

# REPORT ON BOILERS.

No. 9945

Received at London Office

10 APR 1928

Reporting Report 5<sup>th</sup> APRIL 1928 When handed in at Local Office 5<sup>th</sup> APRIL 1928 Port of Belfast

Survey held at Belfast Date, First Survey See first entry Last Survey 4<sup>th</sup> APRIL 1928

on the STEEL TWIN SC. TIA JUANA

(Number of Visits) Gross Tons Net

Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 833 When built 1928

Made at Glasgow By whom made Harland & Wolff Ltd. Engine No. 833 When made 1928

Made at Belfast By whom made Harland & Wolff Ltd. Boiler No. 833 When made 1928

Horse Power 196 Owners Lago Shipping Co. Ltd. (A. Wein & Co. Mgrs.) Port belonging to London

## SITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Dr. Colville & Co. Ltd. (Letter for Record 5)

21-12-28 Heating Surface of Boilers 3702 Is forced draught fitted No. Coal or Oil fired Oil

Description of Boilers Two single-ended cylindrical Working Pressure 180 lb.

Hydraulic pressure to 320 lb. Date of test 9. 2. 28 No. of Certificate 918 Can each boiler be worked separately Yes

Firegrate in each Boiler 49 sq ft No. and Description of safety valves to each boiler Two Spring-loaded

each set of valves per boiler per Rule 14.24 sq ft Pressure to which they are adjusted 2 x 9.625 sq ft Are they fitted with easing gear Yes

If donkey boilers, state whether steam from main boilers can enter the donkey boiler Yes

Distance between boilers or uptakes and bunkers 18" Is oil fuel carried in the double bottom under boilers No.

Distance between shell of boiler and tank top plating open Is the bottom of the boiler insulated Yes

Internal dia. of boilers 14'-0" 1/16" Length 10'-6" Shell plates: Material Steel Tensile strength 28-32 Tons

Are the shell plates welded or flanged No. Description of riveting: circ. seams double

ns keble d. b. s. ✓ Diameter of rivet holes in 1 1/4" Pitch of rivets 3.6"

Percentage of strength of circ. intermediate seam 8 3/8"

Percentage of strength of circ. end seams plate 65.2 rivets 48.5

Percentage of strength of longitudinal joint plate 85.07 rivets 97.8 combined 97.1 Working pressure of shell by Rules 180 lb.

of butt straps outer 3/32" inner 1/16" No. and Description of Furnaces in each Boiler Three Morrison 3 CF

Steel Tensile strength 26-30 Tons Smallest outside diameter 40 1/16"

plain part top 17" bottom 32" Thickness of plates 17" Description of longitudinal joint weld

ns of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 191 lb.

es in steam space: Material Steel Tensile strength 26-30 Tons Thickness 1 1/8" Pitch of stays 17 1/2" x 20 1/2"

stays secured double-nuts, screwed into end plates, + washers Working pressure by Rules 184 lb.

tes: Material front Steel back Steel Tensile strength 26-30 Tons Thickness 3/8"

ch of stay tubes in nests 11.2" Pitch across wide water spaces 14 1/4" x 8 3/4" Working pressure front 187 lb. back 227 lb. 190 lb.

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

8 1/4" - 1 1/2" Length as per Rule 30 5/8" Distance apart 8 1/8" No. and pitch of stays

Three 8" Working pressure by Rules 215 lb. Combustion chamber plates: Material Steel

length 26-30 Tons Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 3/4"

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

pressure by Rules 190 lb. Front plate at bottom: Material Steel Tensile strength 26-30 Tons

3/8" Lower back plate: Material Steel Tensile strength 26-30 Tons Thickness 1 1/16"

stays at wide water space 13 1/2" x 7 1/2" Are stays fitted with nuts or riveted over nuts

ster of Shi Pressure 225 lb. Main stays: Material Steel Tensile strength 28-32 Tons

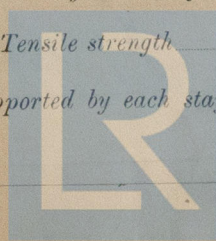
At body of stay, 3" No. of threads per inch five Area supported by each stay 308.4 sq in

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

pressure by Rules 211 lb. No. of threads per inch ten Area supported by each stay 69.375 sq in

At turned off part, 1 1/8" No. of threads per inch ten Area supported by each stay 69.375 sq in

Over threads 1 1/8"



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Working pressure by Rules 219 lbs Are the stays drilled at the outer ends no Margin stays: Diameter <sup>At turned off part</sup> 1 3/4" 1 7/8" pt. 13.  
 No. of threads per inch 16 Area supported by each stay 990" Working pressure by Rules 183 lbs  
 Tubes: Material Im External diameter <sup>Plain</sup> 3 1/4" Thickness <sup>Stay</sup> 1/4" No. of threads per inch 16  
 Pitch of tubes 4 1/2" x 4 3/8" Working pressure by Rules plain 280 lbs Stay 225 lbs Manhole compensation: Size of  
 shell plate 16" x 12" Section of compensating ring 36" x 32" x 1 1/8" double No. of rivets and diameter of rivet holes 28-1 1/4"  
 Outer row rivet pitch at ends 8" Depth of flange if manhole flanged ✓ Steam Dome: Material Im  
 Tensile strength Thickness of shell Description of longitudinal joint  
 Diameter of rivet holes Pitch of rivets Percentage of strength of joint <sup>Plate</sup>  
 Internal diameter Working pressure by Rules Thickness of crown No. and built at  
 stays Inner radius of crown Working pressure by Rules  
 How connected to shell Size of doubling plate under dome Diameter of rivet holes  
 of rivets in outer row in dome connection to shell

Type of Superheater None Manufacturers of <sup>Tubes</sup>  
 Number of elements Material of tubes <sup>Steel castings</sup>  
 Material of headers Tensile strength Thickness Can the superheater be sh  
 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 press  
 Rules Pressure to which the safety valves are adjusted Hydraulic test  
 tubes , castings and after assembly in place Are drain cocks or va  
 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 WOLFF, LIMITED  
 J. D. Ryan

Dates <sup>During progress of</sup>  
 of Survey <sup>work in shops - -</sup>  
 while <sup>During erection on</sup>  
 building <sup>board vessel - -</sup>

Are the approved plans of boiler and superheater forwarded herewith ✓  
 (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 and to an approved plan. The ma  
 and workmanship are sound and good. They have been tested by hydraulic pressure with  
 satisfactory results, have been efficiently fastened on board the vessel and the safety valves h  
 been adjusted under steam.

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

R. Lee Ames  
 Engineer Surveyor to Lloyd's Register of S

Committee's Minute

FRI. 13 APR 1928

Assigned

See Encl. attached



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