

## REPORT ON BOILERS.

No. 29610

Date of writing Report

192

When handed in at Local Office

13 JAN. 1928

Port of Sunderland

Received at London Office

14 JAN 1928

No. in Survey held at  
Reg. Book.

Sunderland

Date, First Survey

Last Survey

5 Jan 1928

42754 on the

S. S. "STONEGATE"

(Number of Visits)

Gross 5044

Tons Net 3107

Master

Built at

Sunderland

By whom built

W. M. Doxford &amp; Sons Ltd

Yard No.

585

When built

1928

Engines made at

Sunderland

By whom made

John Dickinson &amp; Sons Ltd

Engine No.

890

When made

1928

Boilers made at

Sunderland

By whom made

John Dickinson &amp; Sons Ltd

Boiler No.

890

When made

1928

Nominal Horse Power

602

Owners

Turnbull &amp; 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

9261 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

Coal ✓

No. and Description of Boilers

Three Single ended Marine Type - corrugated furnaces

Working Pressure 180 lbs ✓

Tested by hydraulic pressure to

320 lbs

Date of test

10-11-27

No. of Certificate

3965

Can each boiler be worked separately

Yes ✓

Area of Firegrate in each Boiler

74 sq ft

No. and Description of safety valves to each boiler

Two Direct Spring loaded (High Lift) ✓

Area of each set of valves per boiler

per Rule

as fitted

14.14 sq ft

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

Yes ✓

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

✓

Smallest distance between boilers

on uptakes

and bunkers

on woodwork

4' 3" ✓

Is oil fuel carried in the double bottom under boilers

No ✓

Smallest distance between shell of boiler and tank top plating

2' 1" ✓

Is the bottom of the boiler insulated

Yes ✓

Largest internal dia. of boilers

16' 1 5/16" ✓

Length

12' 3" (FULL) ✓

Shell plates: Material

Steel ✓

Tensile strength

28 to 32 tons ✓

Thickness

1 5/16" ✓

Are the shell plates welded or flanged

No ✓

Description of riveting: circ. seams

end D. R. Lap ✓

long. seams

A. R. D. B. S. ✓

Diameter of rivet holes in

circ. seams

1 3/8" ✓

Pitch of rivets

3 3/4" ✓

Percentage of strength of circ. end seams

plate 63.33

rivets 49.56

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.53

rivets 91.72

combined 89.4

Working pressure of shell by Rules

180.2 lbs ✓

Thickness of butt straps

outer 1"

inner 1 1/8" ✓

No. and Description of Furnaces in each Boiler

4 - Corrugated Deighton Type. ✓

Material

Steel ✓

Tensile strength

26 to 30 tons ✓

Smallest outside diameter

3' 3 13/16" ✓

Length of plain part

top

bottom

Thickness of plates

crown 17/32" ✓

bottom 3/32" ✓

Description of longitudinal joint

Welded ✓

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

✓

Working pressure of furnace by Rules

193 lbs ✓

End plates in steam space: Material

Steel ✓

Tensile strength

26 to 30 tons ✓

Thickness

1 5/32" ✓

Pitch of stays

21 1/2" x 17 1/2" ✓

How are stays secured

Double Nuts and Washers

Working pressure by Rules

184 lbs ✓

Tube plates: Material

front

back

Steel ✓

Tensile strength

26 to 30 tons ✓

Thickness

7/8" ✓

Mean pitch of stay tubes in nests

10 1/2" ✓

Pitch across wide water spaces

13" ✓

Working pressure

front 212 lbs (W. W. Span.)

back 251 lbs ✓

Girders to combustion chamber tops: Material

Steel ✓

Tensile strength

28 to 32 tons ✓

Depth and thickness of girder

at centre

8 1/2" x 2" ✓

Length as per Rule

34' 4 3/75" ✓

Distance apart

centres 10 3/4" ✓

No. and pitch of stays

in each

centres 3 x 9" ✓

Working pressure by Rules

centres 181 lbs ✓

Combustion chamber plates: Material

Steel ✓

Tensile strength

26 to 30 tons ✓

Thickness: Sides

23/32" ✓

Back

11/16" ✓

Top

23/32" ✓

Bottom

3/32" ✓

Pitch of stays to ditto:

Sides

11" x 8 3/8" ✓

Back

centres 10 1/2" x 7 3/4" ✓

Wings

10 1/2" x 8 1/2" ✓

Top

Wing 11" x 8 1/2" ✓

Are stays fitted with nuts or riveted over

Pitted with nuts.

Working pressure by Rules

Sides 190 lbs ✓

Wings 181 lbs ✓

Back 194 lbs ✓

Top 184 lbs ✓

Front plate at bottom: Material

Steel ✓

Tensile strength

26 to 30 tons ✓

Thickness

7/8" ✓

Lower back plate: Material

Steel ✓

Tensile strength

26 to 30 tons ✓

Thickness

7/8" ✓

Pitch of stays at wide water space

12" x 10 1/2" ✓

Are stays fitted with nuts or riveted over

Pitted with nuts. ✓

Working Pressure

246 lbs ✓

Main stays: Material

Steel ✓

Tensile strength

28 to 32 tons ✓

Diameter

At body of stay, or Over threads

3 1/8" ✓

No. of threads per inch

6 ✓

Area supported by each stay

376.25 sq in ✓

Working pressure by Rules

195 lbs ✓

Screw stays: Material

Steel ✓

Tensile strength

26 to 30 tons ✓

Diameter

At turned off part, or Over threads

1 3/4" ✓

No. of threads per inch

9 ✓

Area supported by each stay

Sides 92.25 sq in ✓

Wings 81.4 sq in ✓

Back 89.25 sq in ✓

Top 96.75 sq in ✓

Total 359.7 sq in ✓

W443-0282



Sides 196.6 lbs. 0"  
 Centre Bushes 223 lbs. 0"  
 Wing Bushes 203 lbs. 0"  
 197.5 lbs. 0"

Working pressure by Rules *197.5 lbs. 0"* Are the stays drilled at the outer ends *No* ✓ Margin stays: Diameter { At turned off part, *1 7/8"* ✓  
 Over threads

No. of threads per inch *9* ✓ Area supported by each stay *115 0"* Working pressure by Rules *185 lbs. 0"*

Tubes: Material *Wrought Iron* ✓ External diameter { Plain *2 1/2"* ✓ Thickness { *8 W.G.* ✓ No. of threads per inch *9* ✓  
 Stay *2 1/2"* ✓

Pitch of tubes *3 3/4" x 3 3/4"* ✓ Working pressure by Rules *Plain 300 lbs. 0"* ✓  
 Stay *188 lbs. 0"* ✓

Manhole compensation: Size of opening in end shell plate *16" x 12"* ✓ Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓

Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged *3 3/4"* ✓ Steam Dome: Material

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint { 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

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 *Yes* ✓

*John Dickinson & Sons, Limited*  
 The foregoing is a correct description,  
*P. Dickson* Manufacturer.

Dates of Survey { During progress of work in shops - - *Please see Machy 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 Boilers have been constructed under Special Survey, and satisfactorily fitted in the vessel.*  
*For notation see Machinery Report.*

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

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

Committee's Minute *FRI. 20 JAN 1928*  
 Assigned *See Rpt. attached*