

## REPORT ON BOILERS.

No. 57316

5 AUG 1936

Received at London Office

Date of writing Report

19

When handed in at Local Office

3. 8. 36

Port of

Glasgow

No. in Survey held at  
eg. Book.

Glasgow

Date, First Survey

17. 12. 35

Last Survey

29. 7. 1936

1936

on the

near steel 315" TREWELLARD"

(Number of Visits

75)

Gross

5201

Tons

Net

3076

Faster

Built at

Port Glasgow

By whom built

Lithgow &amp; Co Ltd

Yard No. 883

When built 1936

Engines made at

Glasgow

By whom made

David Rowan &amp; Co Ltd

Engine No. 989

When made 1936

Boilers made at

Glasgow

By whom made

David Rowan &amp; Co Ltd

Boiler No. 989

When made 1936

Nominal Horse Power

434

Owners

Hain &amp; Co

Port belonging to

London

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

Manufacturers of Steel

Plate by steel by Scotland 1<sup>st</sup> step by 6 shells Ltd

(Letter for Record (r) ✓)

Total Heating Surface of Boilers

4642 sq ft

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

Two single ended

Working Pressure 230

Tested by hydraulic pressure to

395

Date of test

9-4-36

No. of Certificate

19700. 19708

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

510 sq ft

No. and Description of safety valves to each boiler

2, Impulse high lift

Area of each set of valves per boiler

per Rule 592 sq ft

as fitted 628 sq ft

Pressure to which they are adjusted

235

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

18"

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'-0"

Length

11'-6"

Shell plates: Material

steel

Tensile strength 29.33 tons

Thickness

1 3/4"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end WR lap

Long. seams

W.R. S.T.R.

Diameter of rivet holes in

circ. seams

F 1 3/8"

B 1 9/16"

Pitch of rivets

F 3.5"

B 4.18"

Percentage of strength of circ. end seams

plate

F 60.8

B 62.6

rivets

F 45.4

B 48.8

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

85.1

rivets

90.2

combined

88.3

Working pressure of shell by Rules

231

Thickness of butt straps

outer

1 1/8"

inner

1 1/4"

No. and Description of Furnaces in each Boiler

Three Deighton

Material

steel

Tensile strength 26-30 tons

Smallest outside diameter

3'-8 1/2"

Length of plain part

top

bottom

Thickness of plates

crown

49"

bottom

62"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

253

End plates in steam space: Material

steel

Tensile strength 26-30 tons

Thickness

1 3/8"

Pitch of stays 21 1/4" x 17 3/4"

How are stays secured

W.N.

Working pressure by Rules

231

Tube plates: Material

front

steel

back

"

Tensile strength

26-30 tons

Thickness

F 15/16"

B 2 5/32"

Mean pitch of stay tubes in nests

9'-6"

Pitch across wide water spaces

14"

Working pressure

front

230

back

236

Girders to combustion chamber tops: Material

steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

2 @ 9 1/4" x 7 1/8"

Length as per Rule

34 15/32"

Distance apart

8 1/2"

No. and pitch of stays

in each

3 @ 8 1/4"

Working pressure by Rules

232

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons

Thickness: Sides

1 1/16"

Back

3/4"

Top

1 1/16"

Bottom

2 1/32"

Pitch of stays to ditto: Sides

8 1/4" x 8 1/2"

Back

10" x 8"

Top

8 1/4" x 8 1/2"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

235

Front plate at bottom: Material

steel

Tensile strength 26-30 tons

Thickness

1 5/16"

Lower back plate: Material

steel

Tensile strength 26-30 tons

Thickness

2 1/32"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

236

Main stays: Material

steel

Tensile strength 28-32 tons

Diameter

At body of stay,

or

Over threads

No. of threads per inch

6

Area supported by each stay

392 sq in &amp; 343 sq in

Working pressure by Rules

237 &amp; 230

Screw stays: Material

iron

Tensile strength

26-30 tons

Diameter

At turned off part,

or

Over threads

No. of threads per inch

9

Area supported by each stay

80 sq in



Working pressure by Rules 266 ✓ Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, or Over threads 2" ✓  
No. of threads per inch 9 ✓ Area supported by each stay 940" ✓ Working pressure by Rules 263 ✓  
Tubes: Material Iron ✓ External diameter { Plain 3" ✓ Stay 3" ✓ Thickness { 8wg 5/16 3/8 7/16 No. of threads per inch 9 ✓  
Pitch of tubes 4 3/16 x 4 1/8 ✓ Working pressure by Rules 250 ✓ Manhole compensation: Size of opening  
End shell plate 16x12 ✓ Section of compensating ring - No. of rivets and diameter of rivet holes -  
Outer row rivet pitch at ends - Depth of flange if manhole flanged 4" ✓ 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 188p Working pressure by Rules - Thickness of crown 188p No. and diameter of  
stays 188p 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 Smoke Tube Manufacturers of { Tubes In particulars see Inch cert F 789-90 ✓ Steel castings copy herewith. ✓  
Number of elements - Material of tubes Steel Internal diameter and thickness of tubes 16 1/2 2 1/2  
Material of headers Steel Tensile strength - Thickness 5/8 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 yes ✓  
Area of each safety valve 1.760" ✓ Are the safety valves fitted with easing gear yes ✓ Working pressure as per  
Rules 230 Pressure to which the safety valves are adjusted 460 lbs ✓ Hydraulic test pressure  
tubes 1000 lb, castings 690 lbs and after assembly in place 460 lbs ✓ Are drain cocks or valves fitted  
to free the superheater from water where necessary yes ✓  
Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes ✓

The foregoing is a correct description,  
for David Rowan & Co. Ltd  
Archd. H. Grierson

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

Is this Boiler a duplicate of a previous case no ✓ If so, state Vessel's name and Report No. 2

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, satisfactorily fitted in the vessel  
and their safety valves adjusted under steam.  
11/3/36

Survey Fee ... £ 19 ✓  
Travelling Expenses (if any) £ 19 ✓  
When applied for, 19 ✓  
When received, 19 ✓

S. C. Davis  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 4 - AUG 1936  
Assigned SEE ACCOMPANYING MACHINERY REPORT