

REPORT ON BOILERS.

No. 86684

Received at London Office

31 MAY 1923

Date of writing Report 31 MAY 1923

When handed in at Local Office 30 May 1923

Port of London

No. in Survey held at

London

Date, First Survey 25 April

Last Survey 30 May 1923

No. 1789 on the Steel Twin Ss "WANGARATTA"

(Number of Visits 8)

Gross 1918
Net

Master

Built at

Belfast

By whom built

Workman Clark & Co

Yard No.

440

When built

1919

Engines made at

Belfast

By whom made

do

Engine No.

440

When made

"

Boilers made at

do

By whom made

do

Boiler No.

440

When made

"

Nominal Horse Power

1138

Owners

British India Steam Navigation Co Ltd

Port belonging to

Singapore

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

(Letter for Record ✓)

Total Heating Surface of Boilers

1487 ft²

Is forced draught fitted

No

Coal or Oil fired

Coal

No. and Description of Boilers

1 Single ended multitubular

Working Pressure 100 lbs

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately ✓

Area of Firegrate in each Boiler

41.25 ft²

No. and Description of safety valves to each boiler

2 Spring loaded 3" dia

Area of each set of valves per boiler

per Rule

as fitted

19.24 ft²

Pressure to which they are adjusted

100 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

Smallest distance between boilers or uptakes and bunkers or woodwork

Steel deckhouse

Is oil fuel carried in the double bottom under boilers

yes

Smallest distance between shell of boiler and tank top plating

✓

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

13'-0"

Length

10'-6"

Shell plates: Material

Steel

Tensile strength 28-30 tons

Thickness

7/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

and

long. seams

long. seams

BRS OR 3/4"

Diameter of rivet holes in

circ. seams

1"

Pitch of rivets

3.336"

Percentage of strength of circ. end seams

plate

70

Percentage of strength of circ. intermediate seams

plate

✓

Percentage of strength of longitudinal joint

plate

81.5

rivets

83.3

combined

Working pressure of shell by Rules 106 lbs

Thickness of butt straps

outer

7/16"

inner

7/16"

No. and Description of Furnaces in each Boiler

2 Register of

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

46"

Length of plain part

top

✓

bottom

✓

Thickness of plates

crown

1/2"

bottom

✓

Description of longitudinal joint

Weld

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

✓

Working pressure of furnace by Rules 156 lbs

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

3/32"

Pitch of stays

20" x 16 1/2"

How are stays secured

D. nuts + washers 9" dia x 7/16"

Working pressure by Rules 111 lbs

Tube plates: Material

front

Steel

back

Steel

Tensile strength

25"

32"

26-30 tons

Thickness

✓

Mean pitch of stay tubes in nests

13 1/2" x 9"

Pitch across wide water spaces

14 1/4"

Working pressure

front 105 lbs

back 100 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-30 tons

Depth and thickness of girder

at centre

7 1/8" x 1 1/2"

Length as per Rule

2'-9 1/4"

Distance apart

10 1/2"

No. and pitch of stays

in each

2 @ 9 1/4"

Working pressure by Rules

380 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

7/16"

Back

9/16"

Top

7/16"

Bottom

5/8"

Pitch of stays to ditto: Sides

10 1/2" x 8 1/4"

Back

9 1/4" x 8 1/8"

Top

10 1/2" x 9 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

105 lbs

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

3/32"

Lower back plate: Material

Steel

Tensile strength

26-30 tons

Thickness

3/4"

Pitch of stays at wide water space

13 1/2" x 8 1/8"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

177 lbs

Main stays: Material

Steel

Tensile strength

28-30 tons

Diameter

At body of stay,

2 1/4"

or

2 1/4"

No. of threads per inch

8

Area supported by each stay

16 1/2" x 20"

Working pressure by Rules

100 lbs

Screw stays: Material

Steel

Tensile strength

26-30 tons

Diameter

At turned off part,

1 3/8"

or

1 1/2"

No. of threads per inch

10

Area supported by each stay

86.6

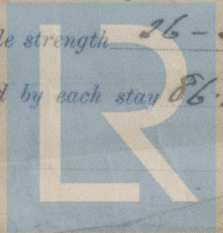
102.4

Over threads

1.22 ft

1.478 ft

W223-0108

Lloyd's Register
Foundation

Working pressure by Rules 100 Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 1 1/2" or Over threads 1 1/2" No. of threads per inch 10 Area supported by each stay 11 3/8 x 8 5/8 Working pressure by Rules 100 Tubes: Material Iron External diameter { Plain 3 1/4" Stay Thickness { 8 WG 5" No. of threads per inch 11 Pitch of tubes Plain 4 1/2" Working pressure by Rules 230 lbs Manhole compensation: Size of opening in shell plate 13 3/4" Section of compensating ring 20 x 1 1/2" No. of rivets and diameter of rivet holes 32 @ 3/4" Outer row rivet pitch at ends 8 1/2" Depth of flange if manhole flanged 5 1/4" 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 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 The foregoing is a correct description, Manufacturer.

Dates of Survey { During progress of work in shops - - while building { During erection on board vessel - - - Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval) Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This donkey boiler was built in 1919 under the survey of the British Corporation, now fully opened up, scantlings ascertained by actual measurement & found in accordance with plan. The boiler was found in new condition and is not used being too small for the use for which it was intended. Eligible in my opinion for classification + 100 lbs W.P.

Survey Fee ... See 1st Entry on Machinery ... When applied for, 192 Travelling Expenses (if any) ... When received, 192 Committee's Minute ... Assigned ... See other Rpt. Lon 86684 ... TUES. 2 OCT 1927 FRI. 15 JAN 1926 FRI. JUN. 8 1923 FRI. 12 MAR 1926 TUES. 25 NOV 1924 WED. 11 APR 1926 TUES. 18 AUG 1925 FRI. 26 FEB 1926 FRI. 23 NOV. 1924 TUE DEC. 18 1923 FRI 20 JUN 1924

