

# REPORT ON BOILERS.

No. 9972

Received at London Office

23 MAY 1928

Writing Report

192

When handed in at Local Office 22<sup>nd</sup> May 1928

Port of Belfast

Survey held at

Belfast

Date, First Survey

See first entry mech. report.

Last Survey

192

on the STEEL TWIN SC. PUNTA GORDA

(Number of Visits)

Tons { Gross Net

Built at Belfast

By whom built Harland & Wolff Ltd.

Yard No. 835

When built 1928

Engines made at

Glasgow

By whom made Harland & Wolff Ltd.

Engine No. 835

When made 1928

Boilers made at

Belfast

By whom made Harland & Wolff Ltd.

Boiler No. 835

When made 1928

Indicated Horse Power

196

Owners Lagg Shipping Co. Ltd (A. Weir & Co. Mgrs)

Port belonging to

Round

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

D. Colville & Sons Ltd.

(Letter for Record S. )

Heating Surface of Boilers

3702

Is forced draught fitted No.

Coal or Oil fired Oil

Kind and Description of Boilers

Two single ended cylindrical 253

Working Pressure 180 lbs.

Tested by hydraulic pressure to

320 lbs.

Date of test 19.3.28

No. of Certificate 920

Can each boiler be worked separately Yes

Area of Firegrate in each Boiler

49

No. and Description of safety valves to each boiler Two Spring-loaded

Number of each set of valves per boiler

per Rule 14.24.0"  
as fitted 2 x 9.62.0"

Pressure to which they are adjusted 180 lbs.

Are they fitted with easing gear Yes

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

Least distance between boilers or uptakes and bunkers or woodwork

Is oil fuel carried in the double bottom under boilers

Least distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated Yes

Least internal dia. of boilers 14'-0" <sup>11</sup>/<sub>16</sub>"

Length 10'-6"

Shell plates: Material Steel

Tensile strength 28-32 Tons

Thickness

1 5/32"

Are the shell plates welded or flanged No.

Description of riveting: circ. seams { end double   
inter.

Seams helve d.t.s.

Diameter of rivet holes in { circ. seams 1 1/4"  
long. seams 1 1/4"

Pitch of rivets { 3.6"  
8 3/8"

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

Percentage of strength of circ. intermediate seam { plate   
rivets

Percentage of strength of longitudinal joint { plate 85.07  
rivets 97.8

Working pressure of shell by Rules 180 lbs.

Thickness of butt straps { outer 29"  
inner 1 1/16"

No. and Description of Furnaces in each Boiler

Three main 3 c.f.

Material

Steel

Tensile strength 26-30 Tons

Smallest outside diameter 40 1/16"

Thickness of plain part { top   
bottom

Thickness of plates { crown 17"  
bottom 3/32"

Description of longitudinal joint weld.

Dimensions of stiffening rings on furnace or c.c. bottom

Working pressure of furnace by Rules 191 lbs.

Plates in steam space: Material Steel

Tensile strength 26-30 Tons

Thickness 1 1/8"

Pitch of stays 17 1/2 x 20 1/2"

Are stays secured double nuts, screwed into end plates + washers

Working pressure by Rules 184 lbs.

Front plates: Material { front Steel  
back Steel

Tensile strength { 26-30 Tons  
26-30 Tons

Thickness { 7/8"  
1 1/16"

Pitch of stay tubes in nests 11'-2"

Pitch across wide water spaces 14 1/2" x 8 3/4"

Working pressure { front 187 lbs  
back 227 lbs 190 lbs

Stays to combustion chamber tops: Material Steel

Tensile strength 28-32 Tons

Depth and thickness of girder

Centre 8 1/2" - 1 1/2"

Length as per Rule 30 7/8"

Distance apart 8 1/8"

No. and pitch of stays

Each Three 8"

Working pressure by Rules 215 lbs

Combustion chamber plates: Material Steel

Tensile strength 26-30 Tons

Thickness: Sides 5/8"

Back 5/8"

Top 5/8"

Bottom 3/4"

Pitch of stays to ditto: Sides 8 1/2" x 8"

Back 9 1/2" x 7 1/2"

Top 8 1/2" x 8"

Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 190 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 1 1/16"

Pitch of stays at wide water space 13 1/2" x 7 1/2"

Are stays fitted with nuts or riveted over nuts

Working Pressure 225 lbs

Main stays: Material Steel

Tensile strength 28-32 Tons

Number of threads per inch

3"

No. of threads per inch five

Area supported by each stay 308.4 sq"

Working pressure by Rules 211 lbs

Screw stays: Material Steel

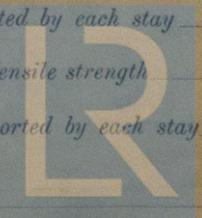
Tensile strength 26-30 Tons

Number of threads per inch

1 7/8"

No. of threads per inch ten

Area supported by each stay 69.375 sq"



Lloyd's Register Foundation

W 257-0181

Working pressure by Rules 219 lb. Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, 1 3/4" or 1 1/2" Over threads }  
 No. of threads per inch ten Area supported by each stay 99 sq" Working pressure by Rules 183 lb.  
 Tubes: Material Iron External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { No. 7 m.s. 1/4" 5/16" } No. of threads per inch ten  
 Pitch of tubes 4 1/2" x 4 3/8" Working pressure by Rules plain 280 lb. Stay 225 lb. Manhole compensation: Size of opening  
 shell plate 16" x 12" Section of compensating ring 36" x 3 1/2" x 1 1/2" 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 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 as  
 Rules Pressure to which the safety valves are adjusted Hydraulic test press  
 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,  
 of HARLAND AND WOLFF, LIMITED  
 Deleblock Manufact

Dates of Survey { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith 7. 11. 2  
 while building { During erection on board vessel - - } (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 material 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 been adjusted under steam.

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

R. Lee Amers.  
 Engineer Surveyor to Lloyd's Register of Ship

Committee's Minute FRI. 25 MAY 1928  
 Assigned See report attached

