

# REPORT ON MACHINERY.

Port of Nagasaki

RECEIVED 8 MAY 1902  
RECEIVED 11 MAY 1902

No. in Survey held at Nagasaki Date, first Survey 10<sup>th</sup> Jun. 1901 Last Survey 2<sup>nd</sup> April 1902  
Reg. Book. Nagasaki Received at London Office

on the Steel screw steamer "Oura Maru" (Number of Visits     ) Tons { Gross 712  
Net 414.2

Master Built at Nagasaki By whom built The Mitsui Bishi Dyk & Co. Ltd. When built 1902

Engines made at Nagasaki By whom made The Mitsui Bishi Dyk & Co. Ltd. when made 1902

Boilers made at " By whom made " when made 1902

Registered Horse Power      Owners The Mitsui Bishi Co. Port belonging to Nagasaki

nom. Horse Power as per Section 28 68 88 Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders Three No. 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 per rule 6.48 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 3/8" Stroke 13 1/2" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 2 3/8" 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" Gen. Purp. Ballast No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room Three 2" dia. In Holds, &c. Aft hold, two 2" dia. Fore hold, three 2" dia.

No. of bilge injections 1 sizes 4" Connected to condenser, or to circulating pump Yes 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 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 Yes worked 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 lbs

Date of test 16.12.01 Can each boiler be worked separately Yes Area of fire grate in each boiler 47 1/2 sq ft 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

with 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" Groove riv.

Percentages of strength of longitudinal joint 89.25% Working pressure of shell by rules 203 lbs Size of manhole in shell 16" x 12"

Size of compensating ring 31" x 27" x 1 1/4" No. and Description of Furnaces in each boiler 3 Motion Material Steel Outside diameter 42 1/4"

Length of plain part      Thickness of plates 9/16" Description of longitudinal joint Welded No. of strengthening rings     

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 sq in 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 apprx 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

Thickness of girder at centre 7" deep x 6" thick Length as per rule 25 1/2" Distance apart 8 3/4" x 7" Number and pitch of Stays in each Two: 8" pic.

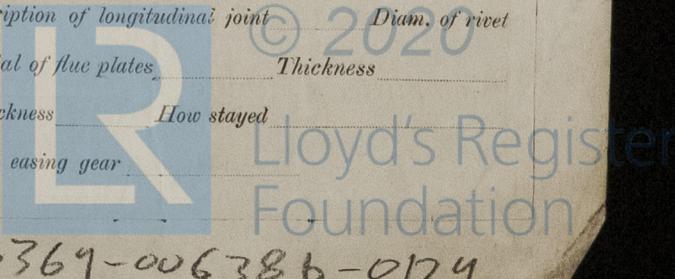
Working pressure by rules 200 lbs Superheater or Steam chest; how connected to boiler      Can the superheater be shut off and the boiler worked

separately      Diameter      Length      Thickness of shell plates      Material      Description of longitudinal joint      Diam. of rivet

    Pitch 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: Thickness      How stayed     

Working pressure of end plates      Area of safety valves to superheater      Are they fitted with easing gear     



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**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. \_\_\_\_\_

Plates \_\_\_\_\_

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. 1/20 Condenser tubes. 1/10 Ferrules. Air pump rod. 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* Diameter of thrust shaft under collars *7 1/2"*  
*as fitted 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*

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

*A. L. Jones*

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

Committee's Minute

TUES. 13 MAY 1902

Assigned

*+ L.M.C. 4. 02*

*Elect. light*



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