

REPORT ON BOILERS.

No. 29691

3 APR 1928

Received at London Office

Date of writing Report

192

When handed in at Local Office

2 APR 1928

Port of Sunderland

No. in Survey held at

Sunderland

Date, First Survey

Last Survey

March 24 1928

ing Reg. Book.

(Number of Visits)

Gross

5573

Net

3353

ia 39984 on the

S. S. "BADJESTAN"

Master

Built at

Sunderland

By whom built

Bartram & Sons, L^d

Yard No.

260

When built

1928

Engines made at

Sunderland

By whom made

MacColl & Pollock, L^d

Engine No.

352

When made

1928

eter o

Boilers made at

Sunderland

By whom made

MacColl & Pollock, L^d

Boiler No.

677

When made

1928

Nominal Horse Power

415

Owners

Hindustan Steam Shipping Co. L^d

Port belonging to

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

1.4.

ff and Manufacturers of Steel

The Steel Company of Scotland Limited

(Letter for Record (S))

Total Heating Surface of Boilers

1023

Is forced draught fitted

No

Coal or Oil fired

Coal

as per No. and Description of Boilers

One - Single ended Marine type. Plain furnaces.

Working Pressure

180 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

28-9-27

No. of Certificate

3960

Can each boiler be worked separately

Yes

fitted Area of Firegrate in each Boiler

32.135

No. and Description of safety valves to each boiler

Two. Direct Spring loaded.

Area of each set of valves per boiler

per Rule

6.56

as fitted

7.94

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

No. Non return Valves fitted.

Smallest distance between boilers or uptakes and bunkers or woodwork

Fitted in Iron Deck

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

Fitted in Iron Deck

Is the bottom of the boiler insulated

No

Largest internal dia. of boilers

10' 10 3/16"

Length

10' 6" (FULL)

Shell plates: Material

Steel

Tensile strength

28 to 32 tons

Thickness

29/32"

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 1/16"

long. seams

Pitch of rivets

7 1/16"

Percentage of strength of circ. end seams

plate

70.6

rivets

44.3

Percentage of strength of circ. intermediate seam

plate

85.84

rivets

85.84

Percentage of strength of longitudinal joint

plate

94.58

rivets

90.62

combined

Working pressure of shell by Rules

181 lbs

Thickness of butt straps

outer

13/16"

inner

7/8"

No. and Description of Furnaces in each Boiler

Two. Plain furnaces.

Material

Steel

Tensile strength

26 to 30 tons

Smallest outside diameter

3' 4"

Length of plain part

top

23/32"

bottom

Thickness of plates

crown

23/32"

bottom

Description of longitudinal joint

Welded

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

Yes

Working pressure of furnace by Rules

183 lbs

End plates in steam space: Material

Steel

Tensile strength

26 to 30 tons

Thickness

1"

Pitch of stays

18 1/2" x 13"

How are stays secured

Double Nuts & Washers outside

Working pressure by Rules

180 lbs

Tube plates: Material

front

Steel

back

Steel

Tensile strength

26 to 30 tons

Thickness

13/16"

Mean pitch of stay tubes in nests

11 1/8"

Pitch across wide water spaces

13 1/2"

Working pressure

front

188 lbs (W.W. spec)

back

192 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

26 to 30 tons

Depth and thickness of girder

at centre

9 1/4" x 1 1/16"

Length as per Rule

35.875"

Distance apart

9"

No. and pitch of stays

in each

3 x 8 1/2"

Working pressure by Rules

180.5 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26 to 30 tons

Thickness: Sides

5/8"

Back

21/32"

Top

21/32"

Bottom

5/8"

Pitch of stays to ditto: Sides

8 3/4" x 8 1/2"

Back

9 1/4" x 8 3/4"

Top

9" x 8 1/2"

Are stays fitted with nuts or riveted over

Fitted with nuts.

Working pressure by Rules

Sides

181.8 lbs

Back

185 lbs

Top

195.5 lbs

Front plate at bottom: Material

Steel

Tensile strength

26 to 30 tons

Thickness

27/32"

Lower back plate: Material

Steel

Tensile strength

26 to 30 tons

Thickness

13/16"

Pitch of stays at wide water space

13 1/4" x 8 3/4"

Are stays fitted with nuts or riveted over

Fitted with nuts.

Working Pressure

213.5 lbs

Main stays: Material

Steel

Tensile strength

28 to 32 tons

Diameter

At body of stay,

2 1/2"

or

Over threads

No. of threads per inch

6

Area supported by each stay

240.5

Working pressure by Rules

184 lbs

Screw stays: Material

Steel

Tensile strength

26 to 30 tons

Diameter

At turned off part,

1 5/8"

or

Over threads

No. of threads per inch

9

Area supported by each stay

Sides 65.6

Back

80.8

Top

76.5

Working pressure by Rules ^{Sides 204 lbs. □} ^{Back 188 lbs. □} ^{Top 199 lbs. □} Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 3/4" or Over threads 1 3/4" }
 No. of threads per inch 9 Area supported by each stay 98.6 □ Working pressure by Rules 184 lbs. □
 Tubes: Material Wrought Iron External diameter { Plain 3 1/4" Stay 3 1/4" } Thickness { 9.4.5. 5/16" } No. of threads per inch 9
 Pitch of tubes 4 3/8" x 4 1/2" Working pressure by Rules Stay 191.7 lbs. □ Plain 180 lbs. □ Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 7" x 6 1/2" x 29/32" No. of rivets and diameter of rivet holes 32 @ 1" Dia.
 Outer row rivet pitch at ends 7 1/16" 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 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

The foregoing is a correct description,
 PER PRO MACCOLL & POLLOCK LTD.
 J. H. Dillie Manufacturer.

Dates of Survey { During progress of work in shops - - } Please see Mech. 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.)

Survey Fee ... £ Please see Machinery Report When applied for, 192
 Travelling Expenses (if any) £ When received, 192

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute WED. 11 APR 1928

Assigned see minute on
Sdd Rpt 29691 attached



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Lloyd's Register Foundation

Rpt 18

RE

Date of writ

No. in Reg. Book

39984

Built at

Owners

Electric

System

Pressure

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