

REPORT ON BOILERS.

No. 48094.

20 JUN 1928

Received at London Office

5a.

of writing Report

11-6-1928 When handed in at Local Office

102

Port of

Glasgow

in Survey held at

Dalmuir

Date First Survey

25th Jan 1927

Last Survey

5.6.1928

1928

Book

(Number of Visits)

20119

Tons

Net 11866

on the

Twin Screw "Duchess of Atholl"

Built at

Dalmuir

By whom built

H. Beardmore

Yard No.

648

When built

1928

nes made at

Dalmuir

By whom made

H. Beardmore & Co. Ltd.

Engine No.

648

When made

1928

rs made at

Dalmuir

By whom made

H. Beardmore & Co. Ltd.

Boiler No.

648

When made

1928

inal Horse Power

400

Owners

Canadian Pacific Co.

Port belonging to

London

Donkey.

ULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

H. Beardmore & Co. Ltd.

(Letter for Record)

al Heating Surface of Boilers

6000 sq

Is forced draught fitted

Yes

Coal or Oil fired

Oil

and Description of Boilers

Two - multitubular

Working Pressure

200

ted by hydraulic pressure to

350

Date of test

27-10-27

No. of Certificate

17667

Can each boiler be worked separately

Yes

a of Firegrate in each Boiler

10.4 sq

No. and Description of safety valves to each boiler

2 - S. L. H. L.

u of each set of valves per boiler

per Rule

10.4 sq

Pressure to which they are adjusted

205

Are they fitted with easing gear

Yes

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

No

allest distance between boilers or uptakes and bunkers or woodwork

Will clear

Is oil fuel carried in the double bottom under boilers

Yes

allest distance between shell of boiler and tank top plating

21"

Is the bottom of the boiler insulated

Yes

rgest internal dia. of boilers

16'-0"

Length

11'-0"

Shell plates: Material

8.

Tensile strength

28-32.

ickness

1 3/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

J. R.

g. seams

T. R. I. B. S.

Diameter of rivet holes in

circ. seams

1 1/2"

long. seams

1 7/16"

Pitch of rivets

10 1/8"

centage of strength of circ. end seams

plate

62.5

49.2

85.8

85.8

88.7

Percentage of strength of circ. intermediate seam

plate

200

centage of strength of longitudinal joint

plate

62.5

49.2

85.8

85.8

88.7

Working pressure of shell by Rules

200

ickness of butt straps

outer

1 5/16"

inner

1 3/16"

No. and Description of Furnaces in each Boiler

3 - Deighton

aterial

8.

Tensile strength

26-30

Smallest outside diameter

47 1/4"

ngth of plain part

top

2 1/32"

bottom

2 1/32"

Description of longitudinal joint

weld

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

Yes

Working pressure of furnace by Rules

203

nd plates in steam space: Material

8.

Tensile strength

26-30

Thickness

1 9/32"

Pitch of stays

22 1/4 x 16 1/2"

ow are stays secured

J. N.

Working pressure by Rules

200

be plates: Material

front

8

back

8

Tensile strength

" - "

Thickness

7/8"

7/8"

can pitch of stay tubes in nests

8"

Pitch across wide water spaces

13 15/16"

Working pressure

front

410

back

430

rders to combustion chamber tops: Material

8

Tensile strength

28-32.

Depth and thickness of girder

No. and pitch of stays

centre

8 3/8" x 1 1/2"

Length as per Rule

32 13/32"

Distance apart

8 1/2"

each

2-10"

Working pressure by Rules

207

Combustion chamber plates: Material

8

ensile strength

26-30

Thickness: Sides

23/32"

Back

23/32"

Top

23/32"

Bottom

30/32"

itch of stays to ditto: Sides

10" x 8 1/2"

Back

10" x 8 1/2"

Top

10" x 8 1/2"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

308

Front plate at bottom: Material

8

Tensile strength

26-30

Thickness

31/32"

ickness

7/8"

Lower back plate: Material

8

Tensile strength

26-30

Thickness

31/32"

itch of stays at wide water space

14 15/16 x 8 1/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

294.

Main stays: Material

8

Tensile strength

28-32.

Diameter

At body of stay.

3"

No. of threads per inch

6

Area supported by each stay

367

Working pressure by Rules

200

Screw stays: Material

Iron

Tensile strength

21.5"

Diameter

At turned off part.

1 3/4"

No. of threads per inch

9

Area supported by each stay

85 sq"



Lloyd's Register Foundation

Working pressure by Rules **212** Are the stays drilled at the outer ends **no** Margin stays: Diameter { At turned off part, or Over threads **1 3/8"**

No. of threads per inch **9** Area supported by each stay **180"** Working pressure by Rules **210**

Tubes: Material **Iron** External diameter { Plate **2 3/4"** Thickness **8 L.S.G. 5/16"** No. of threads per inch **9**

Pitch of tubes **3 7/8" x 4"** Working pressure by Rules **275** Manhole compensation: Size of opening

shell plate **16 3/4 x 20 3/4"** Section of compensating ring **33 x 38 1/2 x 1 1/4"** No. of rivets and diameter of rivet holes **36 - 1 1/2"**

Outer row rivet pitch at ends **10 5/8"** Depth of flange if manhole flanged **✓** Steam Dome: Material **none**

Tensile strength **8400** Thickness of shell **1 1/2"** Description of longitudinal joint

Diameter of rivet holes **5/16"** Pitch of rivets **2 1/2"** Percentage of strength of joint { Plate Rivets

Internal diameter **8400** Working pressure by Rules **275** Thickness of crown **1 1/2"** No. and diameter of stays

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 **none** Manufacturers of Tubes Steel castings

Number of elements Material of tubes Internal diameter and thickness of tubes

Material of headers Tensile strength **8400** Thickness **1 1/2"** Can the superheater be shut off from the boiler

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 governor or other

Rules **Pressure to which the safety valves are adjusted** Hydraulic test pressure the cylinders fitted with

tubes **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 23 inclusive for boilers been complied with

The foregoing is a correct description,
FOR WILLIAM BEARDMORE & CO., LIMITED. *Richardson* Manufactured

Dates of Survey { During progress of work in shops - - - **See accompanying** Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

while building { During erection on board vessel - - - **machinery report.** Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **These boilers have been built under special survey in accordance with the approved plans and the Society's Rules and requirements. The materials and workmanship are good they have been securely fitted on board, and the safety valves adjusted under steam.**

Q.B.
11/6/28

Survey Fee **£ 32 - 10 - 0** When applied for **13 JUN 1928**

Travelling Expenses (if any) **£ 08 - 08 - 0** When received **19 JUN 1928**

Committee's Minute **GLASGOW 19 JUN 1928**

Assigned **See accompanying machinery report.**

Jass Cairns
Engineer Surveyor to Lloyd's Register of Shipping