

## REPORT ON BOILERS.

No. 29327

Date of writing Report

192

When handed in at Local Office

-3 DEC. 1926

Received at London Office

-4 DEC. 1926

Port of

Sunderland

No. in Survey held at  
Reg. Book.

Sunderland

Date, First Survey

Last Survey 27<sup>th</sup> Decr 1926

91306 on the

S. S. "USWORTH"

(Number of Visits)

Gross 3535

Tons Net 2189

Master

Built at Sunderland

By whom built

John Blumer &amp; Co. Ltd.

Yard No. 257

When built 1926

Engines made at

Sunderland

By whom made

John Dickenson &amp; Co. Ltd.

Engine No. 843

When made 1926

Boilers made at

Sunderland

By whom made

John Dickenson &amp; Co. Ltd.

Boiler No. 843

When made 1926

Nominal Horse Power

301

Owners

Dalgliesh &amp; Co. Shipg. Co. Ltd.

Port belonging to Newcastle.

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

Manufacturers of Steel

John Shewell &amp; Co. Ltd.

(Letter for Record

(S) ✓

Total Heating Surface of Boilers

4690

Is forced draught fitted

No ✓

Coal or Oil fired

Coal ✓

No. and Description of Boilers

2. Single ended marine type

Working Pressure

180 lbs ✓

Tested by hydraulic pressure to

320

Date of test

13-5-24

No. of Certificate

3879

Can each boiler be worked separately

Yes ✓

Area of Firegrate in each Boiler

63.6

No. and Description of safety valves to each boiler

2 - Direct spring loaded ✓

Area of each set of valves per boiler

{ per Rule 15.04

{ as fitted 19.25

Pressure to which they are adjusted

180 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.

Non return valve fitted ✓

Smallest distance between boilers or uptakes and bunkers or woodwork

8 ft. ✓

Is oil fuel carried in the double bottom under boilers

No ✓

Smallest distance between shell of boiler and tank top plating

2 ft 3 ins. ✓

Is the bottom of the boiler insulated

Yes ✓

Largest internal dia. of boilers

15'-9 1/2" ✓

Length

10'-6" ✓

Shell plates: Material

Steel ✓

Tensile strength

29 1/2 to 33 lbs ✓

Thickness

1/4" ✓

Are the shell plates welded or flanged

No ✓

Description of riveting: circ. seams

{ end D.R. Lap ✓

long. seams

T.R.D.B.S. ✓

Diameter of rivet holes in

{ circ. seams 1 3/8"

{ long. seams 1 1/8" ✓

Pitch of rivets

{ 3 3/4"

{ 9 1/8" ✓

Percentage of strength of circ. end seams

{ plate 63.3

{ rivets 49.4 ✓

Percentage of strength of circ. intermediate seam

{ plate 84.9

{ rivets 95.98 ✓

Percentage of strength of longitudinal joint

{ plate 84.9

{ rivets 95.98

{ combined 89.13 ✓

Working pressure of shell by Rules

181 lbs ✓

Thickness of butt straps

{ outer 1 1/4" ✓

{ inner 1 1/4" ✓

No. and Description of Furnaces in each Boiler

3 - Doughton ✓

Material

Steel ✓

Tensile strength

26 to 30 tons ✓

Smallest outside diameter

3'-9 15/16" ✓

Length of plain part

{ top 1/2" ✓

{ bottom 1/2" ✓

Thickness of plates

{ crown 1 1/2" ✓

{ bottom 1 1/2" ✓

Description of longitudinal joint

welded ✓

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

✓

Working pressure of furnace by Rules

188 lbs ✓

End plates in steam space: Material

Steel ✓

Tensile strength

26 to 30 tons ✓

Thickness

1 1/16" ✓

Pitch of stays

18 x 22" ✓

How are stays secured

D. Nuts and Washers ✓

Working pressure by Rules

184 lbs ✓

Tube plates: Material

{ front Steel ✓

{ back Steel ✓

Tensile strength

26 to 30 tons ✓

Thickness

{ 7/8" ✓

{ 5/8" ✓

Mean pitch of stay tubes in nests

10.375" (centre)

Pitch across wide water spaces

13 1/4" ✓

Working pressure

{ front 192.3 lbs ✓

{ back 258 lbs ✓

Girders to combustion chamber tops: Material

Steel ✓

Tensile strength

28 to 32 tons ✓

Depth and thickness of girder

at centre

20 x 10" ✓

Length as per Rule

2-7 1/2" ✓

Distance apart

9" ✓

No. and pitch of stays

in each

20 x 10" ✓

Working pressure by Rules

191 lbs ✓

Combustion chamber plates: Material

Steel ✓

Tensile strength

26 to 30 tons ✓

Thickness: Sides

1/16" ✓

Back

1/16" ✓

Top

1/16" ✓

Bottom

1/16" ✓

Pitch of stays to ditto: Sides

10" x 9" ✓

Back

10 1/2" x 8 5/8" ✓

Top

10" x 9" ✓

Are stays fitted with nuts or riveted over

Nuts in C.C.s. ✓

Working pressure by Rules

{ Sides 182 lbs ✓

{ Back 183 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 1/4" x 8 5/8" ✓

Are stays fitted with nuts or riveted over

Nuts ✓

Working Pressure

278 lbs ✓

Main stays: Material

Steel ✓

Tensile strength

28 to 32 tons ✓

Diameter

{ At body of stay, 3 1/2" ✓

{ Over threads 3 1/2" ✓

No. of threads per inch

6 ✓

Area supported by each stay

396 sq. in. ✓

Working pressure by Rules

185 lbs ✓

Screw stays: Material

Steel ✓

Tensile strength

26 to 30 tons ✓

Diameter

{ At turned off part, 1 1/2" ✓

{ Over threads 1 1/2" ✓

1 1/2" wing backs ✓

No. of threads per inch

9 ✓

Area supported by each stay

sides 900 sq. in. ✓

centre half 40 x 10" ✓

wing back 88 x 40" ✓



Working pressure by Rules <sup>entry back 2/7/5-46</sup> ~~205~~ <sup>201/5-4</sup> Are the stays drilled at the outer ends ☒ Margin stays: Diameter <sup>At turned off part,</sup> <sup>or</sup> <sup>Over threads</sup>  $1\frac{3}{4}$  ✓  
 No. of threads per inch  $9$  ✓ Area supported by each stay  $94$  ✓ Working pressure by Rules  $184.2$  ✓  
 Tubes: Material Wooten ✓ External diameter <sup>Plain</sup>  $3\frac{1}{4}$  ✓ <sup>Stay</sup>  $3\frac{1}{4}$  ✓ Thickness  $9$  W.G. ✓  $\frac{5}{16}$  ✓ No. of threads per inch  $9$  ✓  
 Pitch of tubes  $4\frac{1}{2} \times 4\frac{1}{2}$  ✓ Working pressure by Rules Plain tubes 180 lb. ✓ Stay tubes 210 lb. ✓ Manhole compensation: Size of opening in  $130$  ✓  
 shell plate  $16 \times 12$  ✓ Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓  
 Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged  $3\frac{3}{4}$  ✓ Steam Dome: Material  
 Tensile strength Thickness of shell Description of longitudinal joint  
 Diameter of rivet holes Pitch of rivets Percentage of strength of joint <sup>Plate</sup> <sup>Rivets</sup>  
 Internal diameter Working pressure by Rules Thickness of crown No. and diameter of oilers m  
 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 <sup>Tubes</sup> <sup>Steel castings</sup>  
 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

John Dickinson & Sons, Limited.

Manufacturer.

Dates of Survey <sup>During progress of</sup> <sup>work in shops - -</sup> Please see Rpt. 4.  
 while building <sup>During erection on</sup> <sup>board vessel - -</sup>

Are the approved plans of boiler and superheater forwarded herewith  
 (If not state date of approval.) Director.  
 Total No. of visits

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

These boilers have been satisfactorily fitted in the vessel, and the Safety Valves adjusted under steam.

For Notation see Machinery Report.

Survey Fee ... ..  
 Travelling Expenses (if any) <sup>charged on</sup> <sup>Machinery</sup> <sup>Report</sup> When applied for, 192  
 When received, 192

A. T. Griffith.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUES. 7 DEC 1926

Assigned

See Rpt. attached



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Foundation