

REPORT ON BOILERS.

No. 29559

Received at London Office

21 NOV 1927

Date of writing Report

102

When handed in at Local Office

19 NOV. 1927

Port of SunderlandNo. in Survey held at
Reg. Book.Sunderland

Date, First Survey

Last Survey

10th Nov 1927

41630 on the

S. S. "LARISTAN"

(Number of Visits

Gross

Tons

38753875

Master

Built at SunderlandBy whom built Messrs Short Bros

Yard No.

425When built 1927

Engines made at

Sunderland

By whom made

Messrs J. Dickinson & Sons Ltd

Engine No.

883When made 1927

Boilers made at

Sunderland

By whom made

Messrs J. Dickinson & Sons Ltd

Boiler No.

883When made 1927

Nominal Horse Power

565Owners Hindustan Steam Shipping Co Ltd

Port belonging to

NewcastleMULTITUBULAR BOILERS—MAIN, ~~AUXILIARY~~ OR ~~DONKEY~~.

Manufacturers of Steel

The Steel Company of Scotland Limited

(Letter for Record

(S)

Total Heating Surface of Boilers

8316 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

Oil

No. and Description of Boilers

Three single ended multitubular types - Corrugated furnaces.

Working Pressure

200 lbs sq in

Tested by hydraulic pressure to

350 lbs sq in

Date of test

13-7-27

No. of Certificate

3945

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

Oil fired

No. and Description of safety valves to each boiler

Two - Direct Spring loaded.

Area of each set of valves per boiler

Per Rule

19.34 sq in

as fitted

22.09 sq in

Pressure to which they are adjusted

205 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

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

4' 9"

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

2' 7"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

15' 10 5/8"

Length (MEAN)

11' 8 1/16"

Shell plates: Material

Steel

Tensile strength

28 to 32 tons sq in

Thickness

1 7/16"

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 1/2"

long. seams

1 1/2"

Pitch of rivets

4"10 1/4"

Percentage of strength of circ. end seams

plate

62.5

rivets

Percentage of strength of circ. intermediate seam

plate

50.49

rivets

Percentage of strength of longitudinal joint

plate

85.37

rivets

92.35

combined

89.20

Working pressure of shell by Rules

200.6 lbs sq in4.6 f.

Thickness of butt straps

outer

1 1/8"

inner

1 1/4"

No. and Description of Furnaces in each Boiler

Four Furnaces - Deighton corrugations.

Material

Steel

Tensile strength

26 to 30 tons sq in

Smallest outside diameter

3' 3 3/8"

Length of plain part

top

1' 1/2"

bottom

Thickness of plates

crown

9 1/16"

Description of longitudinal joint

Welded

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

Working pressure of furnace by Rules

203 lbs sq in

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons sq in

Thickness

1 3/16"

Pitch of stays

17 1/8" x 2 1/2"

How are stays secured

Double Nuts and Washers

Working pressure by Rules

201.5 lbs sq in

Tube plates: Material

front

Steel

back

Tensile strength

26 to 30 tons sq in

Thickness

7/8"

Mean pitch of stay tubes in nests

8 1/2" x 8 1/2"

Pitch across wide water spaces

13"

Working pressure

front

204 lbs sq in (W. W. S. S.)

back

209 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

7 3/4" x 2"

Length as per Rule

32.69"

Distance apart

9 5/8" x 8"

No. and pitch of stays

in each

2 x 10 1/4"

Working pressure by Rules

201.5 lbs sq in

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons sq in

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Bottom

3/4"

Pitch of stays to ditto: Sides

10 1/4" x 9 1/2"

Back

11 1/4" x 7 1/2"

Top

10 1/4" x 9 5/8"

Are stays fitted with nuts or riveted over

Fitted with nuts.

Working pressure by Rules

203 lbs sq in

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons sq in

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons sq in

Thickness

1 3/16"

Pitch of stays at wide water space

12 1/2" x 9 1/4"

Are stays fitted with nuts or riveted over

Fitted with nuts.

Working Pressure

222 lbs sq in

Main stays: Material

Steel

Tensile strength

28 to 32 tons sq in

Diameter

At body of stay,

3 1/8"

or

Over threads

No. of threads per inch

6

Area supported by each stay

368.19 sq in

Working pressure by Rules

200.2 lbs sq in

Screw stays: Material

Steel

Tensile strength

26 to 30 tons sq in

Diameter

At turned off part,

1 3/4"

or

Over threads

No. of threads per inch

9

Area supported by each stay

90.18 sq inLloyd's Register
Foundation

Working pressure by Rules 200 lbs sq" Are the stays drilled at the outer ends No ✓ Margin stays: Diameter { At turned off part, 1 3/4" or Over threads

No. of threads per inch 9 ✓ Area supported by each stay 106 sq" Working pressure by Rules 200 lbs sq"

Tubes: Material Wrought Iron ✓ External diameter { Plain 3" ✓ Stay 3" ✓ Thickness { 7/16" ✓ No. of threads per inch 9 ✓

Pitch of tubes 4 1/4 x 4 1/4 Working pressure by Rules 207 lbs sq" Manhole compensation: Size of opening in shell plate (FOR BOILER) 16" x 12" ✓ Section of compensating ring (FOR BOILER) 9" x 1 7/16" No. of rivets and diameter of rivet holes 26 @ 1 1/2" ✓

END PLATE (AFT BOILERS) 16" x 12" ✓ Outer row rivet pitch at ends 5 1/4" ✓ 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 Smooth tubes formed by 1 1/2" Superheater ✓ Manufacturers of Tubes 1 1/2" Superheater C. L. Ltd ✓ Steel castings 1 1/2" Superheater C. L. Ltd ✓

Number of elements 90 Material of tubes Solid Drawn Steel Internal diameter and thickness of tubes 16 M.M. & 3 M.M. ✓

Material of headers Forged Steel ✓ Tensile strength 26 to 30 tons sq" Thickness 1" (min) ✓ Can the superheater be shut off and 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 1/2 dia 1.7671 sq ins ✓ Are the safety valves fitted with easing gear Yes ✓ Working pressure as per Rules 200 lbs sq" Pressure to which the safety valves are adjusted 208 lbs sq" ✓ Hydraulic test pressure: tubes 600 lbs sq" castings 600 lbs sq" and after assembly in place 400 lbs sq" ✓ Are drain cocks or valves fitted 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 ✓

The foregoing is a correct description,
for John Dickinson & Sons, Limited. Manufacturer.

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.) ✓

{ 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. Griffith.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 25 NOV 1927

Assigned See P. 9 rpt. attached