

REPORT ON BOILERS.

No. 64862

1 JAN 1942

Received at London Office

Date of writing Report

19

When handed in at Local Office

26. 12. 19

41

Port of

Glasgow

No. in Survey held at
Reg. Book.

Glasgow

Date, First Survey

27. 12. 40

Last Survey

22. 12. 19

41

(Number of Visits 49)

Gross

Tons

Net

Master

Built at

Glasgow

By whom built

Blythwood S.S. Co.

Yard No.

67

When built

Engines made at

Glasgow

By whom made

D. R. Macrae & Co. Ltd.

Engine No.

1080

When made

1941

Boilers made at

do.

By whom made

do.

Boiler No.

1080

When made

1941

Nominal Horse Power

139.

Owners

Ministry of War Transport

Port belonging to

Glasgow

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Company of Scotland

(Letter for Record

5

Total Heating Surface of Boilers

2100 sq

Is forced draught fitted

Y/s.

Coal or Oil fired

oil.

No. and Description of Boilers

1 Single ended

Working Pressure

190 lbs.

Tested by hydraulic pressure to

336 lbs

Date of test

29/8/41

No. of Certificate

20843

Can each boiler be worked separately

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

1 double spring loaded

Area of each set of valves per boiler

{ per Rule

12.80 sq

{ as fitted

16.580 sq

Pressure to which they are adjusted

(336) Are they fitted with easing gear

Y/s.

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

Smallest distance between boilers or uptakes and bunkers or woodwork

will blow

Is oil fuel carried in the double bottom under boilers

No P.B.

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Y/s

Largest internal dia. of boilers

14'-6"

Length

11'-6"

Shell plates: Material

S

Tensile strength

29-33 Tons

Thickness

1 3/4"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

D.R. overlap

long. seams

D.B.S. TR.

Diameter of rivet holes in

circ. seams

3 1/8" F 1 1/2"

long. seams

1 5/8"

Pitch of rivets

B 3.528" F 3.2"

8 1/8"

Percentage of strength of circ. end seams

{ plate

B 62.7" F 62.9"

{ rivets

B 60.1" F 45.0"

Percentage of strength of circ. intermediate seam

{ plate

B 62.7" F 62.9"

{ rivets

B 60.1" F 45.0"

Percentage of strength of longitudinal joint

{ plate

85.3

{ rivets

92.5

{ combined

89.1

Working pressure of shell by Rules

Thickness of butt straps

{ outer

2 3/4"

{ inner

1 3/4"

No. and Description of Furnaces in each Boiler

3 Blythwood

Material

S

Tensile strength

26-30 Tons

Smallest outside diameter

42 1/8"

Length of plain part

{ top

{ bottom

Thickness of plates

{ crown

9"

{ bottom

9 1/8"

Description of longitudinal joint

weld.

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

Working pressure of furnace by Rules

End plates in steam space: Material

S

Tensile strength

26-30 Tons

Thickness

1 1/4"

Pitch of stays

20 1/2" x 18 1/2"

How are stays secured

double nuts

Working pressure by Rules

Tube plates: Material

{ front

S

{ back

Tensile strength

26-30 Tons

Thickness

{ 2 1/2"

{ 3"

Mean pitch of stay tubes in nests

9 1/8"

Pitch across wide water spaces

13 3/4"

Working pressure

{ front

{ back

Girders to combustion chamber tops: Material

S

Tensile strength

28-32 Tons

Depth and thickness of girder

at centre

10" x 1 3/4"

Length as per Rule

39 1/8"

Distance apart

9 1/4"

No. and pitch of stays

in each

3 @ 10"

Working pressure by Rules

Combustion chamber plates: Material

S

Tensile strength

26-30 Tons

Thickness: Sides

23 3/4"

Back

11 1/8"

Top

23 3/4"

Bottom

23 3/4"

Pitch of stays to ditto: Sides

10" x 9 1/4"

Back

8 1/4" x 9 1/4"

Top

10" x 9 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

Front plate at bottom: Material

S

Tensile strength

26-30 Tons

Thickness

2 1/2"

Lower back plate: Material

S

Tensile strength

26-30 Tons

Thickness

25 3/4"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

Main stays: Material

S

Tensile strength

28-32 Tons

Diameter

{ At body of stay,

2 3/4" + 3"

{ Over threads

3 1/4" + 3"

No. of threads per inch

6

Area supported by each stay

Working pressure by Rules

Screw stays: Material

S

Tensile strength

26-30 Tons

Diameter

{ At turned off part,

1 5/8" + 1 3/4"

{ Over threads

1 5/8" + 1 3/4"

No. of threads per inch

7

Area supported by each stay

Working pressure by Rules Are the stays drilled at the outer ends No. Margin stays: Diameter At turned off part, or Over threads 1 1/8" x 2" / 3"

No. of threads per inch Area supported by each stay Working pressure by Rules Thickness 9 1/16" x 3/8" No. of threads per inch 9

Tubes: Material S External diameter Plain 2 3/4" Stay 2 3/4" Manhole compensation: Size of opening in

Pitch of tubes 4 x 3 1/8" Working pressure by Rules No. of rivets and diameter of rivet holes 34 @ 1 5/16"

shell plate 19 1/2" x 15 1/2" Section of compensating ring 9 1/2" x 1 1/2" Steam Dome: Material ✓

Outer row rivet pitch at ends 8 5/16" Depth of flange if manhole flanged 3" Description of longitudinal joint

Tensile strength Thickness of shell Percentage of strength of joint Plate Rivets

Diameter of rivet holes Pitch of rivets Thickness of crown No. and diameter of

Internal diameter Working pressure by Rules Working pressure by Rules Diameter of rivet holes and pitch

stays Inner radius of crown How connected to shell Size of doubling plate under dome

of rivets in outer row in dome connection to shell

Type of Superheater Manufacturers of Tubes Steel forgings Steel castings Internal diameter and thickness of tubes

Number of elements Material of tubes Tensile strength Thickness Can the superheater be shut off and

Material of headers 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,
 For David Rowan T.C. & L.P.
 Arch. H. Greenison Manufacturer.

Dates of Survey During progress of work in shops - - while building During erection on board vessel - -

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

SEE ACCOMPANYING MACHINERY REPORT.

Total No. of visits

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

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

This boiler has been built under special survey and in accordance with the Rules. The materials & workmanship are good. The safety valves have been adjusted under, and the boiler examined under steam & found in order.

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

£100 fully paid

For J. Brown & N. Russell
 Engineer Surveyor to Lloyd's Register of Shipping.