

REPORT ON MACHINERY.

Port of NagasakiTHUR. 8 MAY 1902
THUR. 11 MAY 1902No. in Survey held at
Reg. Book.NagasakiDate, first Survey 10th Jun. 1901 Last Survey 2nd April 1902

Received at London Office

on the

Steel Screw Steamer "Oura Maru"

(Number of Visits)

Master

Built at

Nagasaki

By whom built

The Mitsui Bishi & Co. Ltd. YokohamaTons ^{Gross} 712
_{Net} 414 2

Engines made at

Nagasaki

By whom made

The Mitsui Bishi & Co. Ltd. Yokohama

Boilers made at

"

By whom made

""""when made 1902

Registered Horse Power

Owners

The Mitsui Bishi Co.

Port belonging to

Nagasaki

om. Horse Power as per Section 28

68 88

Is Electric Light fitted

Yes.

ENGINES, &c.—Description of Engines

Triple ExpansionNo. of Cylinders ThreeNo. of Cranks 3

Diameter of Cylinders

13 : 22 : 36"

Length of Stroke

27"

Revolutions per minute

110

Diameter of Screw shaft

as per rule 7.16

Diameter of Tunnel shaft

as fitted 7/4"

Diameter of Crank shaft journals

7 1/2"

Diameter of Crank pin

8"

Size of Crank webs

10 3/4 x 5 1/4"

Diameter of screw

9" 6"

Pitch of screw

10" 0"

No. of blades

4

State whether moveable

Yes

Total surface

25 sq. ft.

No. of Feed pumps

2

Diameter of ditto

2 5/8"

Stroke

13 1/2"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

2 5/8"

Stroke

13 1/2"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

Two

Sizes of Pumps

Duplex 5 1/4 x 3 1/2 x 5"

No. and size of Suctions connected to both Bilge and Donkey pumps

BallastIn Holds, &c.Aft hold, two 2" dia. Tunnel 2" dia.

Engine Room

Three 2" dia.

No. of bilge injections

1

sizes

4"

Connected to condenser, or to circulating pump

Cir. p.

Is a separate donkey suction fitted in Engine room & size

Yes 4"

Are all the bilge suction pipes fitted with roses

Yes

Are the roses in Engine room always accessible

Yes

Are the sluices on Engine room bulkheads always accessible

None

Are all connections with the sea direct on the skin of the ship

Yes

Are they Valves or Cocks

Larger, valves; Smaller, Cocks.

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

Yes

Are the discharge pipes above or below the deep water line

below

Are they each fitted with a discharge valve always accessible on the plating of the vessel

Yes

Are the blow off cocks fitted with a spigot and brass covering plate

Yes

How are they protected

Forward suction

How are they protected

Strong wooden casings

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times

Yes.

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

Yes.

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

New vessel

Is the screw shaft tunnel watertight

Yes

Is it fitted with a watertight door

Yesworked from Upper & Rm platform

BOILERS, &c.—

(Letter for record S)

Total Heating Surface of Boilers

1558

Is forced draft fitted

No.

No. and Description of Boilers

One single-ended.

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbsDate of test 16.12.01 Can each boiler be worked separatelyYes

Area of fire grate in each boiler

47 1/2

No. and Description of safety valves to

Each boiler

Two, Spring loaded.

Area of each valve

2 3/4" dia

Pressure to which they are adjusted

185 lbs

Are they fitted

Yes

Easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

18"

Mean diameter of boilers

13" 3"

Length

10' 1"

Material of shell plates

Steel

Thickness

1/4"

Description of riveting: circum. seams

Double

long. seams

Double straps

Diameter of rivet holes in long. seams

1 5/16"

Pitch of rivets

9" x 4 1/2"

Lap of plates or width of butt straps

18"From riv.

Percentages of strength of longitudinal joint

87.25%

Working pressure of shell by rules

203 lbs

Size of manhole in shell

16" x 12"

No. of compensating ring

31 x 27 x 1 1/4"

No. and Description of Furnaces in each boiler

3 Morrison

Material

Steel

Outside diameter

42 1/4"

Length of plain part

top 9' 11 1/2"

Thickness of plates

bottom 9' 11 1/2"

Description of longitudinal joint

Welded

No. of strengthening rings

1

Working pressure of furnace by the rules

208 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

5/8"

Back

5/8"

Top

5/8"

Bottom

21/32"

Pitch of stays to ditto: Sides

8 1/2"

Back

8 1/2"

Top

8 3/4" x 8 1/2"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

185 lbs

Material of stays

Steel

Diameter at smallest part

1 1/2"

Area supported by each stay

72 1/4"

Working pressure by rules

196

End plates in steam space:

Material

Steel

Thickness

1 3/32"

Pitch of stays

18 1/2" x 17 1/2"

How are stays secured

Double nuts

Working pressure by rules

180 lbs

Material of stays

Steel

Diameter at smallest part

2 1/8"

Area supported by each stay

305 sq. in.

Working pressure by rules

210

Material of Front plates at bottom

Steel

Thickness

7/8"

Material of Lower back plate

Steel

Thickness

7/8"

Greatest pitch of stays

As appd

Working pressure of plate by rules

180 lbs

Diameter of tubes

3 1/4"

Pitch of tubes

4 3/4" x 4 3/8"

Material of tube plates

Steel

Thickness: Front

1"

Back

3/4"

Mean pitch of stays

9 1/8"

Pitch across wide water spaces

13 3/4"

Working pressures by rules

188 lbs

Girders to Chamber tops: Material

Steel

Depth and

Thickness7" deep

Length as per rule

25 1/2"

Working pressure by rules

200 lbs

Superheater or Steam chest; how connected to boiler

Yes

Can the superheater be shut off and the boiler worked

Yes

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivetPitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

Stiffened with rings

Distance between rings

Working pressure by rules

End plates: ThicknessHow stayed

Working pressure of end plates

Area of safety valves to superheaterAre they fitted with easing gearYes

DONKEY BOILER— Description *None.*

Made at _____ By whom made _____ When made _____ Where fixed _____
Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____
No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can
enter the donkey boiler _____ Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____
Description of riveting long. seams _____ Diameter of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____
Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____
Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of
joint _____ Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____
Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *Packing rings for each piston. Slide valve spindle
2 Xhd bolts & nuts. 2 Crank pin bolts & nuts. Xhd brasses. Crank pin brasses. 2 main-
bearing bolts. Set coupling bolts. $\frac{1}{20}$ " Condenser tubes. $\frac{1}{10}$ " Ferrules. Air pump rod.
 $\frac{1}{2}$ set A.P. valves. Feed valve & seat. Check valve & seat. Bilge valve & seat. Safety valve Spring
The foregoing is a correct description, *fire bars. Boiler tubes. Centrif. impeller. Assorted
Y. Sugitani* Manufacturer. *iron & bolts & nuts.**

Dates { During progress of work in shops - June 1901 - Dec 1901
of Survey { During erection on board vessel - Dec 1901 - March 1902
while building { Total No. of visits Continuous attendance.

General Remarks (State quality of workmanship, opinions as to class, &c.)

ENGINES—Length of stern bush *3' 0"* Diameter of crank shaft journals *as per rule 6' 8 2*
as fitted 7 1/2 Diameter of thrust shaft under collars *7 1/2"*
BOILERS—Range of tensile strength *27 to 32* Are they welded or flanged *No.* DONKEY BOILERS—No. _____ Range of tensile strength _____
Is the approved plan of main boiler forwarded herewith *Yes.* Is the approved plan of donkey boiler forwarded herewith *✓*

*The Engines & Boiler have been constructed & fitted on board under
Special Survey & the workmanship has been found good throughout.*

*The main & auxiliary steam & feed pipes & boiler mountings have been
tested by water pressure to double the working pressure & found satisfactory.
Suitable hydraulic tests have been applied to all the engine castings which
are intended to work under pressure.*

*The vessel is eligible in my opinion for the notation + L.M.C. 3-02
in red, in the Register.*

The report on the Electric lighting will be forwarded soon.

Speed on trial over 12 knots.

*It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 4. 02. Elec. light*

C.M.

13. 5. 02

A. L. Jones

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee. £ 1 : - : When applied for,
Special £ 15 : 6 : 29. 3. 02
Donkey Boiler Fee . . . £ : : When received,
Travelling Expenses (if any) £ : : 29. 3. 02

Committee's Minute

TUES. 13 MAY 1902

Assigned

+ L.M.C. 4. 02

Elect. light



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