

REPORT ON BOILERS.

No. 9782

Received at London Office 28 JUL 1927

Date of writing Report 27th July 1927 When handed in at Local Office 27th July 1927 Port of Belfast

No. in Survey held at Belfast Date, First Survey Last Survey See F.E. Mchys report 1927

on the STEEL TWIN SC. BERTA Tons Gross Net

Built at Belfast By whom built Harland Wolff Ltd Yard No. 798 When built 1927

Engines made at Belfast By whom made Harland Wolff Ltd Engine No. 798 When made 1927

Boilers made at Belfast By whom made Harland Wolff Ltd Boiler No. 798 When made 1927

Indicated Horse Power 233 Owners Andriessche Scheepvaart maats. Port belonging to Willemstad, Curacao

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel David Colville & Co. (Letter for Record 5. ✓)

Total Heating Surface of Boilers 3958 sq ft Is forced draught fitted Yes ✓ Coal or Oil fired Oil ✓

and Description of Boilers Two single ended cylindrical Working Pressure 180 lbs ✓

Tested by hydraulic pressure to 360 lbs Date of test 17. 6. 27 No. of Certificate 899 ✓ Can each boiler be worked separately Yes ✓

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler Two High-lift Spring-loaded ✓

Area of each set of valves per boiler per Rule $\frac{2}{3} \times 10.80 = 9.20$ as fitted 16.58 ✓ Pressure to which they are adjusted 180 lbs. ✓ Are they fitted with easing gear Yes ✓

Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓

Smallest distance between boilers or uptakes and bunkers or woodwork 7'0" ✓ Is oil fuel carried in the double bottom under boilers No. ✓

Smallest distance between shell of boiler and tank top plating 17" ✓ Is the bottom of the boiler insulated Yes ✓

Smallest internal dia. of boilers 13'0" Length 12'-3" Shell plates: Material Steel Tensile strength 29 3/4 to 33 Tons

Thickness 1 3/8" Are the shell plates welded or flanged No. Description of riveting: circ. seams end double inter. ✓

Seams helix D.B.S. Diameter of rivet holes in circ. seams 1 3/8" Pitch of rivets 2.988" ✓

Percentage of strength of circ. end seams plate 62.3 rivets 49.6 Percentage of strength of circ. intermediate seam plate 90.5 rivets 85.3 ✓

Percentage of strength of longitudinal joint plate 90.5 rivets 85.3 combined 88.8 Working pressure of shell by Rules 180 lbs.

Thickness of butt straps outer 13/16" inner 15/16" No. and Description of Furnaces in each Boiler Two Morrison

Material Steel Tensile strength 26-30 Tons Smallest outside diameter 44 1/8"

Thickness of plain part top ✓ bottom ✓ Thickness of plates crown 9/16" bottom 7/16" Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 184.9 lbs.

Stays in steam space: Material Steel Tensile strength 26-30 Tons Thickness 13/16" Pitch of stays 18"x18"

Are stays secured double nuts & D 3/8 washers Working pressure by Rules 184 lbs.

Stays: Material front Steel 26-30 Tons thickness 7/8" back Steel 26-30 Tons thickness 13/16"

Pitch of stay tubes in nests 8" Pitch across wide water spaces 14" Working pressure front 202 lbs. back 197 lbs.

Stays to combustion chamber tops: Material Steel Tensile strength 28-32 Tons Depth and thickness of girder

Height 9'-1 3/4" Length as per Rule 36" Distance apart 9" No. and pitch of stays

Material Steel 9" Working pressure by Rules 192 lbs. Combustion chamber plates: Material Steel

Tensile strength 26-30 Tons Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 3/4"

Dimensions of stays to ditto: Sides 8 3/4" x 7 3/4" Back 8 1/2" x 7 3/4" Top 9" x 9" Are stays fitted with nuts or riveted over riveted over

Working pressure by Rules 193 lbs. Front plate at bottom: Material Steel Tensile strength 26-30 Tons

Thickness 7/8" Lower back plate: Material Steel Tensile strength 26-30 Tons Thickness 7/8"

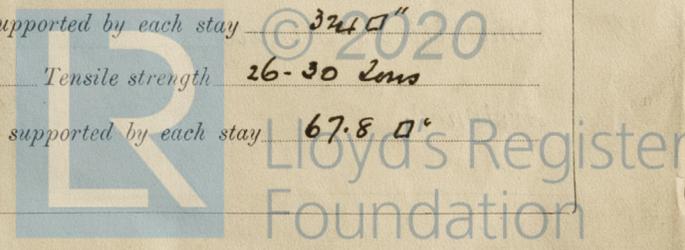
Dimensions of stays at wide water space 13" x 7 3/4" Are stays fitted with nuts or riveted over margin stays riveted.

Working Pressure 274 lbs. Main stays: Material Steel ✓ Tensile strength 28-32 Tons

At body of stay, No. of threads per inch fine ✓ Area supported by each stay 324 sq in

Over threads 3" Screw stays: Material Steel ✓ Tensile strength 26-30 Tons

Working pressure by Rules 200 lbs. At turned off part, No. of threads per inch fine ✓ Area supported by each stay 67.8 sq in



Working pressure by Rules 185 lb Are the stays drilled at the outer ends Yes Margin stays: Diameter { At turned off part, or Over threads 1 3/4" x 1 7/8"

No. of threads per inch Jen Area supported by each stay 90.3 sq" Working pressure by Rules 200 lb

Tubes: Material Jen External diameter { Plain 2 3/4" Stay 2 3/4" Thickness { No 8. H.G. 5/16" 7/16" No. of threads per inch Jen

Pitch of tubes 4" Working pressure by Rules stay 345 lb plain 275 lb Manhole compensation: Size of opening shell plate 16"x12" Section of compensating ring 36x32 x 7/8" dentle 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 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 diameter 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 23 inclusive for boilers been complied with Yes.

The foregoing is a correct description,
FOR HARLAND AND WOLFE, LIMITED,
J. O. Keay Manufac

Dates of Survey { During progress of work in shops - - - while building { During erection on board vessel - - - } See FE. machinery report Are the approved plans of boiler and superheater forwarded herewith 76.2 (If not state date of approval.)

Total No. of visits

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

These boilers have been constructed under special survey. The materials & workmanship sound & good. They have been satisfactorily tested by hydraulic pressure in accordance with the rules, efficiently installed & fastened on the vessel. The safety valves have been adjusted under steam. In our opinion the vessel is eligible for notation - L.M.C. 7.27.

Survey Fee ... £ See machinery report When applied for, 192
 Travelling Expenses (if any) £ See Report When received, 192

R. E. Ames & H. P. Southwell
 Engineer Surveyors to Lloyd's Register of Shipping

Committee's Minute **WED. 3 AUG 1927**
 Assigned *See Report attached*

