

REPORT ON MACHINERY.

Port of Nagasaki

Received at London Office

No. in Survey held at Nagasaki Date, first Survey 12 Nov 1902 Last Survey 2nd July 1903

eg. Book. on the Steel Screw Steamer "Niigata Maru" Tons { Gross 2183 Net 1353

Master Y. Kishi Built at Nagasaki By whom built Mitsui Bishi D. & E. Wks. When built 1903

Engines made at Nagasaki By whom made Mitsui Bishi Oryd. & Eng. Wks when made 1903

Boilers made at " By whom made " " " " " " when made 1903

Registered Horse Power Owners Nippon Yusen Kaisha Port belonging to Tokyo

nom. Horse Power as per Section 28 245 Is Electric Light fitted No.

GINES, &c.—Description of Engines Triple Expansion No. of Cylinders Three No. of Cranks Three

Diameter of Cylinders 21" 35" 58" Length of Stroke 36" Revolutions per minute 80 Diameter of Screw shaft as per rule 11.58" as fitted 12.14"

Diameter of Tunnel shaft as per rule 10.4" as fitted 10.34" Diameter of Crank shaft journals 11.74" Diameter of Crank pin 11.74" Size of Crank webs 17" x 7.74"

Diameter of screw 14" 0" Pitch of screw 16" 0" No. of blades 4 State whether moveable No Total surface 61.65"

No. of Feed pumps 2 Diameter of ditto 3.74" Stroke 21 Can one be overhauled while the other is at work Yes.

No. of Bilge pumps 2 Diameter of ditto 3.74" Stroke 21 Can one be overhauled while the other is at work Yes.

No. of Donkey Engines Four Sizes of Pumps 6.5" 4.5" 6" Dup. Feed Oryd. & Meir's 8.6" 21" Dup. No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 3' centre suction & 2.74" wing suction In Holds, &c. Two 2.74" to each of Nos 1, 2 & 3 holds. & 3" suction from tunnel well.

No. of bilge injections 1 sizes 8" Connected to condenser, or to circulating pump Cir. p. Is a separate donkey suction fitted in Engine room & size Yes 5" x 3"

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 Valves & 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

What pipes are carried through the bunkers Forward bilge suction How are they protected Wooden casing

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 E. platform.

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 3270 Is forced draft fitted Yes.

No. and Description of Boilers Two Single Ended Working Pressure 180 lbs Tested by hydraulic pressure to 370 lbs

Date of test 11.4.03 Can each boiler be worked separately Yes. Area of fire grate in each boiler 34.5 No. and Description of safety valves to

each boiler Two Direct Spring. Area of each valve 2.5 diam. Pressure to which they are adjusted 190 lbs Are they fitted

with easing gear Yes. Smallest distance between boilers or uptakes and bunkers or woodwork Several feet Mean diameter of boilers 12" 0"

Length 11" 3" Material of shell plates Steel Thickness 1/4" Description of riveting: circum. seams Double long. seams D. Straps. 3/8 riv.

Diameter of rivet holes in long. seams 1.5/16" Pitch of rivets 9/8" & rows Lap of plates or width of butt straps 18.74" x 1.18"

Per centages of strength of longitudinal joint rivets 88.0 Working pressure of shell by rules 224 lbs Size of manhole in shell 16" x 12"

Size of compensating ring 34.1/2 x 30.1/2 x 1.1/8" No. and Description of Furnaces in each boiler Two Morrison Material Steel Outside diameter 45.3/4"

Length of plain part top 19/32" bottom 19/32" Thickness of plates crown 19/32" bottom 19/32" Description of longitudinal joint Welded No. of strengthening rings 1

Working pressure of furnace by the rules 206 Combustion chamber plates: Material Stl. Thickness: Sides 7/8" Back 19/32" Top 1/16" Bottom 3/4"

Pitch of stays to ditto: Sides 7.1/2" x 8.1/2" Back 7.1/2" x 7.1/4" Top 8.3/4" x 8.1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 210 lbs

Material of stays Steel Diameter at smallest part 1.1/2" & 1.5/8" Area supported by each stay 44.3 Working pressure by rules 190 End plates in steam space:

Material Steel Thickness 1/32" Pitch of stays 17.1/2" x 16" How are stays secured Out nuts & Riv. washers. Working pressure by rules 213 Material of stays Steel

Diameter at smallest part 3" Area supported by each stay 262 Working pressure by rules 270 Material of Front plates at bottom Steel

Thickness 13/16" Material of Lower back plate Steel Thickness 5/8" Greatest pitch of stays 14" wide Working pressure of plate by rules 185

Diameter of tubes 2.1/2" Pitch of tubes 3.5/8" x 3.1/16" Material of tube plates Steel Thickness: Front 13/16" Back 11/16" Mean pitch of stays 4.1/16"

Pitch across wide water spaces 13.3/4" Working pressures by rules 185 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 7" x 1" plates Length as per rule 25.1/2" Distance apart 8.3/4" Number and pitch of Stays in each Two at 8.1/2"

Working pressure by rules 255 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

holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If 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



DONKEY BOILER— Description *Hor. Sing. Inded Multitubular. Particulars on separate form.*
 Made at *Nagasaki* By whom made *Mitsu Bishi Dryd & Eng Wks* When made *1903* Where fixed *In Stocked*
 Working pressure *120* tested by hydraulic pressure to *240* No. of Certificate *11/4/03* Fire grate area *20.4* Description of safety valves *Direct Springs*
 No. of safety valves *2* Area of each *2"* Pressure to which they are adjusted *125 lb* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No.* Diameter of donkey boiler *9" 0"* Length *9" 2"* Material of shell plates *Steel* Thickness *2 3/32*
 Description of riveting long. seams *Double Strap Double Riv.* Diameter of rivet holes *15/16* Whether punched or drilled *Drilled* Pitch of rivets *5 1/2 x 2 1/2*
 Lap of plating *10 1/2 x 11/16* Per centage of strength of joint *85.4* Rivets *85.4* Thickness of shell *End* plates *27.11.1* Radius of do. *Pitch* of stays to do. *14 1/2 x 13 1/2*
 Dia. of stays *2" u thro.* Diameter of furnace *Top 30 7/8"* Bottom Length of furnace *41 1/2"* Thickness of furnace plates *7/16* Description of joint *Welded* Thickness of furnace *c.c.* plates *1/2"* Stayed by *1 1/2" dia stay.* Support *59* Working pressure of shell by rules *147*
 Working pressure of furnace by rules *145 lb* Diameter of uptake Thickness of uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied:— *Two con. rod top end bolts & nuts, & bottom end ditto.*
Two main bearing bolts & nuts. Set coupling bolts & nuts. Six feed valves & seats.
Two bilge pump valves & seats. Set packing rings & springs for all pistons. Assorted bolts
nuts & iron. 1/3 Crank shaft. 1 Piston rod. Fr. Junk ring. Propeller shaft. &
The foregoing is a correct description, propeller. Pt. crank pin brasses, & main bearing do.
R. Midzutani Manufacturer. *Safety valve springs etc.*

Dates of Survey while building
 During progress of work in shops - *12th Nov. 1902 to 9th May 1903*
 During erection on board vessel - *9th May 1903 to 2nd July 1903*
 Total No. of visits *Continuous attendance.*

General Remarks (State quality of workmanship, opinions as to class, &c.)
ENGINES—Length of stern bush *4' 9 3/4"* Diameter of crank shaft journals *as per rule 10.9* as fitted *11 1/4"* Diameter of thrust shaft under collars *11 1/4"*
BOILERS—Range of tensile strength *27-32* Are they welded or flanged *No* **DONKEY BOILERS**—No. *1* Range of tensile strength *27-32*
 Is the approved plan of main boiler forwarded herewith *Yes.* Is the approved plan of donkey boiler forwarded herewith *Retained for reference.*

These engines & boilers have been built under special survey in accordance with the Rules, & the workmanship has been found good throughout.

Howden's system of forced draft is fitted.

The vessel is eligible in my opinion for the record of + & MC 7.03 in red in the Register.

It is submitted that this vessel is eligible for THE RECORD. - AMC 7.03 F.D.

Bel.
10.8.03
10.8.03

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

The amount of Entry Fee... £ *2* : - : When applied for.
 Special ... £ *48* : *7/6* : *30.6.03*
 Donkey Boiler Fee ... £ *3* : - : When received.
 Travelling Expenses (if any) £ : : *30.6.03*

TUES. 11 AUG 1903

Committee's Minute

Assigned

+ MC 7.03 FD

MACHINERY CERTIFICATE WRITTEN



Certificate (if required) to be sent to Nagasaki

The Surveyors are requested not to write on or within the space for Committee's Minute.