

REPORT ON MACHINERY.

No. 2521
SAT. 9 AUG. 1919

Received at London Office

Date of writing Report 19 When handed in at Local Office 10 Port of Kobe

No. in Survey held at Osaka + Imoshima Date, First Survey 14-10-18 Last Survey 30-1-1919

Reg. Book. on the Steel Single Screw Steamer "Yomei Maru" (Number of Visits)

Master Built at Imoshima By whom built Osaka Iron Works Ltd When built 1919

Engines made at Osaka By whom made Osaka Iron Works Ltd when made April 1919

Boilers made at do By whom made do when made April 1919

Registered Horse Power Owners Port belonging to Shinhaman

Nom. Horse Power as per Section 28 550 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Quadruple Expansion No. of Cylinders 4 No. of Cranks 4

Dia. of Cylinders 23" x 33" x 44" x 68" Length of Stroke 51" Revs. per minute 80 Dia. of Screw shaft 1 1/2" Material of screw shaft Forged 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

In 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 5' 1" ✓

Dia. of Tunnel shaft as per rule 13.15 as fitted 1 1/2" Dia. of Crank shaft journals as per rule 13.81 as fitted 1 1/2" Dia. of Crank pin 1 1/2" Size of Crank webs 2 1/2" x 1 1/2" x 2 1/2" x 2 1/2" Dia. of thrust shaft under collars 1 1/2" Dia. of screw 14" 9" Pitch of Screw 18" 6" No. of Blades 4 State whether moveable yes Total surface 100 sq. ft.

No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work yes ✓

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 27" Can one be overhauled while the other is at work yes ✓

No. of Donkey Engines 3 Sizes of Pumps Ballast 10" x 13" x 13" dupl. No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Bilge main 4 1/2" or 3 1/2" Donkey feed 8" x 10" x 21" In Holds, &c. No. 1, 2 + 3 2-3 1/2" each No. 3

No. of Bilge Injections 1 sizes 9 1/2" Connected to condenser, or to circulating pump or 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 yes

Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Both used ✓

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 Voice tubes, electric pipes How are they protected with wood covering ✓

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 ✓

OILERS, &c.—(Letter for record 8198 #S) Manufacturers of Steel Otis Steel Co. Lukens Stl. Co. Cambria Stl. Co. American spiral pipe works (for furnace)

Total Heating Surface of Boilers 8198 sq. ft. Is Forced Draft fitted yes No. and Description of Boilers 3 single ended multitubular marine types

Working Pressure 225 lbs. Tested by hydraulic pressure to 450 lbs. Date of test 8th 45th Mar. 1919 No. of Certificate LLOYD'S TEST 458 lbs 9/3/19 15319 Y.J. 2

Can each boiler be worked separately yes Area of fire grate in each boiler 61.8 sq. ft. No. and Description of Safety Valves to each boiler 2 spring loaded Area of each valve 3" Pressure to which they are adjusted 220 lbs. Are they fitted with easing gear yes ✓

Smallest distance between boilers or uptakes and bunkers or woodwork 19" Mean dia. of boilers 15" 0" Length 12' 0" Material of shell plates steel

Thickness 1 1/2" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Description of riveting: cir. seams Doub. riv. long. seams Hebriv. straps Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10 1/2" x 5 1/2" Lap of plates or width of butt straps 1 1/4" x 1 1/2" (in)

Per centages of strength of longitudinal joint rivets 92.7 plate 84.7 Working pressure of shell by rules 238.1 Size of manhole in shell 16 x 12

Size of compensating ring 3'-2" x 2'-10" No. and Description of Furnaces in each boiler 3 Morrison Material steel Outside diameter 3' 11 1/4"

Length of plain part top bottom Thickness of plates crown 1 1/2" bottom 1 1/2" Description of longitudinal joint Weld No. of strengthening rings 7

Working pressure of furnace by the rules 239.8 Combustion chamber plates: Material steel Thickness: Sides 1 1/2" Back 1 1/2" Top 1 1/2" Bottom 7/8

Pitch of stays to ditto: Sides 8 x 8-8 1/2 Back 8 x 8 1/2 Top 8 x 8 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 239

Material of stays steel Area at smallest part 2.1 x 2.43" Area supported by each stay 8 x 11 3/8 Working pressure by rules 241 End plates in steam space: Material steel Thickness 1 1/2" Pitch of stays 18" x 20" How are stays secured Doub. nuts washer Working pressure by rules 255 lbs. Material of stays steel

Area at smallest part 8-4 1/2" Area supported by each stay 18 x 20 Working pressure by rules 253 lbs. Material of Front plates at bottom steel

Thickness 8" Material of Lower back plate steel Thickness 3/8" Greatest pitch of stays 1 1/4" at Nida Working pressure of plate by rules 225 lbs. space for stays doubled 7/8"

Diameter of tubes 3" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates steel Thickness: Front 7/8 Back 7/8 Mean pitch of stays 9 1/4

Pitch across wide water spaces 13 1/2" x 2 1/2" Working pressures by rules 297 lbs. Girders to Chamber tops: Material steel Depth and thickness of girder at centre 9 1/2" x 2" Length as per rule 2' 9 1/2" Distance apart 8 1/2" Number and pitch of stays in each 3 x 8"

Working pressure by rules 280 lbs. Steam dome: description of joint to shell % of strength of joint

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

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

Total No. of Visits 30 PERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two Connecting rods top end bolts+nuts	Quantity of assorted bolts+nuts	One set of eccentric rods
Two Connecting rods bottom end bolts+nuts	Iron of various sizes	Air pump rod
Two main bearing bolts	One spare propeller blades	Two safety valve springs
One set coupling bolts	One spare propeller shaft	
One set feed + bilge pump valves	Set crank pin + crosshead brasses	
One set piston springs	One set of slide valve rods	

The foregoing is a correct description,



Gisaburo Yumoto

Dates of Survey while building: (During progress of work in shops --) Oct. 14th, 18, 21; Nov. 5th, 9th, 20; Dec. 23, 25th, 1918; Jan. 8, 13, 15, 20, 23, 27, 28; Febr. 1, 3, 7, 10, 14, 17, 20, 26
 (During erection on board vessel ---) March 5, 7, 8, 10, 14, 15, 17, 26; Apr. 1, 10, 15, 19, 30th
 Total No. of visits: Thirty seven Is the approved plan of main boiler forwarded herewith yes
 " " " donkey " " " "

Dates of Examination of principal parts—Cylinders 20/1/19 etc. Slides 23/1/19 Covers 20/1/19 Pistons 28/1/19 Rods 8/1/19
 Connecting rods 8/1/19 etc. Crank shaft 5-11-18 Thrust shaft 12/7/1918 Tunnel shafts 28-5-18 Screw shaft 12-7-18 Propeller 7/3/19
 Stern tube 19-2-19 Steam pipes tested 5-4-19 Engine and boiler seatings 27-2-19 Engines holding down bolts 11-4-
 Completion of pumping arrangements 15-4-19 Boilers fixed 26-3-19 Engines tried under steam 17-4-19
 Completion of fitting sea connections 7-3-19 Stern tube 19-2-19 Screw shaft and propeller 7-3-19
 Main boiler safety valves adjusted 11-4-19 Thickness of adjusting washers Cock nuts
 Material of Crank shaft Forged steel Identification Mark on Do. 7405, 7541, 7536 Material of Thrust shaft Forged steel Identification Mark on Do. 7536
 Material of Tunnel shafts Forged steel Identification Marks on Do. 7505, 7436, 7523, 7425, 7541, 8395 Material of Screw shafts Forged steel Identification Marks on Do. 796
 Material of Steam Pipes Solid drawn steel Test pressure 675 lbs.

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 no If so, state name of vessel

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

The Machinery has been made and fitted under special Survey in accordance with the requirements of the Rules and the material and workmanship have been found good. The Machinery is eligible in my opinion for the record of **+L.M.C. 12-18.** See above

It is submitted that this vessel is eligible for THE RECORD. +L.M.C. 4.19 F.D.

R.M. 14/8/19

APR

Certificate (if required) to be sent to

The amount of Entry Fee ...	£ 30.-	When applied for,
Special ...	£ 228.-	19
Donkey Boiler Fee ...	£	When received,
Travelling Expenses (if any) £		19

John Sim
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute FRI. 14 NOV. 1919

Assigned +L.M.C. 4.19 *J.D.*