

## REPORT ON BOILERS.

No. 64284

Received at London Office 3 OCT 1941

Date of writing Report

19

When handed in at Local Office

29. 9.

19 41

Port of

Glasgow

No. in Survey held at  
Reg. Book.

Glasgow

Date, First Survey

16. 10. 40

Last Survey

5. 9.

19 41

23259. on the

H.M. T.S. M.V. Empire Pride

(Number of Visits 18)

Gross 9248  
Tons Net 5757

Master

Built at

Glasgow

By whom built

Barclay &amp; Co. Ltd.

Yard No. 680

When built 1941-9

Engines made at

Glasgow

By whom made

do

Engine No. 680

When made 1941

Boilers made at

do

By whom made

do

Boiler No. 1100

When made 1941

Nominal Horse Power

1721.

Owners

Ministry of War Transport

Port belonging to

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Bolton &amp; Co.

(Letter for Record S)

Total Heating Surface of Boilers

1684 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

oil

No. and Description of Boilers

one single ended

Working Pressure 120 lbs

Tested by hydraulic pressure to

230 lbs

Date of test

2.4.41

No. of Certificate

20735

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

1 - double lift

Area of each set of valves per boiler

per Rule

7.8 sq ft

Pressure to which they are adjusted

120 lbs

Are they fitted with easing gear

Yes

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

11 ft 6 in

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

12' 9"

Length

11' 0"

Shell plates: Material

S

Tensile strength 29-33 Tons

Thickness

23/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D.R. overlap

long. seams

D.B.S. T.R.

Diameter of rivet holes in

circ. seams

13/16"

long. seams

15/16"

Pitch of rivets

3.414"

Percentage of strength of circ. end seams

plate 66-36

rivets 47-41

Percentage of strength of circ. intermediate seam

plate

Percentage of strength of longitudinal joint

plate 85-86

rivets 93-28

combined 92-12

Working pressure of shell by Rules

Thickness of butt straps

outer 9/16"

inner 11/16"

No. and Description of Furnaces in each Boiler

3 Diagonal

Material

S

Tensile strength

26-30 Tons

Smallest outside diameter

3' 1 1/4"

Length of plain part

top

Thickness of plates

crown 3/8"

bottom 5/8"

Description of longitudinal joint

butt

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

15/16"

Pitch of stays 18 1/2 x 18

How are stays secured

Double nuts

Working pressure by Rules

Tube plates: Material

front

S

Tensile strength

26-30 Tons

Thickness

23/32"

11/16"

Mean pitch of stay tubes in nests

10' 5"

Pitch across wide water spaces

14"

Working pressure

front

Girders to combustion chamber tops: Material

S

Tensile strength

28-32 Tons

Depth and thickness of girder

at centre

8 x 11 1/2"

Length as per Rule

2' 9 3/4"

Distance apart

9 1/2"

No. and pitch of stays

in each

20 10 1/2"

Working pressure by Rules

Combustion chamber plates: Material

S

Tensile strength

26-30 Tons

Thickness: Sides

19/32"

Back

9/16"

Top

19/32"

Bottom

19/32"

Pitch of stays to ditto: Sides

9 1/2 x 10 1/2"

Back

9 1/2 x 9 1/2"

Top

10 1/2 x 9 1/2"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

Front plate at bottom: Material

S

Tensile strength

26-30

Thickness

23/32"

Lower back plate: Material

S

Tensile strength

26-30 Tons

Thickness

21/32"

Pitch of stays at wide water space

14"

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 1/2"

No. of threads per inch

6

Area supported by each stay

18 1/2 x 18"

Working pressure by Rules

Screw stays: Material

S

Tensile strength

26-30 Tons

Diameter

At turned off part,

1 1/2"

No. of threads per inch

9

Area supported by each stay

18 1/2 x 18"

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Foundation



Working pressure by Rules *Are the stays drilled at the outer ends* No. Margin stays: Diameter *At turned off part, or Over threads* *15/8*

No. of threads per inch *9* Area supported by each stay Working pressure by Rules

Tubes: Material *Steel* External diameter *3"* Thickness *10/16* No. of threads per inch *9*

Pitch of tubes *4 1/4 x 4 1/8* Working pressure by Rules Manhole compensation: Size of opening in

shell plate *20 x 16* Section of compensating ring *19 x 23/31* No. of rivets and diameter of rivet holes *44 x 2 15/16*

Outer row rivet pitch at ends *6* Depth of flange if manhole flanged *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 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

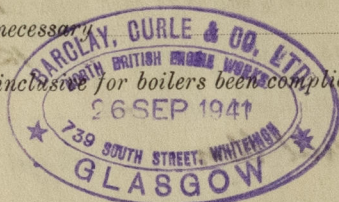
Area of each safety valve Are the safety valves fitted with easing gear Working pressure as per

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,  
FOR BARCLAY, CURLE & CO., LTD Manufacturer.  
*Alexander Macnutt*

Dates of Survey { During progress of work in shops - - } 1940 Oct.: 16, 30 Nov.: 12 (1941) Jan. 15, 24, 30 Feb.: 10, 17, 27 Mar.: 11, 21, 25  
while building { During erection on board vessel - - } Apr.: 1, 2, 17, 24 Sep.: 3, 5  
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
Total No. of visits *19*

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 and approved plans. The materials and workmanship are good. On completion the boiler has been tested by hydraulic pressure with satisfactory results.*

Survey Fee ... £  
Travelling Expenses (if any) £

*See Index Report*

When applied for, 19  
When received, 19

*Prof. Brown* for *A.H. Brown*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 1 OCT 1941

Assigned SEE ACCOMPANYING MACHINERY REPORT.



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