

## REPORT ON BOILERS.

No. 47322

Received at London Office

14 DEC 1927

Date of writing Report

192

When handed in at Local Office

5.12.1927

Port of

Glasgow

No. in Survey held at  
Reg. Book.

Glasgow

Date, First Survey

10.2.27

Last Survey

3-12-1927

(Number of Visits 57)

Gross  
Tons  
Net

on the new steel S/S "CYMBELINE"

Master

Built at

Port Glasgow

By whom built

Wm Hamilton &amp; Co Ltd

Yard No. 399

When built 1927

Engines made at

Glasgow

By whom made

David Rowan &amp; Co Ltd

Engine No. 859

When made 1927

Boilers made at

Glasgow

By whom made

David Rowan &amp; Co Ltd

Boiler No. 859

When made 1927

Nominal Horse Power

572

Owners

Port belonging to

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

Manufacturers of Steel

Aug Thyssen Hütte Gewerkschaft Hülheim Rühr

(Letter for Record S ✓)

Total Heating Surface of Boilers

5478 sq ft ✓

Is forced draught fitted

yes ✓

Coal or Oil fired

oil &amp; coal ✓

No. and Description of Boilers

Two single ended marine. The two after boilers ✓

Working Pressure 220 ✓

Tested by hydraulic pressure to

380 ✓

Date of test 5-10-27

No. of Certificate

47616 ✓

Can each boiler be worked separately

yes ✓

Area of Firegrate in each Boiler

60 sq ft ✓

No. and Description of safety valves to each boiler

two direct spring ✓

Area of each set of valves per boiler

(per Rule 17.48 sq ft ✓  
as fitted 19.24 sq ft ✓)

Pressure to which they are adjusted

225 ✓

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

4'-6" ✓

Is oil fuel carried in the double bottom under boilers

No ✓

Smallest distance between shell of boiler and tank top plating

2'-6" ✓

Is the bottom of the boiler insulated

yes ✓

Largest internal dia. of boilers

15'-6" ✓

Length

11'-9" ✓

Shell plates: Material

steel ✓

Tensile strength

30-34 tons ✓

Thickness

17/16" ✓

Are the shell plates welded or flanged

no ✓

Description of riveting: circ. seams

end DR ✓  
inter. ✓

Long. seams

DB S.T.R. ✓

Diameter of rivet holes in

circ. seams F 13/8" B 13/8" ✓  
long. seams 1 1/2" ✓

Pitch of rivets

F 3.428 B 4.08 ✓  
10 1/16" ✓

Percentage of strength of circ. end seams

plate F 59.9 B 63.2 ✓  
rivets F 46.4 B 46.2 ✓

Percentage of strength of circ. intermediate seam

plate ✓  
rivets ✓

Percentage of strength of longitudinal joint

plate 85.09 ✓  
rivets 87.5 ✓  
combined 87.7 ✓

Working pressure of shell by Rules

220 ✓

Thickness of butt straps

outer 1 3/32" ✓  
inner 1 7/32" ✓

No. and Description of Furnaces in each Boiler

Three Deighton ✓

Material

steel ✓

Tensile strength

26-30 tons ✓

Smallest outside diameter

45 1/8" ✓

Length of plain part

top ✓  
bottom ✓

Thickness of plates

crown 1 1/16" ✓  
bottom 1 1/16" ✓

Description of longitudinal joint

welded ✓

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

Working pressure of furnace by Rules

223 ✓

Stays in steam space: Material

steel ✓

Tensile strength

26-30 tons ✓

Thickness

1 7/16" ✓

Pitch of stays 19 3/4" x 22" ✓

How are stays secured

D.N. ✓

Working pressure by Rules

222 ✓

Stays plates: Material

front steel ✓  
back " ✓

Tensile strength

26-30 tons ✓

Thickness

7/8" ✓  
3/4" ✓

Can pitch of stay tubes in nests

9 1/4" ✓

Pitch across wide water spaces

13 1/2" ✓

Working pressure

front 223 ✓  
back 234 ✓

Orders to combustion chamber tops: Material

steel ✓

Tensile strength

28-32 tons ✓

Depth and thickness of girder

centre

2 @ 9 3/4" x 7 1/8" ✓

Length as per Rule

34.6" ✓

Distance apart

9 3/4" ✓

No. and pitch of stays

each

3 @ 8 1/4" ✓

Working pressure by Rules

222 ✓

Combustion chamber plates: Material

steel ✓

Tensile strength

26-30 tons ✓

Thickness: Sides

23/32" ✓

Back

21/32" ✓

Top

23/32" ✓

Bottom

29/32" ✓

Pitch of stays to ditto: Sides

8 1/4" x 9 3/4" ✓

Back

8" x 8 1/2" ✓

Top

8 1/4" x 9 3/4" ✓

Are stays fitted with nuts or riveted over

nuts ✓

Working pressure by Rules

220 ✓

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

53/64" ✓

Pitch of stays at wide water space

13 1/2" ✓

Are stays fitted with nuts or riveted over

nuts ✓

Working Pressure

220 ✓

Main stays: Material

steel ✓

Tensile strength

28-32 tons ✓

Gage

At body of stay, or over threads

3 1/2" &amp; 3 1/4" ✓

No. of threads per inch

6 ✓

Area supported by each stay 460 &amp; 405 sq in ✓

Working pressure by Rules

235 &amp; 229 ✓

Screw stays: Material

steel ✓

Tensile strength

26-30 tons ✓

Gage

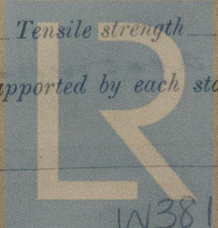
At turned off part, or over threads

1 5/8" &amp; 1 3/4" ✓

No. of threads per inch

9 ✓

Area supported by each stay 68 &amp; 80.5 sq in ✓

Lloyd's Register  
Foundation



Working pressure by Rules **224 & 225** Are the stays drilled at the outer ends ☒ Margin stays: Diameter <sup>At turned off part.</sup> <sub>or</sub> <sup>Over threads</sup> **1 7/8"** ✓  
 No. of threads per inch **9** ✓ Area supported by each stay **125.31"** Working pressure by Rules **239** ✓  
 Tubes: Material **Iron** ✓ External diameter <sup>Plain</sup> **2 1/2"** ✓ <sup>Stay</sup> **2 1/2"** ✓ Thickness **5/16 3/8 7/16"** ✓ No. of threads per inch **9** ✓  
 Pitch of tubes **3 3/4" x 3 9/8"** ✓ Working pressure by Rules **300** ✓ Manhole compensation: Size of opening in Reg. Boil. **19 1/2" x 15 1/2"** ✓  
 shell plate **19 1/2" x 15 1/2"** ✓ Section of compensating ring **8 3/4" x 1 7/8"** ✓ No. of rivets and diameter of rivet holes **34 @ 1 1/2"** ✓  
 Outer row rivet pitch at ends **10 1/4"** ✓ Depth of flange if manhole flanged **3"** ✓ Steam Dome: Material **none** ✓  
 Tensile strength **ppc** Thickness of shell **none** Description of longitudinal joint **none** ✓  
 Diameter of rivet holes **ppc** Pitch of rivets **ppc** Percentage of strength of joint <sup>Plate</sup> <sub>Rivets</sub> **ppc** ✓  
 Internal diameter **ppc** Working pressure by Rules **ppc** Thickness of crown **ppc** No. and diameter of Boilers **ppc** ✓  
 stays **ppc** Inner radius of crown **ppc** Working pressure by Rules **ppc** ✓  
 How connected to shell **ppc** Size of doubling plate under dome **ppc** Diameter of rivet holes and pitch **ppc** ✓  
 of rivets in outer row in dome connection to shell **ppc** ✓

Type of Superheater **none** Manufacturers of <sup>Tubes</sup> <sub>Steel castings</sub> **none** ✓  
 Number of elements **ppc** Material of tubes **ppc** Internal diameter and thickness of tubes **ppc** ✓  
 Material of headers **ppc** Tensile strength **ppc** Thickness **ppc** Can the superheater be shut off and Manufa **ppc** ✓  
 the boiler be worked separately **ppc** Is a safety valve fitted to every part of the superheater which can be shut off from the boiler **ppc** ✓  
 Area of each safety valve **ppc** Are the safety valves fitted with easing gear **ppc** Working pressure as per No. and **ppc** ✓  
 Rules **ppc** Pressure to which the safety valves are adjusted **ppc** Hydraulic test pressure Tested **ppc** ✓  
 tubes **ppc** castings **ppc** and after assembly in place **ppc** Are drain cocks or valves fitted area of **ppc** ✓  
 to free the superheater from water where necessary **ppc** ✓

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with **yes** ✓

The foregoing is a correct description,  
 For David Rowan & Co. Ltd. Manufacturer  
 Arch. W. Grierson

Dates of Survey <sup>During progress of</sup> <sub>work in shops - -</sub> **See Accompanying** Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) **ppc** ✓  
 while building <sup>During erection on</sup> <sub>board vessel - -</sub> **machinery report** Total No. of visits **57**

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

The materials and workmanship are good.  
 The boilers have been constructed under Special Survey in accordance with the Rules, satisfactorily fitted in the vessel and their safety valves adjusted under steam.

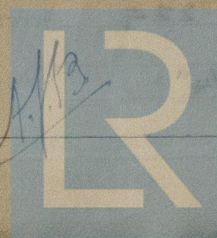
Survey Fee ... .. £ **See Machinery Rpt.** When applied for, 192  
 Travelling Expenses (if any) £ : : When received, 192

**S. C. Davis**

Engineer Surveyor to Lloyd's Register of Shipping, Working

Committee's Minute **GLASGOW 13 DEC 1927**

Assigned **See accompanying mach. & report.**



© 2020

Lloyd's Register  
 Foundation

**A. G.**  
**5/12/27**