure by Rules 160 lbs Screw stays: Material S Tensile strength 26/30 tons
 Diameter (At turned off part, 1 1/2" 1 5/8" 2" No. of threads per inch 9 Area supported by each stay 76" 55-25"

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Working pressure by Rules 165 lbs Are the stays drilled at the outer ends No Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part, } 1\frac{5}{8}'' \\ \text{or} \\ \text{Over threads} \end{array} \right.$

No. of threads per inch 9 Area supported by each stay 94" Working pressure by Rules 160 lbs

Tubes: Material W. I. External diameter $\left\{ \begin{array}{l} \text{Plain } 2\frac{3}{4}'' \text{ C } 2\frac{1}{2}'' \text{ Wing} \\ \text{Stay } 2\frac{3}{4}'' \text{ C } 2\frac{1}{2}'' \text{ do} \end{array} \right.$ Thickness $\left\{ \begin{array}{l} 10 \text{ LSG} \\ \frac{1}{4}'' \frac{5}{16}'' \frac{3}{8}'' \frac{1}{2}'' \end{array} \right.$ No. of threads per inch 9

Pitch of tubes 4 x 3/8 C 3 3/4 x 3/8 W. Working pressure by Rules 178 lbs Manhole compensation: Size of opening in shell plate 16 x 12 Section of compensating ring 2'8" x 3'-0" x 1 3/4" No. of rivets and diameter of rivet holes 28 - 1 1/4"

Outer row rivet pitch at ends 9 Depth of flange if manhole flanged Steam Dome: Material

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$

Internal diameter Working pressure by Rules Thickness of crown No. and diameter of stays

How connected to shell Inner radius of crown Working pressure by Rules

Size of doubling plate under dome Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell

Type of Superheater Manufacturers of $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$

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 Working pressure as per Rules

Pressure to which the safety valves are adjusted Hydraulic test pressure: tubes 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 HARRY WOLFF & CO. LTD. Manufacturers.
A. J. Marshall 110
 ASSISTANT SURVEYOR

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - - -} \end{array} \right. \end{array} \right.$ Are the approved plans of boiler and superheater forwarded herewith 26/8/36 (If not state date of approval.)

Total No. of visits

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

This boiler has been constructed under special survey and to an approved design. The materials and workmanship are good. It has been tested by hydraulic pressure in accordance with the Rules and is eligible in my opinion for use on a vessel classed with the Society. It is intended for a vessel building at Govan.

This boiler has been efficiently secured on board the M.V. Broomdale. The safety valves have been adjusted under steam and tested for accumulation of pressure, and the boiler tried under working conditions and found satisfactory. *H.W.B.*

26/11/37

Survey Fee £ 17 : 6 : When applied for, 28. 6. 1937.
 Travelling Expenses (if any) £ : : When received, 24. 7. 1937
 (per London)

Charles J. Hunter, H.W.B. Campbell
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 9-NOV 1937

Assigned See G.L. Rpt. No. 59000.

