

REPORT ON BOILERS.

No. 32024

Received at London Office

-5 FEB 1937

Date of writing Report

192

When handed in at Local Office

4 FEB. 1937

Port of

SUNDERLAND.

No. in Survey held at
Reg. Book.

SUNDERLAND.

Date, First Survey

Last Survey

Jan 30 1937

(Number of Visits

Gross 1091

Tons

Net 622

on the

ARTHUR WRIGHT

Master

Built at

Sunderland

By whom built

W. Pithusgill & Sons Ltd. Yard No. 236 When built 1937

Engines made at

Sunderland

By whom made

N.E. Marine Eng. Co. Ltd.

Engine No.

2868 When made 1937

Boilers made at

Sunderland

By whom made

N.E. Marine Eng. Co. Ltd.

Boiler No.

2868 When made 1937

Nominal Horse Power

Owners

The Mayor, Aldermen & Burgesses of the County Borough of Brighton

Shoreham

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

Manufacturers of Steel The Steel Company of Scotland

(Letter for Record

S

Total Heating Surface of Boilers

1722 sq ft

Is forced draught fitted

yes

Coal or Oil fired

oil fired

No. and Description of Boilers

one cylindrical multitubular

Working Pressure

200 lbs.

Tested by hydraulic pressure to

350 lbs.

Date of test

2/12/36

No. of Certificate

4211

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

42.2 sq ft

No. and Description of safety valves to each boiler

2 direct spring

Area of each set of valves per boiler

per Rule 10.17 sq ft

as fitted

11.88 sq ft

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

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2' 3"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

12' 9 3/4"

Length

11' 0"

Shell plates: Material

Steel

Tensile strength

29/33 tons/sq in

Thickness

1/8"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

D. R. L.

long. seams

T. R. D. B. S.

Diameter of rivet holes in

circ. seams

1 1/16"

Pitch of rivets

3 1/2"

Percentage of strength of circ. end seams

plate 66%

rivets 44.3

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.8

rivets 86.8

combined 88.9

Working pressure of shell by Rules

200 lbs.

Thickness of butt straps

outer 7/8"

inner 1"

No. and Description of Furnaces in each Boiler

Three, corrugated, Sington's section

Material

Steel

Tensile strength

26/30 tons/sq in

Smallest outside diameter

2' 9 3/4"

Length of plain part

top

Thickness of plates

crown

3/16"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

206

End plates in steam space: Material

Steel

Tensile strength

26/30 tons/sq in

Thickness

1/8"

Pitch of stays

1' 6" x 1' 4 1/8"

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"

25/32"

Mean pitch of stay tubes in nests

10"

Pitch across wide water spaces

1' 2 1/2" x 8 1/4"

Working pressure

front 228 lbs.

back 218 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 tons/sq in

Depth and thickness of girder

at centre

8' x 1 3/8"

Length as per Rule

29.94"

Distance apart

8 1/4"

No. and pitch of stays

in each

2 of 9 1/2"

Working pressure by Rules

207 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons/sq in

Thickness: Sides

25/32"

Back

25/32"

Top

25/32"

Bottom

Pitch of stays to ditto: Sides

10 1/2" x 9 1/2"

Back

10 1/4" x 10"

Top

8 1/4" x 9 1/2"

Are stays fitted with nuts or riveted over

nuts fitted

Working pressure by Rules

209 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons/sq in

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26/30 tons/sq in

Thickness

7/8"

Pitch of stays at wide water space

14' 5" x 10"

Are stays fitted with nuts or riveted over

nuts fitted

Working Pressure

202 lbs.

Main stays: Material

Steel

Tensile strength

28/32 tons/sq in

Diameter

At body of stay

2 5/8"

No. of threads per inch

6

Area supported by each stay

18' x 16' 8"

Working pressure by Rules

204 lbs.

Screw stays: Material

Steel

Tensile strength

26/30 tons/sq in

Diameter

At turned off part

1 7/8"

No. of threads per inch

9

Area supported by each stay

11' 4 1/2" x 9 1/2"



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Lloyd's Register
Foundation

Working pressure by Rules *230 lbs.* Are the stays drilled at the outer ends *no* ✓ Margin stays: Diameter *2"* ✓
 No. of threads per inch *9* ✓ Area supported by each stay *12 3/8" x 10* ✓ Working pressure by Rules *200 lbs.* ✓
 Tubes: Material *S.D. Steel* External diameter *3"* ✓ Thickness *8.W.G.* ✓ No. of threads per inch *9* ✓
 Pitch of tubes *4 1/4" x 4 1/8"* ✓ Working pressure by Rules *202 lbs.* ✓ Manhole compensation: Size of opening *16" x 12"* ✓
 Section of compensating ring *3 3/4"* ✓ No. of rivets and diameter of rivet holes *✓*
 Outer row rivet pitch at ends *✓* Depth of flange if manhole flanged *✓* Steam Dome: Material *✓*
 Tensile strength *✓* Thickness of shell *✓* Description of longitudinal joint *✓*
 Diameter of rivet holes *✓* Pitch of rivets *✓* Percentage of strength of joint *✓*
 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 *N.E. Marine Smoke Tube* Manufacturers of Tubes *Stewart & Lloyds*
 Number of elements *44* Material of tubes *S.D. Steel* ✓ Steel castings *Fordingham Steel Co.*
 Material of headers *Forged Steel* Tensile strength *26/30 tons/sq. in.* Thickness *1 1/8"* Can the superheater be shut off and the boiler be worked separately *yes*
 Area of each safety valve *1 1/4 sq. ins.* ✓ Are the safety valves fitted with casing gear *yes* ✓ Working pressure as per Rules *200 lbs.*
 Pressure to which the safety valves are adjusted *207 lbs.* ✓ Hydraulic test pressure: tubes *1500 lbs.* ✓ Headers *600 lbs.* ✓ and after assembly in place *500 lbs.* ✓ Are drain cocks or calces fitted to free the superheater from water where necessary *yes* ✓

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. LTD. Manufacturer.

Dates of Survey { During progress of work in shops - - } Please see Machinery Rpt. Are the approved plans of boiler and superheater for carried *herein* ✓
 while building { During erection on board vessel - - } 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. Workmanship and materials are good. For recommendation please see Rpt 4.

L.R. Home

Survey Fee £ *Charged on Machinery Report.* When applied for, 192
 Travelling Expenses (if any) £ When received, 192

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned *See other F.E. report*

TUE 9 FEB 1937