

REPORT ON BOILERS.

No. 29610

Received at London Office

Date of writing Report

192

When handed in at Local Office

13 JAN 1928

Port of Sunderland

No. in Survey held at

Sunderland

Date, First Survey

Last Survey

5 Jan 1928

Reg. Book.

42754 on the

S. S. "STONEGATE"

(Number of Visits

Gross

5044

Net

3107

Master

Built at Sunderland

By whom built W. M. Doxford & Sons Ltd

Yard No. 585

When built 1928

Engines made at

Sunderland

By whom made John Dickinson and Sons Ltd

Engine No. 890

When made 1928

Boilers made at

Sunderland

By whom made John Dickinson and Sons Ltd

D. Boiler No. 1094

When made 1928

Nominal Horse Power

602

Owners

Turnbull & Scott Shipping Co. Ltd

Port belonging to

London

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

Manufacturers of Steel

The Steel Company of Scotland Limited

(Letter for Record (S) ✓)

Total Heating Surface of Boilers

1277 sq ft ✓

Is forced draught fitted

No ✓

Coal or Oil fired

Coal ✓

No. and Description of Boilers

One - Single ended Marine type - Plain furnaces

Working Pressure

100 lbs sq in ✓

Tested by hydraulic pressure to

200 lbs sq in ✓

Date of test

10.11.27

No. of Certificate

3966

Can each boiler be worked separately

✓

Area of Firegrate in each Boiler

37.5 sq ft ✓

No. and Description of safety valves to each boiler

Two - Direct Spring loaded ✓

Area of each set of valves per boiler

per Rule 13.870

as fitted

14.140

Pressure to which they are adjusted

105 lbs sq in ✓

Are they fitted with easing gear

yes ✓

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

No. Non-return valves fitted ✓

Smallest distance between boilers

on uptakes and bunkers on ~~woodwork~~ Pitted in ~~Iron Deck~~ ✓

Is oil fuel carried in the double bottom under boilers

✓

Smallest distance between shell of boiler and tank top plating

Pitted in ~~Iron Deck~~ ✓

Is the bottom of the boiler insulated

No ✓

Largest internal dia. of boilers

11' 10 $\frac{3}{4}$ "

Length

10' 6" (FULL)

Shell plates: Material

Steel ✓

Tensile strength

28 to 32 tons sq in ✓

Thickness

5 $\frac{5}{8}$ " ✓

Are the shell plates welded or flanged

No ✓

Description of riveting: circ. seams

end D. R. Lap ✓

long. seams

D. R. D. B. S. ✓

Diameter of rivet holes in

circ. seams

7 $\frac{7}{8}$ " ✓

long. seams

7 $\frac{7}{8}$ " ✓

Pitch of rivets

3" ✓

Percentage of strength of circ. end seams

plate 70.8

rivets 52.6

Percentage of strength of circ. intermediate seam

plate ✓

rivets ✓

Percentage of strength of longitudinal joint

plate 80.6

rivets 98.6

combined 94

Working pressure of shell by Rules

103.5 lbs sq in ✓

Thickness of butt straps

outer 17 $\frac{17}{32}$ " ✓inner 21 $\frac{21}{32}$ " ✓

No. and Description of Furnaces in each Boiler

Two - Plain furnaces ✓

Material

Steel ✓

Tensile strength

26 to 30 tons sq in ✓

Smallest outside diameter

3' 6" ✓

Length of plain part

top ✓

bottom ✓

Thickness of plates

crown 19 $\frac{19}{32}$ " ✓

bottom 32

Description of longitudinal joint

Welded ✓

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

✓

Working pressure of furnace by Rules

103.5 lbs sq in ✓

End plates in steam space: Material

Steel ✓

Tensile strength

26 to 30 tons sq in ✓

Thickness

3 $\frac{3}{4}$ " ✓

Pitch of stays

16" x 16 $\frac{1}{2}$ " ✓

How are stays secured

Double Nuts and Washers ✓

Working pressure by Rules

110 lbs sq in ✓

Tube plates: Material

front Steel ✓

back Steel ✓

Tensile strength

26 to 30 tons sq in ✓

Thickness

3 $\frac{3}{4}$ " ✓11 $\frac{11}{16}$ " ✓

Mean pitch of stay tubes in nests

11 $\frac{11}{4}$ " ✓

Pitch across wide water spaces

13 $\frac{13}{4}$ " ✓

Working pressure

front 102 lbs sq in (W. 49 p. 22)back 132 lbs sq in ✓

Girders to combustion chamber tops: Material

Steel ✓

Tensile strength

28 to 32 tons sq in ✓

Depth and thickness of girder

at centre

5 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ " ✓

Length as per Rule

30 $\frac{30}{8}$ " ✓

Distance apart

8 $\frac{1}{2}$ " ✓

No. and pitch of stays

in each

2 x 10" ✓

Working pressure by Rules

104 lbs sq in ✓

Combustion chamber plates: Material

Steel ✓

Tensile strength

26 to 30 tons sq in ✓

Thickness: Sides

9 $\frac{9}{16}$ " ✓

Back

19 $\frac{19}{32}$ " ✓

Top

9 $\frac{9}{16}$ " ✓

Bottom

8 $\frac{8}{8}$ " ✓

Pitch of stays to ditto: Sides

9 $\frac{1}{2}$ " x 11" ✓

Back

11 $\frac{1}{4}$ " x 10 $\frac{1}{4}$ " ✓

Top

8 $\frac{1}{2}$ " x 10" ✓

Are stays fitted with nuts or riveted over

Pitted with nuts ✓

Working pressure by Rules

Sides 102 lbs sq in ✓Tops 126 lbs sq in ✓Backs 105 lbs sq in ✓

Front plate at bottom: Material

Steel ✓

Tensile strength

26 to 30 tons sq in ✓

Thickness

3 $\frac{3}{4}$ " ✓

Lower back plate: Material

Steel ✓

Tensile strength

26 to 30 tons sq in ✓

Thickness

3 $\frac{3}{4}$ " ✓

Pitch of stays at wide water space

14" x 11 $\frac{1}{4}$ " ✓

Are stays fitted with nuts or riveted over

Pitted with nuts ✓

Working Pressure

141 lbs sq in ✓

Main stays: Material

Steel ✓

Tensile strength

28 to 32 tons sq in ✓

Diameter

At body of stay, 2 $\frac{1}{8}$ " ✓

or Over threads

No. of threads per inch

6 ✓

Area supported by each stay

264 sq in ✓

Working pressure by Rules

114 lbs sq in ✓

Screw stays: Material

Steel ✓

Tensile strength

26 to 30 tons sq in ✓

Diameter

At turned off part, 1 $\frac{1}{2}$ " ✓

or Over threads

No. of threads per inch

9 ✓

Area supported by each stay

Sides 104.5 sq in ✓Tops 85 sq in ✓Backs 115.25 sq in ✓

W443-0283

Working pressure by Rules ^{Side 120 lbs} ~~147.5 lbs~~ ^{Base 168.5 lbs} Are the stays drilled at the outer ends *No* Margin stays: Diameter { At turned off part, *1 5/8"* or Over threads *1 5/8"*

No. of threads per inch *9* Area supported by each stay *136.50"* Working pressure by Rules *112 lbs*

Tubes: Material *Wrought Iron* External diameter { Plain *3 1/4"* Stay *3 1/4"* Thickness { *10. W. 6.* *1/4" x 5/16"* No. of threads per inch *9*

Pitch of tubes *4 1/2" x 4 1/2"* Working pressure by Rules *Plain 130 lbs* *Stay 173 + 183 lbs* Manhole compensation: Size of opening in shell plate *16" x 12"* Section of compensating ring *7 3/4" x 5 1/8"* No. of rivets and diameter of rivet holes *26 @ 7/8"*

Outer row rivet pitch at ends *4 1/2"* 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 { 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 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 _____

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 *yes* For *John D. Griffith* Manufacturer.

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

while building { During erection on board vessel - - - _____ Total No. of visits _____

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

The materials and workmanship are good.

The Donkey Boiler has been constructed under Special Survey and satisfactorily fitted in the vessel.

For notation see Machinery Report.

Survey Fee ... £ *Charged on Mech. Rpt.* When applied for, 192

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

Committee's Minute *FRI. 20 JAN 1928*

Assigned *See Rpt. attached*

A. T. Griffith.
 Engineer Surveyor to Lloyd's Register of Shipping.

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