

REPORT ON BOILERS.

No. 53836

20 SEP 1933

Received at London Office

22.

6.8.9.15.23

Date of writing Report

When handed in at Local Office

10

Port of

Glasgow

Last Survey

1933

Date, First Survey

(Number of Visits)

Tons

Gross

Net

No. in Survey held at

Reg. Book.

on the

new steel ship "FRANCIS FLAGGATE"

Yard No. 145 When built 1933

Master

Built at

Burntisland

By whom built

Burntisland SBC Co

Engine No. 956

When made 1933

Engines made at

Glasgow

By whom made

David Rowan & Co Ltd

Boiler No. 956

When made 1933

Boilers made at

Glasgow

By whom made

David Rowan & Co Ltd

Port belonging to

Nominal Horse Power

218

Owners

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Bohills Ltd

Is forced draught fitted

no

(Letter for Record)

(S)

Total Heating Surface of Boilers

3600

Working Pressure

200

No. and Description of Boilers

Two single ended

Tested by hydraulic pressure to

350

Date of test

26-4-33

No. of Certificate

19226

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

53 1/2

No. and Description of safety valves to each boiler

Two Improved high lift

Are they fitted with easing gear

yes

Area of each set of valves per boiler

as fitted

6.280

Pressure to which they are adjusted

200 lbs

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

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between boilers or uptakes and bunkers

on woodwork

11"

Is the bottom of the boiler insulated

yes

Smallest distance between shell of boiler and tank top plating

2'-6"

Shell plates: Material

Steel

Tensile strength

29-33 tons

Largest internal dia. of boilers

14'-0"

Length

10'-6"

Description of riveting: circ. seams

end

inter.

end

inter.

end

inter.

end

inter.

end

inter.

Thickness

1 1/2"

Are the shell plates welded or flanged

no

circ. seams

F 1 1/16"

B 1 1/16"

Pitch of rivets

F 3.19

B 3.49

8 3/4"

long. seams

1 1/2"

Diameter of rivet holes in

circ. seams

long. seams

1 1/16"

Percentage of strength of circ. intermediate seam

plate

rivets

combined

85

94.5

88.9

Percentage of strength of circ. end seams

plate

rivets

combined

85

94.5

88.9

Working pressure of shell by Rules

200

Percentage of strength of longitudinal joint

plate

rivets

combined

85

94.5

88.9

Thickness of butt straps

outer

inner

1 1/2"

No. and Description of Furnaces in each Boiler

Three Deighton

Smallest outside diameter

40.125"

Material

Steel

Tensile strength

26-30 tons

Description of longitudinal joint

welded

Length of plain part

top

bottom

1 1/2"

Thickness of plates

crown

bottom

1 1/2"

Working pressure of furnace by Rules

203

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

Tensile strength

26-30 tons

Thickness

1 1/2"

Pitch of stays

17 1/2" x 18 1/2"

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Working pressure by Rules

202

How are stays secured

WN

Tensile strength

26-30 tons

Thickness

2 1/2"

2 1/2"

2 1/2"

2 1/2"

2 1/2"

2 1/2"

2 1/2"

2 1/2"

2 1/2"

Tube plates: Material

front

back

Steel

Pitch across wide water spaces

1 1/2"

Working pressure

front

back

203

214

Mean pitch of stay tubes in nests

10 1/8"

Pitch across wide water spaces

1 1/2"

Depth and thickness of girder

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

No. and pitch of stays

at centre

20 7/8" x 1 1/8"

Length as per Rule

30.503"

Distance apart

9 3/8"

in each

20 9/8" x 1 1/8"

Working pressure by Rules

204

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

3/32"

Back

1 1/16"

Top

3/32"

Bottom

3/32"

3/32"

3/32"

3/32"

3/32"

3/32"

3/32"

3/32"

Pitch of stays to ditto: Sides

9 3/8" x 9 3/8"

Back

9 1/4" x 8 1/4"

Top

9 3/8" x 9 3/8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

200

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

25"

Thickness

29"

Lower back plate: Material

Steel

Are stays fitted with nuts or riveted over

nuts

Pitch of stays at wide water space

13 1/4"

Tensile strength

28-32 tons

Working Pressure

204

Main stays: Material

Steel

Area supported by each stay

342 & 320 sq"

Diameter

At body of stay,

or

Over threads

3 1/2"

No. of threads per inch

6

Tensile strength

26-30 tons

Working pressure by Rules

230 & 202 lb

Screw stays: Material

Steel

Area supported by each stay

76 & 90 sq"

Diameter

At turned off part,

or

Over threads

1 7/8" & 1 3/4"

No. of threads per inch

9

Working pressure by Rules 200 4202 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, or Over threads 1 1/8 }
No. of threads per inch 9 Area supported by each stay 92.8 Working pressure by Rules 229
Tubes: Material Iron External diameter { Plain 3 1/4 Stay 3 1/4 } Thickness { 8 WS 7/8 } No. of threads per inch 9
Pitch of tubes 4 3/8 x 4 1/2 Working pressure by Rules 230 Manhole compensation: Size of opening in shell plate 19 1/2 x 15 1/2 Section of compensating ring 9 1/2 x 1 1/2 No. of rivets and diameter of rivet holes 34 @ 1 5/16
Outer row rivet pitch at ends 8 15/16 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

The foregoing is a correct description,
For David Rougan & Co Ltd Manufacturer.
Arch. H. Harrison

Dates of Survey { During progress of work in shops - - } See accompanying Machinery 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

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

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

The workmanship and materials are good.
The boilers have been constructed under special survey and have been sent to Burntisland to be fitted in the vessel.

The boilers have been efficiently fitted on board examined under steam & safety valves adjusted 200 lbs.

Survey Fee ... £ See Machinery Rpt. When applied for, 19
Travelling Expenses (if any) £ : : When received, 19

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

Committee's Minute GLASGOW 19 SEP 1933

TUE. 26 JUN 1934 TUE. 31 OCT 1933

Assigned SEE ACCOMPANYING MACHINERY REPORT

See Lth J E
18506



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