

REPORT ON BOILERS.

No. 60891

Received at London Office

MAR 29 1939

Date of writing Report

19

When handed in at Local Office

28:3:1039

Port of

Glasgow

No. in Survey held at

Barfin

Date, First Survey

18:10:38

Last Survey

15:3:1939

on the

Boiler No 3540.

"BARBOSA"

(Number of Visits

15)

Tons { Gross
Net

Master

Built at

By whom built

Yard No.

When built

Engines made at

By whom made

Engine No.

When made

Boilers made at

Barfin

By whom made

Alex Anderson & Sons Ltd.

Boiler No. 3540.

When made

Nominal Horse Power

Owners

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Bolville

(Letter for Record

S)

Total Heating Surface of Boilers

924.5 ft²

Is forced draught fitted

Yes

Coal or Oil fired

Oil

No. and Description of Boilers

1 Multitubular cylindrical

Working Pressure

140 lb/in²

Tested by hydraulic pressure to

260

Date of test

15-3-39

No. of Certificate

20365

Can each boiler be worked separately

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

7.450"

Area of each set of valves per boiler

{per Rule

7.450"

{as fitted

Pressure to which they are adjusted

140 lb/in²

Are they fitted with easing gear

Yes

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

One main only

Smallest distance between boilers or uptakes and bunkers or woodwork

(Bunkers) 2'-6" MC

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

Open floors

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

9' 4 1/16"

Length

9' 6"

Shell plates: Material

Steel

Tensile strength

29-33

Thickness

2 1/2"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

DR Lef

long. seams

DR D.B.S.

Diameter of rivet holes in

{circ. seams

15/16"

{long. seams

13/16"

Pitch of rivets

2 7/8"

4.2869"

Percentage of strength of circ. end seams

{plate

67.5

{rivets

58.125

Percentage of strength of circ. intermediate seam

{plate

✓

Percentage of strength of longitudinal joint

{plate

81

{rivets

82.25

{combined

89.5

Working pressure of shell by Rules

144 lb/in²

Thickness of butt straps

{outer

9/16"

{inner

1 1/16"

No. and Description of Furnaces in each Boiler

2 Morison

Material

Steel

Tensile strength

26-30

Smallest outside diameter

2' 8 1/4"

Length of plain part

{top

✓

{bottom

✓

Thickness of plates

{crown

7/16"

{bottom

7/16"

Description of longitudinal joint

Welded

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

Working pressure of furnace by Rules

193

End plates in steam space: Material

Steel

Tensile strength

26-30

Thickness

2 5/32"

Pitch of stays

16" x 12"

How are stays secured

Nuts & loose washers

Working pressure by Rules

140

Tube plates: Material

{front

Steel

{back

Steel

Tensile strength

26-30

Thickness

2 5/32"

2 1/32"

Mean pitch of stay tubes in nests

8 3/4"

Pitch across wide water spaces

12 3/4"

Working pressure

{front

141

{back

200

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32

Depth and thickness of girder

at centre

6 1/2" x 5 1/2"

Length as per Rule

24"

Distance apart

10 1/2" + 9 1/2"

No. and pitch of stays

in each

2 - 7 1/2"

Working pressure by Rules

150

Combustion chamber plates: Material

Steel

Tensile strength

26-30

Thickness: Sides

5/8"

Back

5/8"

Top

2 1/32"

Bottom

3/4"

Pitch of stays to ditto: Sides

7 1/2" x 8 1/2"

Back

8 x 7 3/4"

Top

7 1/2" x 10 1/2"

Are stays fitted with nuts or riveted over

Nuts on girders & margin stays. Others riveted

Working pressure by Rules

145

Front plate at bottom: Material

Steel

Tensile strength

26-30

Thickness

2 5/32"

Lower back plate: Material

Steel

Tensile strength

26-30

Thickness

2 5/32"

Pitch of stays at wide water space

13 x 7 3/4"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

215

Main stays: Material

Steel

Tensile strength

28-32

Diameter

{At body of stay,

or

2 1/8"

No. of threads per inch

6

Area supported by each stay

16 x 12"

Working pressure by Rules

158

Screw stays: Material

Steel

Tensile strength

26-30

Diameter

{At turned off part,

or

1 1/2" x 1 3/8"

No. of threads per inch

9

Area supported by each stay

8 x 7 3/4"

Working pressure by Rules 163 Are the stays drilled at the outer ends Yes Margin stays: Diameter { At turned off part, 1 1/2" or Over threads 1 1/8" No. of threads per inch 9 Area supported by each stay 7 1/4" x 10 1/2" Working pressure by Rules 154 Tubes: Material Iron External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 9/16" No. of threads per inch 9 Pitch of tubes 3 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 14" x 3/4" No. of rivets and diameter of rivet holes 46 - 1 3/16" Outer row rivet pitch at ends 4.2869 Depth of flange if manhole flanged 3" Steam Dome: Material 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 Manufacturers of { Tubes Steel forgings 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 forgings and 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,
Per Pro. ALEX. ANDERSON & SONS, LTD.
S. W. B. Fleming. Manufacturer.

Dates of Survey { During progress of work in shops - 1938 Oct. 18-26 Nov. 3-10-20-29 Dec. 12-22 (1939) Jan. 19-26 Feb. 2-9-23 Mar. 7-15 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Total No. of visits 15

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.) This boiler has been constructed under special survey according to the Rules of the Society and the approved plan. The material and workmanship are good. The boiler has been made to the order of Messrs. Plentz & Sons, Newbury.

26/7/39

Survey Fee ... £ 4 : 4 : } When applied for, 28 MAR 1939
Travelling Expenses (if any) £ : : } When received, 11.5 29/7/6

JR Dale.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 28 MAR 1939 GLASGOW 11 JUL 1939

Assigned TRANSMIT TO LONDON SEE ACCOMPANYING MACHINERY REPORT.

