

REPORT ON BOILERS.

No. 49246

Received at London Office

Date of writing Report

192

When handed in at Local Office

24.5.1929

Port of

Glasgow

No. in Survey held at
Reg. Book.

Glasgow

Date, First Survey

11.9.28

Last Survey

21.5.1929

1929

(Number of Visits)

Tons

Master

Built at

Port Glasgow

By whom built

Robert Duncan & Co. Ltd.

Yard No.

390

When built

1929

Engines made at

Glasgow

By whom made

David Rowan & Co. Ltd.

Engine No.

893

When made

1929

Boilers made at

Glasgow

By whom made

David Rowan & Co. Ltd.

Boiler No.

893

When made

1929

Nominal Horse Power

557

Owners

Shakespeare Shipping Co. Ltd.

Port belonging to

London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Jas. Dunlop & Co. Ltd. David Colville & Sons Ltd.

(Letter for Record (S))

Total Heating Surface of Boilers

3334 sq ft

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

three single ended

3.S.E.

Working Pressure

180

Tested by hydraulic pressure to

320

Date of test

21-3-29

No. of Certificate

10237

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

61 1/4 sq ft

No. and Description of safety valves to each boiler

two direct spring

Area of each set of valves per boiler

per Rule

17.8070

as fitted

19.240

Pressure to which they are adjusted

185

Are they fitted with easing gear

yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

9"

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

16' 3"

Length

11' 6"

Shell plates: Material

steel

Tensile strength

29-33 tons

Thickness

1 3/32"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

inter.

long. seams

NB S. TR

Diameter of rivet holes in

circ. seams

F 1 3/16" B 1 5/16"

long. seams

1 5/16"

Pitch of rivets

F. 3.19" B 3.66"

Percentage of strength of circ. end seams

plate

F 62.7 B 64.4

rivets

F 43 B 46

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

85.5

rivets

86.6

combined

88.3

Working pressure of shell by Rules

182

Thickness of butt straps

outer

3 1/2"

inner

1 3/2"

No. and Description of Furnaces in each Boiler

three Deighton

Material

steel

Tensile strength

26-30 tons

Smallest outside diameter

3' 11 1/2"

Length of plain part

top

bottom

Thickness of plates

crown

1 1/2"

bottom

1 3/2"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

180

End plates in steam space: Material

steel

Tensile strength

26-30 tons

Thickness

1 7/16"

Pitch of stays

23 3/8" x 23"

How are stays secured

WN

Working pressure by Rules

181

Tube plates: Material

front

steel

back

"

Tensile strength

26-30 tons

Thickness

2 1/2"

4 1/2"

Mean pitch of stay tubes in nests

10 1/2"

Pitch across wide water spaces

13 1/2"

Working pressure

front

207

back

183

Girders to combustion chamber tops: Material

steel

Tensile strength

26-30 tons

Depth and thickness of girder

at centre

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

Length as per Rule

36.6"

Distance apart

9 1/4"

No. and pitch of stays

in each

3 @ 8 3/4"

Working pressure by Rules

183

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons

Thickness: Sides

2 1/2"

Back

2 1/2"

Top

2 1/2"

Bottom

1 3/16"

Pitch of stays to ditto: Sides

8 3/4" x 9 1/2"

Back

8 3/4" x 9 1/2"

Top

8 3/4" x 9 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

180

Front plate at bottom: Material

steel

Tensile strength

26-30 tons

Thickness

2 1/2"

Lower back plate: Material

steel

Tensile strength

26-30 tons

Thickness

2 5/32"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

182

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

506" & 5590"

Working pressure by Rules

183 & 193

Screw stays: Material

steel

Tensile strength

26-30 tons

Diameter

At turned off part,

or

Over threads

No. of threads per inch

9

Area supported by each stay

830"

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Working pressure by Rules 183 Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part, 178" or Over threads }
No. of threads per inch 9 Area supported by each stay 106 sq. in. Working pressure by Rules 201
Tubes: Material Iron External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 9 w.s. 5/16 3/8 7/16 } No. of threads per inch 9
Pitch of tubes 3 3/4" x 3 5/8" Working pressure by Rules 184 Manhole compensation: Size of opening
shell plate 15 1/2" x 19 1/2" Section of compensating ring 9 1/4" x 19" No. of rivets and diameter of rivet holes 32 @ 1 3/8"
Outer row rivet pitch at ends 9 1/2" 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 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 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
Area of each safety valve Are the safety valves fitted with easing gear Working pressure as per 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.
Archd. W. Grierson Manufacturers

Dates of Survey { During progress of work in shops - - } See Accompanying
while building { During erection on board vessel - - - } machy Report
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
Total No. of visits 78

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 ... £ When applied for, 192
Travelling Expenses (if any) £ When received, 192

Committee's Minute GLASGOW 28 MAY 1929

Assigned See Accompanying machy Report

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