

Rpt. 5a.

REPORT ON BOILERS.

No. 8695

Date of writing Report 4-6-1929. When handed in at Local Office 1929

Received at London Office

10 JUN 1929

No. in Reg. Book. Surrey held at

Dundee.

Port of

Dundee.

Date, First Survey

20-12-28

Last Survey

18-5-1929

on the

Fury Paddle Steamer

"B.L. NAIRN"

(Number of Visits 21.)

Gross Tons 395.5
Net Tons 171

Master

Built at

Dundee.

By whom built

Caledon S.S. & E. Co.

Yard No. 330

When built 1929.

Engines made at

Dundee.

By whom made

Caledon S.S. & E. Co. Ltd.

Engine No. 530

When made 1929

Boilers made at

do

By whom made

do

Boiler No. 630

When made 1929.

Nominal Horse Power

✓

Owners

Trustees of the Harbour of Dundee.

Port belonging to

Dundee.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *Tyson, Appleby Iron Company Ltd.*

(Letter for Record *S.*)

Total Heating Surface of Boilers

1470.5 sq ft

Is forced draught fitted *to*

Coal or Oil fired *Coal.*

No. and Description of Boilers

One single ended, return tube.

I.S.B.

Working Pressure *120 lbs.*

Tested by hydraulic pressure to

230 lbs.

Date of test

14-3-29.

No. of Certificate

1026.

Can each boiler be worked separately *✓*

Area of Firegrate in each Boiler

49 sq ft

No. and Description of safety valves to each boiler

Two 2 1/4" Improved High Lift.

Area of each set of valves per boiler

per Rule 7.6" 0"

as fitted 7.9" 0"

Pressure to which they are adjusted

120 lbs.

Are they fitted with easing gear *no*

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

3 feet.

Is oil fuel carried in the double bottom under boilers *✓*

Smallest distance between shell of boiler and *floor* ~~any top plating~~

6"

Is the bottom of the boiler insulated *no*

Largest internal dia. of boilers

13-6"

Length

10-0"

Shell plates: Material

steel

Tensile strength

28-32 tons

Thickness

25/32"

Are the shell plates welded or flanged *no*

no

Description of riveting: circ. seams

end D.R.

inter. ✓

long. seams

T. R. D. B. S.

Diameter of rivet holes in

circ. seams

7/8"

long. seams

Pitch of rivets

2.97"

6 1/4"

Percentage of strength of circ. end seams

plate

70.2

rivets

42.6

Percentage of strength of circ. intermediate seam

plate

86.

rivets

95.

Percentage of strength of longitudinal joint

plate

86.

rivets

95.

Working pressure of shell by Rules

124 lbs.

Thickness of butt straps

outer *19/32"*

inner *23/32"*

No. and Description of Furnaces in each Boiler

Three Dighton Section.

3 c.f.

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

3'-4 1/16"

Length of plain part

top *✓*

bottom *✓*

Thickness of plates

crown *13/32"*

bottom *13/32"*

Description of longitudinal joint

weld.

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

Working pressure of furnace by Rules

144 lbs.

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

1"

Pitch of stays *19" x 19 1/2"*

How are stays secured

Double nuts

Working pressure by Rules

126 lbs.

Tube plates: Material

front *Steel*

back *Steel*

Tensile strength

26-30 tons

Thickness

11/16"

Mean pitch of stay tubes in nests

11"

Pitch across wide water spaces

14 1/2"

Working pressure

front *122 lbs.*

back *100 lbs.*

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

7/8" 2 @ 9/16"

Length as per Rule

2'-4"

Distance apart

9 1/2"

No. and pitch of stays

in each

2 - 8 1/2"

Working pressure by Rules

130 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

1/2"

Back

1/2"

Top

9/16"

Bottom

1/2"

Pitch of stays to ditto: Sides

8 1/8" x 7 1/2"

Back

8 1/8" x 8"

Top

8 1/2" x 9 1/2"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

124 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

11/16"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

5/8"

Pitch of stays at wide water space

13 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

130 lbs.

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

At body of stay, *2 3/8"*

Over threads *✓*

No. of threads per inch

6

Area supported by each stay

320 sq in

Working pressure by Rules

122 lbs.

Screw stays: Material

Iron.

Tensile strength

24 tons

Diameter

At turned off part, *1 1/4"*

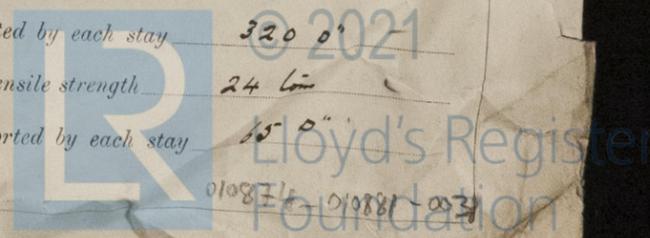
Over threads *1 3/8"*

No. of threads per inch

9

Area supported by each stay

15 sq in



Working pressure by Rules 122 lb. Are the stays drilled at the outer ends 70 Margin stays: Diameter ^{At turned off part,} 1 5/8" ^{or} 1 1/2" ^{Over threads}

No. of threads per inch 9 Area supported by each stay 92 0" Working pressure by Rules 136 lb.

Tubes: Material Iron External diameter ^{Plain} 3 1/2" Thickness ^{9 w.c.} 9/32" 1/32" No. of threads per inch 9

Pitch of tubes 4 1/6" Working pressure by Rules 165 lb. Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 12 1/2" x 2 5/32" No. of rivets and diameter of rivet holes 30 - 1 3/16"

Outer row rivet pitch at ends 8" Depth of flange if manhole flanged 3" 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

How connected to shell Inner radius of crown Working pressure by Rules

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 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, 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 AND ON BEHALF OF
 THE CALEDON SHIPBUILDING & ENGINEERING CO. LD. Manufacturer.

D. D. D. SECRETARY *J. P.*

Dates of Survey ^{During progress of work in shops - - -} 1928. DEC. 20. 1929. JAN. 18. 22. 28. 30. FEB. 3. 7. 14. 18. 22. 28. Mar. 4. 6. 11. 14. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

^{During erection on board vessel - - -} Mar. 18. April. 19. 26. May. 2. 14. 18. Total No. of visits 21.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been constructed under Special Survey in accordance with the Rules.

The materials & workmanship are good.

The boiler has been efficiently fitted on board the vessel, examined under working conditions & found satisfactory. The safety valves have been adjusted under steam.

Survey Fee £ : : } When applied for, 192

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

A. J. M.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 14 JUN 1929

Assigned See P.B. rpt. attached

