

REPORT ON BOILERS.

No. 49687

Received at London Office

11 SEP 1929

Date of writing Report

192

When handed in at Local Office

9.9.29

1929

Port of

Glasgow

No. in Survey held at
eg. Book.

Glasgow

Date, First Survey

6.11.28

Last Survey

29.8.

1929

(Number of Visits

67)

Gross

5024

Tons

Net

3397

Master

Built at

Port Glasgow

By whom built

Lithgows Ltd

Yard No.

823

When built

1929

Engines made at

Glasgow

By whom made

David Rowan & Co. Ltd

Engine No.

895

When made

1929

Boilers made at

Glasgow

By whom made

David Rowan & Co. Ltd

Boiler No.

895

When made

1929

Nominal Horse Power

446

Owners

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Wrappers plates by Jas Dunlop & Co. Ltd Furnaces by Leeds Forge Co. Ltd

Manufacturers of Steel

Wilkinson Bergbau und Eisenhütten Gesellschaft

(Letter for Record

(S)

Total Heating Surface of Boilers

5972 sq ft

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

Two single enders 250

Working Pressure

210

Tested by hydraulic pressure to

365

Date of test

12/6/29

No. of Certificate

18324

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

154 sq ft

No. and Description of safety valves to each boiler

two improved high lift

Area of each set of valves per boiler

per Rule

8.3 sq ft

as fitted

9.8 sq ft

Pressure to which they are adjusted

215

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

15"

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

17'-1 1/2"

Length

12'-0"

Shell plates: Material

steel

Tensile strength

30-34 tons

Thickness

1 1/2"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

DR

Long. seams

WB S. TR

Diameter of rivet holes in

circ. seams

F 1 3/8" B 1 1/2"

Pitch of rivets

F 3.47" B 4.362"

10 5/8"

Percentage of strength of circ. end seams

plate

F 60.3 B 64

rivets

F 43.8 B 45

Percentage of strength of circ. intermediate seam

plate

85.29

Percentage of strength of longitudinal joint

plate

86

rivets

87.7

Working pressure of shell by Rules

210

Thickness of butt straps

outer

1 3/16"

inner

1 5/16"

No. and Description of Furnaces in each Boiler

Four Deighton 4 C.F.

Material

steel

Tensile strength

26-30 tons

Smallest outside diameter

43.375"

Length of plain part

top

bottom

Thickness of plates

crown

1 1/16"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

228

End plates in steam space: Material

steel

Tensile strength

26-30 tons

Thickness

1 5/32"

Pitch of stays

25 x 18 1/2"

How are stays secured

D.N.

Working pressure by Rules

211

Tube plates: Material

front

steel

back

"

Tensile strength

26-30 tons

Thickness

7/8"

25 3/32"

Centre 1/16"

Mean pitch of stay tubes in nests

9.8"

Pitch across wide water spaces

13 3/4"

Working pressure

front

225

back

228

Girders to combustion chamber tops: Material

steel

Tensile strength

28-32 tons

Depth and thickness of girder

At centre

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

Length as per Rule

37.56"

Distance apart

7 7/8"

No. and pitch of stays

In each

3 @ 9"

Working pressure by Rules

211

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons

Thickness: Sides

2 1/32"

Back

2 1/32"

Top

2 1/32"

Bottom

2 5/32"

Pitch of stays to ditto: Sides

7 7/8" x 9"

Back

8 5/8" x 8 1/2"

Top

7 7/8" x 9"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

210

Front plate at bottom: Material

steel

Tensile strength

26-30 tons

Thickness

1"

Lower back plate: Material

steel

Tensile strength

26-30 tons

Thickness

1 3/16"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

214

Main stays: Material

steel

Tensile strength

28-32 tons

Diameter

At body of stay,

3 1/2" & 3 1/4"

Over threads

No. of threads per inch

6

Area supported by each stay

470 & 390 sq in

Working pressure by Rules

230 & 235 lb

Screw stays: Material

steel

Tensile strength

26-30 tons

Diameter

At turned off part,

1 3/4"

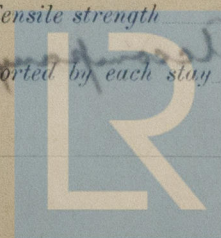
Over threads

No. of threads per inch

9

Area supported by each stay

71 sq in

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W147-0200

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Working pressure by Rules 255 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 910" Working pressure by Rules 271
Tubes: Material Iron External diameter { Plain 2 3/4" Stay 2 3/4" } Thickness { 8 w.g. 5" 3/8" 1" 1/16" } No. of threads per inch 9
Pitch of tubes 3 1/8" x 4" Working pressure by Rules 275 Manhole compensation: Size of opening 34 @ 1 1/2"
shell plate 19 1/2" x 15 1/2" Section of compensating ring 10 1/2" x 1 1/2" No. of rivets and diameter of rivet holes 34 @ 1 1/2"
Outer row rivet pitch at ends 10 5/8" Depth of flange if manhole flanged 3" 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 of rivets
stays 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 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 from the boiler
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 tested
Rules Pressure to which the safety valves are adjusted Hydraulic test pressure
tubes castings and after assembly in place Are drain cocks or valves fitted to free the superheater from water where necessary

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.
Arch. W. Grierson

Dates of Survey { During progress of work in shops - - - See Accompanying Machy Report } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
while building { During erection on board vessel - - - } Total No. of visits 67

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

The materials and workmanship are good.
The boiler 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 Machy Rpt. When applied for, 192
Travelling Expenses (if any) £ When received, 192

Committee's Minute GLASGOW 10 SEP 1929

Assigned See Accompanying Machy Report

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



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