

REPORT ON BOILERS.

No. 46630

Received at London Office

30 JAN 1927

Date of writing Report

192

When handed in at Local Office

17/5/27

192

Port of

Glasgow

No. in Survey held at

Glasgow

Date, First Survey

15. 1. 26

Last Survey

4. 5.

1927

(Number of Visits 54)

Gross 8701

Tons Net 3216

No. in Survey held at

on the

City of Glasgow

Master

Built at

Glasgow

By whom built

Barclay Curle & Co. Ltd.

Yard No. 615

When built 1927

Engines made at

Glasgow

By whom made

Barclay Curle & Co. Ltd.

Engine No. 615

When made 1927

Boilers made at

Glasgow

By whom made

Barclay Curle & Co. Ltd.

Boiler No. 615

When made 1927

Nominal Horse Power

Owners

Port belonging to

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

D. Colville Sons Ltd & W. Beardmore & Co. Ltd

(Letter for Record (S))

Total Heating Surface of Boilers

2267 sq ft

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

One Single ended, Marine type

Working Pressure

225 lb/sq in

Tested by hydraulic pressure to

388 lb/sq in

Date of test

24/6/26

No. of Certificate

14157

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

56.3 sq ft

No. and Description of safety valves to each boiler

2 Cockburn high lift

Area of each set of valves per boiler

per Rule

7.85 sq ft

as fitted

7.96 sq ft

Pressure to which they are adjusted

230 lb/sq in

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

2'-9"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-2"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

14'-3"

Length

12'-6"

Shell plates: Material

Steel

Tensile strength

28 1/2 - 32 1/2

Thickness

1 1/2"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

DR.

long. seams

T.R.-D.B.S.

Diameter of rivet holes in

circ. seams

1 1/16"

Pitch of rivets

1 1/16"

circ. seams

inter.

3.925

Percentage of strength of circ. end seams

plate

63.37

rivets

46.94

plate

85.62

rivets

56.38

combined

88.52

Percentage of strength of circ. intermediate seam

plate

rivets

Working pressure of shell by Rules

225 lb/sq in

Thickness of butt straps

outer

1 3/32"

inner

1 7/32"

No. and Description of Furnaces in each Boiler

Three - Brighton Section

Material

Steel

Tensile strength

26 - 30

Smallest outside diameter

3'-6 5/16"

Length of plain part

top

bottom

Thickness of plates

crown

2 1/2"

bottom

32

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

242 lb/sq in

End plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

1 7/32"

Pitch of stays

15 1/2" x 19 1/8"

How are stays secured

D.N.

Working pressure by Rules

228 lb/sq in

Tube plates: Material

front

back

Steel

Tensile strength

26 - 30

Thickness

6 1/64" x 1/8"

Working pressure

front

226 lb

back

276 lb

Mean pitch of stay tubes in nests

9.2

Pitch across wide water spaces

14 5/16"

Working pressure

front

226 lb

back

276 lb

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32

Depth and thickness of girder

No. and pitch of stays

at centre

10 3/8" x 1 13/16"

Length as per Rule

40.4"

Distance apart

8 1/4"

in each

4 @ 8"

Working pressure by Rules

238 lb/sq in

Combustion chamber plates: Material

Steel

Tensile strength

26 - 30

Thickness: Sides

2 1/2"

Back

32

Top

32

Bottom

7/8"

Pitch of stays to ditto: Sides

8 1/2" x 8"

Back

4 1/4" x 8 1/8"

Top

8" x 8 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

227 lb/sq in

Front plate at bottom: Material

Steel

Tensile strength

26 - 30

Thickness

6 1/4"

Lower back plate: Material

Steel

Tensile strength

26 - 30

Thickness

27/32"

Pitch of stays at wide water space

14 5/16"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

226 lb/sq in

Main stays: Material

Steel

Tensile strength

28 - 32

Diameter

At body of stay

3"

No. of threads per inch

6

Area supported by each stay

15 1/2" x 19 1/8"

Working pressure by Rules

227 lb/sq in

Screw stays: Material

Steel

Tensile strength

26 - 30

Diameter

At turned off part

1 5/8"

No. of threads per inch

9

Area supported by each stay

15 1/2" x 19 1/8"

Working pressure by Rules 236 lb. Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 1/8" or Over threads Crown 2 1/8"

No. of threads per inch 9 Area supported by each stay 126 sq" Working pressure by Rules 225 lb.

Tubes: Material Iron External diameter { Plain 3" Stay 3" Thickness { 3/16 - 3/8 - 7/16 No. of threads per inch 9

Pitch of tubes 4 1/4" x 4 1/8" Working pressure by Rules 250 lb. Manhole compensation: Size of opening in shell plate 20 1/2" x 16 1/2" Section of compensating ring 16 3/4" x 12 3/4" No. of rivets and diameter of rivet holes 40 x 1 1/16"

Outer row rivet pitch at ends 10 7/8" Depth of flange if manhole flanged 4 1/4" 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 Smoke tube Manufacturers of { Tubes North Eastern Marine Steel castings

Number of elements 48 Material of tubes Steel Internal diameter and thickness of tubes 1 1/2" - 2 1/5"

Material of headers Mild Steel Tensile strength Thickness 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

Area of each safety valve 3.1416 sq" Are the safety valves fitted with easing gear yes Working pressure as per Rules

Pressure to which the safety valves are adjusted 230 lb. Hydraulic test pressure: tubes, castings and after assembly in place 500 lb. Are drain cocks or valves fitted to free the superheater from water where necessary yes

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with yes

The foregoing is a correct description,
John Haywood Manufacturer.

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 - - See accompanying machinery report Total No. of visits 54

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

See engine report. This boiler has been built under special Survey in accordance with the Rules and has been efficiently fitted on board.

Survey Fee £ : ✓ : When applied for, 192

Travelling Expenses (if any) £ : ✓ : When received, 192

H. L. Sutherland For Munn
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 17 MAY 1927

Assigned See accompanying mach. report.



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