

REPORT ON BOILERS.

No. 30657

Received at London Office

-6 JUN 1931

- 5 JUNE 1931

Port of Sunderland.

3 of writing Report

192

When handed in at Local Office

in
Boat

Survey held at

Sunderland.

Date, First Survey

Last Survey 2 June 1931

(Number of Visits

Gross

4740

Tons

Net

2891

on the

S.S. HELMSPEY.

er

Built at

Sunderland.

By whom built

J.L. Thompson & Sons. Yard No. 569.

When built 1930

nes made at

Sunderland

By whom made

J. Dickinson & Sons. Ltd.

Engine No.

907.

When made 1930

ers made at

Sunderland

By whom made

J. Dickinson & Sons Ltd.

Boiler No.

907

When made 1930

inal Horse Power

424.

Owners

Strath Steamship Co. Ltd.

Port belonging to

Cardiff.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Witkowitzky Bergbau- und Eisenhütten Gesellschaft in Witkowitz

(Letter for Record

(5)

al Heating Surface of Boilers

6999 sq

Is forced draught fitted

No.

Coal or Oil fired

Coal.

and Description of Boilers

3. Single ended Marine Type.

Working Pressure

180 lb/sq

sted by hydraulic pressure to

320 lb/sq

Date of test 1-18-11-29

No. of Certificate

4072

Can each boiler be worked separately

Yes.

ea of Firegrate in each Boiler

59.3 sq

No. and Description of safety valves to each boiler

2. Spring loaded (High lift type).

ea of each set of valves per boiler

per Rule

5.34 sq

Pressure to which they are adjusted

185 lb/sq

Are they fitted with easing gear

Yes.

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

Yes

allest distance between boilers or uptakes and bunkers or woodwork

1'-8"

Is oil fuel carried in the double bottom under boilers

No

allest distance between shell of boiler and tank top plating

2'-7"

Is the bottom of the boiler insulated

Yes

argest internal dia. of boilers

15'-0 1/2"

Length

11'-6" full.

Shell plates: Material

Steel

Tensile strength

28/32 tons/sq

ickness

1 1/4"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

D.R.

ng. seams

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"

9 1/8"

Percentage of strength of circ. end seams

plate

63.33.

rivets

52.04.

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

84.93.

rivets

100.26.

combined

89.92.

Working pressure of shell by Rules

182.1 lb/sq

Thickness of butt straps

outer

1"

inner

1 1/8"

No. and Description of Furnaces in each Boiler

3. Reighton Section. 3 CF.

Material

Steel

Tensile strength

26 tons/sq

Smallest outside diameter

3'-6 7/8"

Length of plain part

top

-

bottom

-

Thickness of plates

crown

9/16"

bottom

-

Description of longitudinal joint

Weld.

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

Working pressure of furnace by Rules

190 lb/sq

End plates in steam space: Material

Steel

Tensile strength

26/30 tons/sq

Thickness

1 1/8"

Pitch of stays

18 1/2" x 20"

How are stays secured

D. Huts.

Working pressure by Rules

181 lb/sq

Tube plates: Material

front

Steel

back

Steel

Tensile strength

26/30 tons/sq

Thickness

7/8" 7/8"

Mean pitch of stay tubes in nests

11 1/4"

Pitch across wide water spaces

14 1/4"

Working pressure

181.5 with doubling

220

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 tons/sq

Depth and thickness of girder

at centre

7" x 2 1/4"

Length as per Rule

35 5/16"

Distance apart

8 1/4"

No. and pitch of stays

in each

2 - 11 1/2"

Working pressure by Rules

180.5 lb/sq

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons/sq

Thickness: Sides

23/32"

Back

11/16"

Top

23/32"

Bottom

23/32"

Pitch of stays to ditto: Sides

11 1/2" x 8"

Back

9 3/4" x 9"

Top

11 1/2" x 8 1/4"

Are stays fitted with nuts or riveted over

Both. Nuts inside

Working pressure by Rules

180.5 lb/sq

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons/sq

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26/30 tons/sq

Thickness

7/8"

Pitch of stays at wide water space

13 3/4"

Are stays fitted with nuts or riveted over

Both

Nuts inside

Working Pressure

224 lb/sq

Main stays: Material

Steel

Tensile strength

28/32 tons/sq

Diameter

At body of stay, or Over threads

3"

No. of threads per inch

6

Area supported by each stay

370 sq

Working pressure by Rules

181.5 lb/sq

Screw stays: Material

Steel

Tensile strength

26/30 tons/sq

Diameter

At turned off part, or Over threads

1 3/4"

No. of threads per inch

9

Area supported by each stay

95 sq



Lloyd's Register

176-0096

Working pressure by Rules *191 lb/sq. in.* Are the stays drilled at the outer ends *No.* Margin stays: Diameter *1 7/8"* (At turned off part, or Over threads)
 No. of threads per inch *9* Area supported by each stay *109 sq. in.* Working pressure by Rules *195*
 Tubes: Material *W.I.M.* External diameter *3 1/4"* Thickness *8 W.G.* No. of threads per inch *9*
 Pitch of tubes *4 1/2" x 4 1/2"* Working pressure by Rules *203 lb/sq. in.* Manhole compensation: Size of open shell plate *16" x 12"* Section of compensating ring *8 3/4" x 1 1/4"* No. of rivets and diameter of rivet holes *26 - 1 3/8"*
 Outer row rivet pitch at ends *9 1/8"* 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 of rivets in outer row in dome connection to shell *-*

Type of Superheater
 Number of elements Material of tubes Manufacturers of Tubes Steel castings Internal diameter and thickness of tubes
 Material of headers Tensile strength Thickness Can the superheater be shut off 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 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 22 inclusive for boilers been complied with *Yes.*
 The foregoing is a correct description,
John Dickinson & Sons, Limited
 Dates of Survey { During progress of work in shops - - } Please see Machinery 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.) *These Boilers have been built under Special Survey & the materials and workmanship are good. On completion they were satisfactorily fitted in the vessel and the safety valves adjusted under steam. For recommendation regarding notation see Machinery Report.*

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

Matthew Caldwell.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI. 12 JUN 1931**
 Assigned *See F.C. Rpt.*