

Received at London Office MON. 22 MAY. 1916

Date of writing Report 12<sup>th</sup> Apr. 1916 When handed in at Local Office 19 Port of Kobe  
 No. in Survey held at Innoshima & Osaka Date, First Survey 18 Aug. 1915 Last Survey 20<sup>th</sup> March 1916  
 Reg. Book. new on the Steel Single Screw Steamer "Suki Maru" (Number of Visits 33)  
 Master M. Masuda Built at Innoshima By whom built Osaka Iron Works of Innoshima When built 1916-3  
 Engines made at Osaka By whom made Osaka Iron Works when made 1916  
 Boilers made at do By whom made do when made do  
 Registered Horse Power 288 Owners Iatsunuma Goshi Kaisha Port belonging to Yabu  
 Nom. Horse Power as per Section 28 288 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

**Engines, &c.** — Description of Engines *Triple Expansion* No. of Cylinders *Three* No. of Cranks *Three*  
 No. of Cylinders *22 : 37 : 61* Length of Stroke *42* Revs. per minute *70* Dia. of Screw shaft *as per rule 12.8* Material of screw shaft *Steel*  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube *Yes* Is the after end of the liner made water tight  
 Is the propeller boss *Yes* If the liner is in more than one length are the joints burned *✓* 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 *✓* If two  
 liners are fitted, is the shaft lapped or protected between the liners *✓* Length of stern bush *4" 8 3/4"*  
 Dia. of Tunnel shaft *as per rule 11.2* Dia. of Crank shaft journals *as per rule 11.77* Dia. of Crank pin *12"* Size of Crank webs *7 3/8 x 23* Dia. of thrust shaft under  
 collars *12"* Dia. of screw *16" 0"* Pitch of Screw *16" 0"* No. of Blades *4* State whether moveable *No* Total surface *73 1/2 sq. ft.*  
 No. of Feed pumps *Two* Diameter of ditto *3 1/4"* Stroke *24"* Can one be overhauled while the other is at work *Yes*  
 No. of Bilge pumps *Two* Diameter of ditto *3 1/2"* Stroke *24"* Can one be overhauled while the other is at work *Yes*  
 No. of Donkey Engines *Two* Sizes of Pumps *Bal. 7 x 8 1/2 x 9 Dup* No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room *Two 3" & in Boiler rm. two 3"* In Holds, &c. *Two 3" in each hold. After hold 3 1/2"*  
 Tunnel well *2 1/2"*  
 No. of Bilge Injections *1* sizes *4"* 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 *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 *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 *✓*  
 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*  
 Dates of examination of completion of fitting of Sea Connections *14 Mar.* of Stern Tube *4 Mar.* Screw shaft and Propeller *14 March.*  
 Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Upper grating in Eng. Rm.*

**BOILERS, &c.**—(Letter for record. (S) Manufacturers of Steel  
 Total Heating Surface of Boilers 3821 Is Forced Draft fitted No No. and Description of Boilers Two Single Ended.  
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 29.10.15 No. of Certificate 346 LBS  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 45 No. and Description of Safety Valves to  
 each boiler Two. Spring loaded. Area of each valve 3 1/4 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 10" Mean dia. of boilers 13' 6" Length 11' 6" Material of shell plates Steel  
 Thickness 1 3/32 Range of tensile strength 28 3/4 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double riv.  
 long. seams Double riv. Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 8 1/2 x 4 1/16 Lap of plates or width of butt straps 17 3/4 x 1  
 Per centages of strength of longitudinal joint rivets 92.9 & 88.5 comb Working pressure of shell by rules 184 lbs Size of manhole in shell 12' x 16" in end pl.  
 Size of compensating ring Hanged end pl No. and Description of Furnaces in each boiler 3 Brighton Material Steel Outside diameter 40 1/4"  
 Length of plain part top Thickness of plates crown 1/2" Description of longitudinal joint Weld. No. of strengthening rings  
 Working pressure of furnace by the rules 187 lbs Combustion chamber plates: Material Steel Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 7/8"  
 Pitch of stays to ditto: Sides 9' x 10" Back 8 3/4' x 10" Top 9' x 10 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 187 lbs  
 Material of stays Steel Diameter at smallest part 2-1" Area supported by each stay 94 1/2" Working pressure by rules 200 lbs End plates in steam space  
 Material Steel Thickness 13/8" Pitch of stays 25' x 19" How are stays secured Double nuts Working pressure by rules 181 lbs Material of stays Steel  
 Diameter at smallest part 3 1/4" Area supported by each stay 25' x 19" Working pressure by rules 180 lbs Material of Front plates at bottom Steel  
 Thickness 1" Material of Lower back plate Steel Thickness 15/16" Greatest pitch of stays 14" Working pressure of plate by rules 180 lbs  
 Diameter of tubes 3" Pitch of tubes 4 3/8' x 4 1/4" Material of tube plates Steel Thickness: Front 1" Back 13/16" Mean pitch of stays 10 1/2"  
 Pitch across wide water spaces 14" Working pressures by rules 180 lbs Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 9 1/2' x 13" (two) Length as per rule 32" Distance apart 10 1/2" Number and pitch of stays in each 2 @ 9"  
 Working pressure by rules 202 lbs Superheater or Steam chest; how connected to boiler  
 Can the superheater be shut off and the boiler worked  
 separately Yes 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



IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 Crosshead bolts & nuts. 2 crank pin bolts & nuts. 2 main bearing bolts & nuts. Set coupling bolts & nuts. Fed & bilge pump valves. Set piston springs. Assorted bolts & nuts. Iron of various sizes.

The foregoing is a correct description,

OSAKA IRON WORKS, LTD.

*T. Yamaguchi*

Manufacturer.

MANAGING DIRECTOR

Dates of Survey while building { During progress of work in shops -- Aug 18. 21. 24. 27. Sep 2. 15. 17. 22. Oct 5. 9. 14. 22. 28. <sup>29</sup> Nov. 9. 19. 26. 29. Dec 2. Dec. 17. 21. 28. 29. 1915. Jan. 12. 14. 15 Feb. 10. 14. 18. Feb. 10. 14. 18. 27. March 4. 14. 20 - 1916. During erection on board vessel -- Total No. of visits 33.

Is the approved plan of main boiler forwarded herewith Forwarded with Rep. No. 1737 "on the S/S 'Tensho Maru'" "donkey"

Dates of Examination of principal parts—Cylinders 26 Nov. 1915 Slides 29 Nov. 1915 Covers 29 Nov. 1915 Pistons 14 Oct. 1915 Rods 5 Oct. 1915 Connecting rods 5 Oct. 1915 Crank shaft 10. 10. 15 Thrust shaft 22. 1. 16 Tunnel shafts 14. 1. 16 Screw shaft 14. 1. 16 Propeller Jan 12 1916 Stern tube 15 Jan 1916 Steam pipes tested 4 Mar. 1916 Engine and boiler seatings 29/12/15 1915 Engines holding down bolts 27 Feb. 1916 Completion of pumping arrangements 14 March 1916 Boilers fixed 27 Feb. 1916 Engines tried under steam 20 March 1916 Main boiler safety valves adjusted 14 Mar. 1916 Thickness of adjusting washers 1/2"

Material of Crank shaft Steel Identification Mark on Do. R 10. 10. 15 Material of Thrust shaft Steel Identification Mark on Do. R 22. 1. 16 Material of Tunnel shafts Steel Identification Marks on Do. R 14. 1. 16 Material of Screw shafts Steel Identification Marks on Do. R 14. 1. 16 Material of Steam Pipes Steel Test pressure 540 lbs per sq. in.

Is an installation fitted for burning oil fuel No

Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with.

Is this machinery duplicate of a previous case Yes

If so, state name of vessel. "Peking Maru" "Nankang Maru" "Tensho Maru" "Yuki Maru" "Kosoku Maru" "Katsin Maru" Kobe Rpt Nos 1487 1520 1737 1758 1759 1779

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

The machinery has been made & fitted under Special Survey in accordance with the Rules. The workmanship has been found good.

The Shafting has been made under Survey at the Kobe Steel Works.

A Report on the Electric Lighting is forwarded.

The Machinery in my opinion renders the vessel eligible for the Record + LMC 3. 16

It is submitted that this vessel is eligible for THE RECORD + LMC 3. 16. E.D.

*J.W.D.* 27/5/16.

*J.P.R.*

The amount of Entry Fee ... yen 20 : When applied for, Special ... yen 516 : 27<sup>th</sup> Mar. 1916 Donkey Boiler Fee ... £ : When received, Travelling Expenses (if any) £ : 31<sup>st</sup> Mar. 1916

*Arthur L. Jones*

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

Committee's Minute TUE. MAY. 23. 1916

med.

+ LMC 3. 16. J.D.

MACHINERY CERTIFICATE WRITTEN.



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