

APR 29 1937

Rpt. 5a.

## REPORT ON BOILERS.

No. 32064

Received at London Office

APR 17 1937

Date of writing Report

1937

When handed in at Local Office

16 APR 1937

Port of

SUNDERLAND.

No. in Survey held at

SUNDERLAND.

Date, First Survey

Jan 28 '36 Last Survey

Apr 13 1937

(Number of Visits 57)

Gross

Tons

Net

on the

FULHAM III

Master

Built at Burntisland

By whom built Burntisland S.B.C.L.D. No. 195

When built 1937

Engines made at

Sunderland

By whom made N.E. Marine Engineering Co. Ltd. Engine No. 2831

When made 1937

Boilers made at

Sunderland

By whom made N.E. Marine Engineering Co. Ltd. Boiler No. 2831

When made 1937

Nominal Horse Power

185

Owners Fulham Borough Council

Port belonging to

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel company of Scotland

(Letter for Record

✓

Total Heating Surface of Boilers

2750 sq ft

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

one, cylindrical multitubular

Working Pressure

200 lbs.

Tested by hydraulic pressure to

350 lbs.

Date of test

17/2/37

No. of Certificate

4218

Can each boiler be worked separately

✓

Area of Firegrate in each Boiler

5926 sq ft

No. and Description of safety valves to each boiler

2 direct spring

Area of each set of valves per boiler

per Rule 16.27 sq in.

as fitted

16.6 sq in.

Pressure to which they are adjusted

200 lbs.

Are they fitted with easing gear

yes

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

no.

Smallest distance between boilers or uptakes and bunkers or woodwork

10 1/2 in.

Is oil fuel carried in the double bottom under boilers

no.

Smallest distance between shell of boiler and

floor line

1-6 in.

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

16-6 3/32 in.

Length

11-0 in.

Shell plates: Material

steel

Tensile strength

29/32 tons/sq in.

Thickness

1 1/8 in.

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end D.R.L.

ong. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 1/2 in.

Pitch of rivets

4 1/8 in.

inter.

10 1/4 in.

Percentage of strength of circ. end seams

plate 65.7%

rivets 47.4%

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.3%

rivets 87.8%

combined 88.2%

Working pressure of shell by Rules

202 lbs.

Thickness of butt straps

outer 1 1/8 in.

inner 1 1/4 in.

No. and Description of Furnaces in each Boiler

3 Daylight section Stephen quality flange

Material

Steel

Tensile strength

26/30 tons/sq in.

Smallest outside diameter

3-11 1/16 in.

Length of plain part

top

bottom

Thickness of plates

crown

bottom

2 1/32 in.

Description of longitudinal joint

weld

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

✓

Working pressure of furnace by Rules

201.8 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30 tons/sq in.

Thickness

1 1/32 in.

Pitch of stays

24" x 16 1/4"

How are stays secured

Double nuts.

Working pressure by Rules

201 lbs.

Tube plates: Material

front Steel

back Steel

Tensile strength

26/30 tons/sq in.

Thickness

15/16 in.

13/16 in.

Lean pitch of stay tubes in nests

10.53 in.

Pitch across wide water spaces

14 1/2" x 9 1/4"

Working pressure

front 203 lbs.

back 213 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 tons/sq in.

Depth and thickness of girder

centre

9 x 2 1/8 in.

Length as per Rule

33.4 in.

Distance apart

11 1/2 in.

No. and pitch of stays

each

2, 8 in.

Working pressure by Rules

209 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons/sq in.

Thickness: Sides

3/4 in.

Back

25/32 in.

Top

3/4 in.

Bottom

1 in.

Pitch of stays to ditto: Sides

10 1/2" x 9 3/8"

Back

10 1/2" x 9 3/8"

Top

11 1/2" x 8"

Are stays fitted with nuts or riveted over

nuts fitted

Working pressure by Rules

200, 206, 202 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons/sq in.

Thickness

15/16 in.

Lower back plate: Material

Steel

Tensile strength

26/30 tons/sq in.

Thickness

29/32 in.

Pitch of stays at wide water space

14 1/2" x 9 3/8"

Are stays fitted with nuts or riveted over

nuts fitted

Working Pressure

219 lbs.

Main stays: Material

Steel

Tensile strength

28/32 tons/sq in.

Diameter

At body of stay,

3 1/8 in.

or

Over threads

3 1/2 in.

No. of threads per inch

6

Area supported by each stay

24" x 16 1/4"

Working pressure by Rules

218 lbs.

Screw stays: Material

tested iron

Tensile strength

21 1/2 tons/sq in.

Diameter

At turned off part,

9 in.

or

Over threads

17/8 in.

No. of threads per inch

9

Area supported by each stay

10 1/2" x 9 3/8"

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Working pressure by Rules 200 lbs. Are the stays drilled at the outer ends no Margin stays: Diameter 2" <sup>At turned off part.</sup> <sup>or</sup> <sup>Over threads</sup> 2"

No. of threads per inch 9 Area supported by each stay 12 1/2" x 9 7/8" Working pressure by Rules 200 lbs.

Tubes: Material Iron, lap welded External diameter 3 1/4" Thickness 8 W.G. No. of threads per inch 9

Pitch of tubes 4 5/8" x 4 1/2" Working pressure by Rules 208, 206, 242 lbs. Manhole compensation: Size of opening

shell plate 16" x 12" Section of compensating ring none No. of rivets and diameter of rivet holes ✓

Outer row rivet pitch at ends ✓ 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 ✓ <sup>Plate</sup> <sup>Rivets</sup>

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 None 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 22 inclusive for boilers been complied with Yes.

The foregoing is a correct description,  
FOR THE NORTH EASTERN MARINE ENGINEERING CO. LD

Manufacture

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.)

Total No. of visits ✓

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

This boiler has been constructed under special survey in accordance with the approved plans and the requirements of the Rules. The workmanship and materials are good. For recommendation please see Rpt 4.

Survey Fee ... £ : : When applied for, 192

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

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

Assigned

See Lth 36. 19318



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