

## REPORT ON BOILERS.

No. 29225

Received at London Office - 9 FEB 1926

- 8 FEB 1926

Writing Report

192

When handed in at Local Office

192

Port of

Sunderland

in Survey held at

Sunderland

Date, First Survey

Last Survey

3<sup>rd</sup> Feb

1926

on the

new Steel S.S. "DEMETERTON"

(Number of Visits

Tons

Gross 5251

Net

3244

Built at

Sunderland

By whom built

Short Bros Ltd

Yard No. 422

When built

1926

made at

Sunderland

By whom made

J. Dickinson &amp; Sons Ltd

Engine No. 882

When made

1926

made at

Sunderland

By whom made

J. Dickinson &amp; Sons Ltd

Boiler No. 882

When made

1926

al Horse Power

363

Owners

Carlton S.S. Co Ltd

Port belonging to

Newcastle

(R. Chapman &amp; Sons Mgrs).

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

Manufacturers of Steel

David Colville &amp; Sons Ltd

(Letter for Record

(S)

Heating Surface of Boilers

5806 sq. ft.

Is forced draught fitted

Coal or Oil fired

Coal

Description of Boilers

Two - single ended marine type

Working Pressure

180 lbs

by hydraulic pressure to

320 lbs

Date of test

9-1-26

No. of Certificate

3928

Can each boiler be worked separately

Yes

of Firegrate in each Boiler

445 sq. ft.

No. and Description of safety valves to each boiler

Two - Direct spring loaded

of each set of valves per boiler

per Rule

1865

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

Yes

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

No

least distance between boilers or uptakes and bunkers

1-11 1/4"

Is oil fuel carried in the double bottom under boilers

No

least distance between shell of boiler and tank top plating

2-6"

Is the bottom of the boiler insulated

Yes

least internal dia. of boilers

16-9 3/8"

Length

11-6"

Shell plates: Material

Steel

Tensile strength

29 1/2 to 33 tons

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

D.R. LAP.

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 3/8"

long. seams

1 3/8"

Pitch of rivets

3 3/4"

Percentage of strength of circ. end seams

plate 63.3

rivets 44.5

Percentage of strength of circ. intermediate seam

plate 85.5

rivets 88.65

Percentage of strength of longitudinal joint

plate 85.5

rivets 88.65

combined 88.67

Working pressure of shell by Rules

180 lbs

Thickness of butt straps

outer 1"

inner 1 1/8"

No. and Description of Furnaces in each Boiler

4 - Doughton

Tensile strength

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

3-5 13/16"

Thickness of plates

top 1 1/2"

bottom 1 1/2"

Thickness of plates

crown 1 1/2"

bottom 1 1/2"

Description of longitudinal joint

Welded

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

Working pressure of furnace by Rules

183.6 lbs

plates in steam space: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1 1/2"

Pitch of stays

18 x 22"

Are stays secured

Double nuts and washers

Working pressure by Rules

184 lbs

plates: Material

front Steel

back Steel

Tensile strength

26 to 30 tons

Thickness

7/8 + 5/8 D.P. and 1 1/2"

pitch of stay tubes in nests

9"

Pitch across wide water spaces

13 1/4" (5 D.P.)

Working pressure

front 193 lbs

back 142 lbs

plates to combustion chamber tops: Material

Steel

Tensile strength

28 to 32 tons

Depth and thickness of girder

Length as per Rule

2-9 3/4"

Distance apart

10"

No. and pitch of stays

Working pressure by Rules

190 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

7/16"

Back

7/16"

Top

7/16"

Bottom

7/16"

of stays to ditto: Sides

8 1/4" x 10 3/4"

Back

9" x 10"

Top

9" x 10"

Are stays fitted with nuts or riveted over

Nuts in C.C.s

Working pressure by Rules

180 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"

of stays at wide water space

12 1/4" x 9"

Are stays fitted with nuts or riveted over

Nuts on marginal stays

Working Pressure

230 lbs

Main stays: Material

Steel

Tensile strength

28 to 32 tons

At body of stay,

3 1/4"

No. of threads per inch

6

Area supported by each stay

396 sq. in.

Working pressure by Rules

192 lbs

Screw stays: Material

Steel

Tensile strength

26 to 30 tons

At turned off part,

1 1/4"

No. of threads per inch

9

Area supported by each stay

90 sq. in.

W383-0189

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REPORT ON BOILERS

Working pressure by Rules 202 lbs. Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, or Over threads 1 3/4 ✓

No. of threads per inch 9 ✓ Area supported by each stay 100.1 sq. in. Working pressure by Rules 181.4 ✓

Tubes: Material Weldless Steel External diameter { Plain 3 3/4 ✓ Stay 3 3/4 ✓ Thickness { 5 ✓ No. of threads per inch 76 ✓

Pitch of tubes 4 1/2" x 4 1/2" ✓ Working pressure by Rules 230 ✓ Plain tubes ✓ Manhole compensation: Size of shell plate 16" x 12" ✓ Section of compensating ring 2 x 8 3/4" x 1 5/16" ✓ No. of rivets and diameter of rivet holes 26 @ 1 1/2" ✓

Outer row rivet pitch at ends 9 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 stays Inner radius of crown Working pressure by Rules

How connected to shell Size of doubling plate under dome Diameter of rivet hole of rivets in outer row in dome connection to shell

Type of Superheater North Eastern Marine Manufacturers of { Tubes Weldless Steel Tube Co. Steel castings N. E. Marine Eng. Co. Wallsend.

Number of elements 124 Material of tubes Solid drawn steel Internal diameter and thickness of tubes 1 1/4 in x 2 1/2 ✓

Material of headers Mild Steel Tensile strength 26 to 30 tons Thickness 3/4" Can the superheater be the boiler be worked separately Yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes ✓

Area of each safety valve 1.74 sq. in. Are the safety valves fitted with easing gear Yes ✓ Working pressure 180 lbs. ✓

Rules 180 lbs. Pressure to which the safety valves are adjusted 185 lbs. ✓ Hydraulic test 1500 lbs. ✓

tubes 1500 lbs. ✓ Headers 540 lbs. ✓ (Weld) and after assembly in place 400 lbs. ✓ Are drain cocks or to free the superheater from water where necessary Yes ✓

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes

For John The foregoing is a correct description

Dates of Survey { During progress of work in shops - - - } Please see My 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 fixed in the vessel.

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

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

Reliant :

George Anderson  
Engineer Surveyor to Lloyd's Register of

Committee's Minute FRI, 12 FEB 1926

Assigned

See A Entry rpt attached



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