

REPORT ON BOILERS.

No. 46630

18 MAY 1927

Received at London Office

of writing Report

192

When handed in at Local Office

17/5/27

192

Port of

Glasgow

in Survey held at

Date, First Survey

15. 1. 26

Last Survey

4. 5

1927

Book.

(Number of Visits

54)

Gross

5701

Tons

Net

3215

on the

City of Glasgow

Built at

Glasgow

By whom built

Barclay Curle & Co Ltd

Yard No.

615

When built

By whom made

Barclay Curle & Co Ltd

Engine No.

615

When made

1927

By whom made

Barclay Curle & Co Ltd

Boiler No.

615

When made

1927

Horse Power

Owners

Port belonging to

TUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

J Colville & Sons Ltd & Wm Beardmore & Co Ltd

(Letter for Record

(S)

Heating Surface of Boilers

4916. ϕ

Is forced draught fitted

Yes

Coal or Oil fired

Coal

Description of Boilers

Two, Single ended - Marine type

Working Pressure

225 lbs

Tested by hydraulic pressure to

388 lbs

Date of test

24/6/26

No. of Certificate

14154

Can each boiler be worked separately

Yes

Test of Firegrate in each Boiler

64 ϕ

No. and Description of safety valves to each boiler

2 Lockhart high lift

Test of each set of valves per boiler

per Rule

8.1

Pressure to which they are adjusted

230 lbs

Are they fitted with easing gear

Yes

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

Least distance between boilers or uptakes and bunkers or woodwork

2'-9"

Is oil fuel carried in the double bottom under boilers

No

Least distance between shell of boiler and tank top plating

2'-2"

Is the bottom of the boiler insulated

Yes

Least internal dia. of boilers

14'-9"

Length

12'-6"

Shell plates: Material

Steel

Tensile strength

28 1/2 / 32 1/2

Thickness

1 1/2 / 32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

D.R.

D in

seams T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 1/2"

long. seams

1 1/2"

Pitch of rivets

4.118

Percentage of strength of circ. end seams

plate

63.8

rivets

44.14

Percentage of strength of circ. intermediate seam

plate

85.54

rivets

84.44

Percentage of strength of longitudinal joint

plate

85.54

rivets

84.44

Working pressure of shell by Rules

225 lbs

Thickness of butt straps

outer

1 1/4"

No. and Description of Furnaces in each Boiler

3. Leighton Section

Material

Steel

Tensile strength

26/30

Smallest outside diameter

3'-8 3/8"

Thickness of plain part

top

1 1/4"

Thickness of plates

crown

1 1/16"

Description of longitudinal joint

weld

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

Working pressure of furnace by Rules

224 lbs

Plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

1 1/4"

Pitch of stays

16 x 19 3/4"

Are stays secured

DN

Working pressure by Rules

226 lbs

Plates: Material

front

Steel

Tensile strength

26/30

Thickness

1 1/4"

Pitch of stay tubes in nests

9.6

Pitch across wide water spaces

14 1/16"

Working pressure

front

229 lbs

back

304 lbs

Stays to combustion chamber tops: Material

Steel

Tensile strength

28/32

Depth and thickness of girder

Centre

10 3/8" x 29 3/32" dia

Length as per Rule

40 7/16"

Distance apart

8 1/4"

No. and pitch of stays

Check

4 @ 8"

Working pressure by Rules

241 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: Sides

2 1/32"

Back

1 1/16"

Top

2 1/32"

Bottom

1 5/16"

Pitch of stays to ditto: Sides

8' x 8 1/4"

Back

9 5/8' x 7 1/4"

Top

8' x 8 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

224 lbs

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

6 1/4"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

2 1/32"

Pitch of stays at wide water space

14 5/16"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

225 lbs

Main stays: Material

Steel

Tensile strength

28/32

Pitch

At body of stay

3 1/8"

No. of threads per inch

6

Area supported by each stay

316 sq

Working pressure by Rules

233 lbs

Screw stays: Material

Steel

Tensile strength

26-3020

Pitch

At turned off part

1 5/8" sides

No. of threads per inch

9

Area supported by each stay

66 sq

Pitch

Over threads

1 3/4" backs

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Working pressure by Rules $231\frac{1}{2}$ Are the stays drilled at the outer ends ☒ no ✓ Margin stays: Diameter { At turned off part, $1\frac{1}{8} \times 2\frac{1}{8}$ or Over threads $225\frac{1}{2}$ No. of threads per inch 9. Area supported by each stay $126\frac{1}{2}$ Working pressure by Rules $225\frac{1}{2}$ Tubes: Material *Iron* External diameter { Plain } $3\frac{1}{2}$ Thickness { $\frac{1}{16}$ - $\frac{3}{8}$ - $\frac{5}{16}$ } No. of threads per inch 9. Pitch of tubes $4\frac{1}{4} \times 4\frac{1}{8}$ Working pressure by Rules 250 Manhole compensation: Size of opening in $40 - 1\frac{1}{2}$ shell plate $20\frac{1}{2} \times 16\frac{1}{2}$ Section of compensating ring $16\frac{3}{4} \times 1\frac{1}{2}$ No. of rivets and diameter of rivet holes 40 - $1\frac{1}{2}$ Outer row rivet pitch at ends $10\frac{3}{8}$ Depth of flange if manhole flanged $4\frac{1}{4}$ Steam Dome: Material ✓ Tensile strength Thickness of shell Description of longitudinal joint Master Diameter of rivet holes Pitch of rivets Percentage of strength of joint { Plate Rivets } Engines made at Internal diameter Working pressure by Rules Thickness of crown No. and diameter of Boilers made at stays Inner radius of crown Working pressure by Rules Nominal Horse P 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 } *North Eastern Marine* { Steel castings } $1\frac{1}{2} \times 2\frac{1}{2}$ Number of elements *50 each Blue* Material of tubes *Steel* Internal diameter and thickness of tubes $1\frac{1}{2}$ at neck Thickness $\frac{1}{2}$ at neck Can the superheater be shut off and the boiler be worked separately *yes* Is a safety valve fitted to every part of the superheater which can be shut off from the boiler *yes* Total Heating S Area of each safety valve $3.1416\frac{1}{2}$ Are the safety valves fitted with easing gear *yes* Working pressure as per No. and Descri Rules Pressure to which the safety valves are adjusted $230\frac{1}{2}$ Hydraulic test pressure: Tested by hydro tubes *500 lb in place* castings and after assembly in place $500\frac{1}{2}$ Are drain cocks or valves fitted Area of Firegr Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with *yes* The foregoing is a correct description, *John Alexander* Manufacturer. Largest intern Thickness long. seams Percentage of Percentage of Thickness of Material Length of pl Dimensions End plates How are st Tube plates Mean pitch Girders to at centre in each Tensile str Pitch of st Working Thickness Pitch of Working Diameter Working Diameter

Dates of Survey { During progress of work in shops - - } *See Accompanying* Are the approved plans of boiler and superheater forwarded herewith *yes* while { During erection on board vessel - - } *Machinery report* (If not state date of approval.) Total No. of visits *5*

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

See engine report. These boilers have been built under special License in accordance with the Rules and have been efficiently fitted on board.

Survey Fee ... £ : / : When applied for, 192
Travelling Expenses (if any) £ : / : When received, 192

Committee's Minute *GLASGOW 17 MAY 1927*

Assigned *See attached mach? report.*

H. L. Luskent. Geo. J. J. J.
Engineer Surveyor to Lloyd's Register of Shipping.



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