

REPORT ON BOILERS.

No. 11976

JUL 15 1937

Received at London Office

Date of writing Report 192 When handed in at Local Office *14. 7. 1937* Port of *Belfast*
 No. in Survey held at *Belfast* Date, First Survey Last Survey *6-7-37* 192
 Reg. Book. *Belfast*
 on the *SINGLE SCREW DELIUS GIL ENGINES* (Number of Visits) Gross *6065* Tons Net *3749*
 Master *J.M.* Built at *Belfast* By whom built *Harland & Wolffs* Yard No. *980* When built *1937*
 Engines made at *Belfast* By whom made *Harland & Wolffs* Engine No. *980* When made *1937*
 Boilers made at *Belfast* By whom made *Harland & Wolffs* Boiler No. *980* When made *1937*
 Nominal Horse Power *898* Owners *Lampson & Holt L^d* Port belonging to *Liverpool*

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *Colvilles L^d* (Letter for Record *S* ✓)
 Total Heating Surface of Boilers *1525* Is forced draught fitted *No* ✓ Coal or Oil fired *Yes* ✓
 No. and Description of Boilers *One S.E. Cylindrical* Working Pressure *120 lbs*
 Tested by hydraulic pressure to *230* ✓ Date of test *11-3-37* No. of Certificate *1028* Can each boiler be worked separately *Yes*
 Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler *1-2 1/2" double opening H.L. (app.)* ✓
 Area of each set of valves per boiler { per Rule *7.06* as fitted *7.90* ✓ Pressure to which they are adjusted *120* ✓ 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 *16"* ✓ Is oil fuel carried in the double bottom under boilers *Yes* ✓
 Smallest distance between shell of boiler and tank top plating *2'-3"* ✓ Is the bottom of the boiler insulated *Yes* ✓
 Largest internal dia. of boilers *12'-6"* Length *10'-6"* Shell plates: Material *S* ✓ Tensile strength *28/32 tons* ✓
 Thickness *33/32* Are the shell plates welded or flanged *No* ✓ Description of riveting: circ. seams { end *D.R.* inner ✓
 long, seams *T.R.D.B.* Diameter of rivet holes in { circ. seams *15/16* long, seams *13/16* Pitch of rivets { *5 7/8"*
 Percentage of strength of circ. end seams { plate *68.37* rivets *51.67* Percentage of strength of circ. intermediate seam { plate ✓ rivets ✓
 Percentage of strength of longitudinal joint { plate *84.7* rivets *121.5* combined *92.5* Working pressure of shell by Rules *124 lbs*
 Thickness of butt straps { outer *9/16"* inner *11/16"* ✓ No. and Description of Furnaces in each Boiler *Two Morrison* ✓
 Material *S* Tensile strength *26/30 tons* ✓ Smallest outside diameter *40 7/8"* ✓
 Length of plain part { top ✓ bottom ✓ Thickness of plates { crown *7/16"* bottom ✓ Description of longitudinal joint *Weld* ✓
 Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules *152 lbs.*
 End plates in steam space: Material *S* Tensile strength *26/30 tons* ✓ Thickness *15/16"* ✓ Pitch of stays *18 1/2" x 16"* ✓
 How are stays secured *Double nuts* ✓ Working pressure by Rules *127.9 lbs.* ✓
 Tube plates: Material { front *S* back ✓ Tensile strength { *26/30 tons* Thickness { *13/16"* *3/4"* ✓
 Mean pitch of stay tubes in nests *11 1/4"* ✓ Pitch across wide water spaces *14 1/2"* ✓ Working pressure { front *154 lbs* back *158.5 lbs* ✓
 Girders to combustion chamber tops: Material *S* Tensile strength *28/32 tons* ✓ Depth and thickness of girder
 at centre *7 3/8" x 1 1/2"* Length as per Rule *29 15/16"* ✓ Distance apart *11"* ✓ No. and pitch of stays
 in each *3 at 7"* Working pressure by Rules *128 lbs* ✓ Combustion chamber plates: Material *S*
 Tensile strength *26/30 tons* ✓ Thickness: Sides *9/16"* ✓ Back *9/16"* Top *9/16"* Bottom *5/8"* ✓
 Pitch of stays to ditto: Sides *10 1/2" x 8"* ✓ Back *9" x 9 3/4"* Top *11" x 7"* Are stays fitted with nuts or riveted over *Nuts* ✓
 Working pressure by Rules *123 lbs* ✓ Front plate at bottom: Material *S* Tensile strength *26/30 tons* ✓
 Thickness *13/16"* Lower back plate: Material *S* ✓ Tensile strength *26/30* ✓ Thickness *3/4"* ✓
 Pitch of stays at wide water space *13"* ✓ Are stays fitted with nuts or riveted over *nuts*
 Working Pressure *172 lbs* Main stays: Material *S* Tensile strength *28/32 tons*
 Diameter { At body of stay, or Over threads *2 1/2"* No. of threads per inch *6* ✓ Area supported by each stay *356"* ✓
 Working pressure by Rules *124 lbs* ✓ Screw stays: Material *S* Tensile strength *26/30 tons*
 Diameter { At turned off part, or Over threads *1 1/2" 1 5/8" 1 3/4"* No. of threads per inch *9* ✓ Area supported by each stay *87.75"* ✓

Working pressure by Rules 143 lb Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, 1 5/8" or Over threads 1 5/8" ✓

No. of threads per inch 9 Area supported by each stay 107.25 Working pressure by Rules 145 lb

Tubes: Material W.I. External diameter { Plain 3 1/4" Stay 3 1/4" ✓ Thickness { 8 W.G. 1/4" 9/32" 5/16" No. of threads per inch 9 ✓

Pitch of tubes 4 1/2" x 4 1/2" ✓ Working pressure by Rules 171 Manhole compensation: Size of opening in shell plate 16 1/2" x 12 1/2" Section of compensating ring 36" x 32" x 1/16" ✓ No. of rivets and diameter of rivet holes 28 - 1 1/8"

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 { Plate _____ Rivets _____

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

How connected to shell _____ 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 { 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 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 casing 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 _____

The foregoing is a correct description,
For HARLAND AND WOLFE LIMITED
A. J. Marshall Manufacturer.

Dates of Survey { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith yes (If not state date of approval.)
while building { During erection on board vessel - - }
Total No. of visits _____

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler was built under Special Survey
This boiler has been efficiently installed & fastened on a seat on the tank top at the starboard end of the engine room, the safety valves were adjusted under steam the accumulation test was satisfactory. In my opinion the boiler is eligible for use in a vessel classed with the Society. The materials and workmanship are good.

Survey Fee £ : When applied for, 192
Travelling Expenses (if any) £ : When received, 192

Charles Y. Hunter.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 30 JUL 1937
Assigned See other F.E. rpt

