

# REPORT ON MACHINERY.

No. 1198  
28.1918

Received at London Office

Date of writing Report 5<sup>th</sup> Sept. 1918 When handed in at Local Office 5<sup>th</sup> Sept. 1918 Port of NAGASAKI. ON OCT. 28. 1918

No. in Survey held at NAGASAKI. Date, First Survey 1<sup>st</sup> Aug. 1917 Last Survey 3<sup>rd</sup> Sept. 1918  
Reg. Book. on the s.s. "Himalaya Maru" (Number of Visits 93)

Master K. Tashiro Built at Nagasaki By whom built Mitsubishi Zosen Kaisha When built 1918  
Engines made at Nagasaki By whom made Mitsubishi Zosen Kaisha when made 1918  
Boilers made at Nagasaki By whom made Mitsubishi Zosen Kaisha when made 1918

Registered Horse Power \_\_\_\_\_ Owners Osaka Shosen Kaisha Port belonging to Osaka  
Nom. Horse Power as per Section 28 494 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

### ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 26 1/2" 44 1/2" & 75" Length of Stroke 48" Revs. per minute 82 Dia. of Screw shaft as per rule 15.99" Material of Steel  
as fitted 16.5" screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No liner fitted Is the after end of the liner made water tight in the propeller boss Yes If the liner is in more than one length are the joints burned Yes If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 5' 6 1/8"

Dia. of Tunnel shaft as per rule 13.74" as fitted 14" Dia. of Crank shaft journals as per rule 14.43 3/4" as fitted 14.75" Dia. of Crank pin 15" Size of Crank webs 22 1/2" x 9 1/2" Dia. of thrust shaft under collars 14.75" Dia. of screw 18.3" Pitch of Screw 19.9" No. of Blades 4 State whether moveable Yes Total surface 96.8 sq. ft.

No. of Feed pumps 2 Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work Yes  
No. of Bilge pumps 2 Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 4 Sizes of Pumps General Service Duplex 7' x 5' x 7" Ballast " 9' x 2' x 10" 2 Feed Simplex 9 1/2' x 7' x 21" No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room 3 @ 3 1/2" In Holds, &c. No. 1 Hold 2 @ 3 1/2", No. 2 Hold 2 @ 3 1/2", Cross

Bunker 2 @ 3 1/2", No. 3 Hold 2 @ 3 1/2", No. 4 Hold 2 @ 3 1/2", Tunnel well 1 @ 2 1/2"  
No. of Bilge Injections 1 sizes 8" Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2"

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 Both

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 above  
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 None How are they protected Yes  
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

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Bridge deck

### BOILERS, &c.—(Letter for record S) Manufacturers of Steel Imperial Steel Works, Illinois Steel Co., & Kobe Steel Works

Total Heating Surface of Boilers 6591.3 Is Forced Draft fitted Yes No. and Description of Boilers 3 Cylindrical, single ended  
Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 13<sup>th</sup> May 1918 No. of Certificate 86

Can each boiler be worked separately Yes Area of fire grate in each boiler 574.52 sq. ft. No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 9.62 sq. in. Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 9.5" Mean dia. of boilers 14.0" Length 11.6" Material of shell plates Steel  
Thickness 1 5/16" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double Lap,  
long. seams Double riveted Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 1/2" & 7 1/2" Lap of plates or width of butt straps 20 1/2"

Per centages of strength of longitudinal joint 88.6 Working pressure of shell by rules 212 lbs. Size of manhole in shell 16" x 12"  
plate 85.5

Size of compensating ring 37" x 33" x 1 1/2" No. and Description of Furnaces in each boiler 3 Horizontal Material Steel Outside diameter 3' 9 1/2"  
Length of plain part top 9.11" bottom 9.11" Thickness of plates top 9.11" bottom 9.11" Description of longitudinal joint Welded No. of strengthening rings Yes

Working pressure of furnace by the rules 217 lbs. Combustion chamber plates: Material Steel Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 15/16"  
Pitch of stays to ditto: Sides 11 1/4" x 7 1/2" Back 9" x 10 1/2" Top 7" x 11 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 212 lbs.

Material of stays Steel Area at smallest part 2.02 sq. in. Area supported by each stay 81.6 sq. in. Working pressure by rules 223 lbs. End plates in steam space: Material Steel Thickness 1 3/32" Pitch of stays 18" x 20" How are stays secured double nuts Working pressure by rules 214 lbs. Material of stays Steel

Area at smallest part 7.67 sq. in. Area supported by each stay 360 sq. in. Working pressure by rules 221 lbs. Material of Front plates at bottom Steel  
Thickness 1" Material of Lower back plate Steel Thickness 1" Greatest pitch of stays 13 3/4" x 10 1/8" Working pressure of plate by rules 233 lbs.

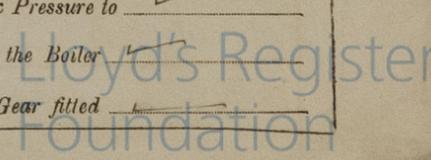
Diameter of tubes 3 1/4" Pitch of tubes 4 3/8" x 4 1/2" Material of tube plates Steel Thickness: Front 3/32" Back 3/32" Mean pitch of stays 11 1/8"  
Pitch across wide water spaces 13 3/4" Working pressures by rules 216 lbs. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10 1/4" x 8" Length as per rule 31.9" Distance apart 11 1/2" Number and pitch of stays in each 3 @ 7"

Working pressure by rules 214 lbs. Steam dome: description of joint to shell Yes % of strength of joint Yes  
Diameter Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet holes Yes

Pitch of rivets Yes Working pressure of shell by rules Yes Crown plates Yes Thickness Yes How stayed Yes

### SUPERHEATER. Type Yes Date of Approval of Plan Yes Tested by Hydraulic Pressure to Yes

Date of Test Yes Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes  
Diameter of Safety Valve Yes Pressure to which each is adjusted Yes Is Easing Gear fitted Yes



IS A DONKEY BOILER FITTED?

No.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— as per Rule, and in addition, 1 H.P. valve spindle, 1 L.P. valve spindle, 2 eccentric rods, 1 air pump rod, 1 set each of H.P. I.P. + L.P. packing rings, 1 set each of top and bottom brasses for one connecting rod, 13 junk ring bolts, 1 set of air pump valves, 1 impeller and spindle for circulating pump, 53 condenser tubes & 160 ferrules, 1 complete set of valves seats for main & donkey feed checks, 3 cylinder escape valves & springs, 1 safety valve spring & ...

The foregoing is a correct description,

NAGASAKI WORKS, LTD. ZOSHEN KAISHA, LTD.

*[Signature]*

Manufacturer.

Dates of Survey while building: 1917 Aug. 1, 23, 24, 25, 28, 29. Sept. 6, 8, 10, 12, 13, 24. Dec. 13, 14. 1918 Jan. 15, 20, Feb. 16, 20, 26, March 1, 19, 20, 27, 28, April 2, 4, 5, 11, 16, 18, 20, 24, May 1, 3, 6, 7, 9, 10, 13, 21, 22, 25, 27, 29, 31, June 3, 4, 6, 8, 11, 12, 13, 15, 17, 18, 20, 21, 22, 24, 25, 26, 27, 28, July 1, 2, 3, 4, 9, 10, 11, 13, 18, 19, 20, 22, 23, 24, 26, 27, 29, 31, Aug. 1, 2, 3, 5, 6, 9, 10, 12, 13, 20, 22, 27, Sept. 3. Total No. of visits: 93. Is the approved plan of main boiler forwarded herewith? Yes.

Dates of Examination of principal parts—Cylinders 26, 27, 7, 18. Slides 5, 8, 18. Covers 26, 27, 7, 18. Pistons 22, 7, 18. Rods 5, 8, 18. Connecting rods 29, 7, 18. Crank shaft 20, 6, 18. Thrust shaft 20, 6, 18. Tunnel shafts 20, 6, 18. Screw shaft 20, 6, 18. Propeller 22, 7, 18. Stern tube 13, 7, 18. Steam pipes tested 1+13, 8, 18. Engine and boiler seatings 11, 7, 18. Engines holding down bolts 9, 8, 18. Completion of pumping arrangements 20, 8, 18. Boilers fixed 9, 8, 18. Engines tried under steam 22, 8, 18. Completion of fitting sea connections 6, 8, 18. Stern tube 2, 8, 18. Screw shaft and propeller 3, 8, 18. Main boiler safety valves adjusted 20, 8, 18. Thickness of adjusting washers Jammed nuts. Material of Crank shaft Steel Identification Mark on Do. No 145 A.S.W. Material of Thrust shaft Steel Identification Mark on Do. No 145 A.S.W. Material of Tunnel shafts Steel Identification Marks on Do. No 145 A.S.W. Material of Screw shafts Steel Identification Marks on Do. No 145 A.S.W. Material of Steam Pipes Solid drawn Steel & Copper Test pressure 600lbs. & 400lbs. per sq. in. Is an installation fitted for burning oil fuel? Yes. Is the flash point of the oil to be used over 150°F? Yes.

Have the requirements of Section 49 of the Rules been complied with? Yes. Is this machinery duplicate of a previous case? Yes. If so, state name of vessel "Somedono Maru".

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

These Engines and Boilers have been constructed under Special Survey, in accordance with the Rules, and of good materials and workmanship. They have been securely fitted on board and have been satisfactorily tried under steam.

The machinery of this vessel is eligible, in my opinion, for the record of LMC 9.18 in the Register Book.

Mean speed of 6 Runs on Trial in Light Condition (water Ballast) = 15.065 knots.

It is submitted that this vessel is eligible for THE RECORD. + LMC 9.18 FR. 30-10-18 J.P.R.

The amount of Entry Fee ... £ 3,000 : When applied for, Special ... £ 67,26 : 5th Sept. 1918 Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ : : 7th Sept 1918

a.v. Williamson Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 1-NOV. 1918 Assigned + L.M.C. 9.18 F.D.



Certificate (if required) to be sent to Nagasaki Office. The Surveyors are requested not to write on or below the space for Committee's Minute.