

# REPORT ON MACHINERY.

No. 2606.

Received at London Office

Writing Report

19

When handed in at Local Office

19

Port of Kobe

Survey held at Kobe and Otaru. Date, First Survey 25<sup>th</sup> Febry. Last Survey 29<sup>th</sup> June 1919.

on the Steel Single Screw Steamer "Yayo Maru" (Number of Visits 12) during erection.

Built at Otaru By whom built The Harima Dockyard Coy. When built 1919

made at Kobe By whom made Kobe Steel Works. when made 1919

made at Kobe By whom made Kobe Steel Works. when made 1919

Horse Power 547. Owners Teikoku Steamship Co. Port belonging to

Horse Power as per Section 28 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes.

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

Cylinders 27:45:75. Length of Stroke 51 Revs. per minute 70. Dia. of Screw shaft as per rule 15 1/4 Material of screw shaft as fitted 16. Material of screw shaft Steel.

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

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

the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive. If two

are fitted, is the shaft lapped or protected between the liners. Length of stern bush 11-5 3/4.

Tunnel shaft as per rule 13-67. Dia. of Crank shaft journals as per rule 14-35. Dia. of Crank pin 15. Size of Crank webs 4-6 x 2-4. Dia. of thrust shaft under

14 3/4. Dia. of screw 18-6. Pitch of Screw 8-9. No. of Blades 4 State whether moveable Yes Total surface 106.44 sq. ft.

Feed pumps 2 Diameter of ditto 5 Stroke 25 1/2 Can one be overhauled while the other is at work Yes

Bilge pumps 2 Diameter of ditto 5 Stroke 25 1/2 Can one be overhauled while the other is at work Yes.

Donkey Engines Three. Sizes of Pumps 95 D. 7 x 4 x 7. No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 2 @ 3 1/2. In Holds, &c. No 1 hold 2 @ 3 1/2. No 2 hold 2 @ 3 1/2

hold 2 @ 3 1/2. No 4 hold 2 @ 3 1/2. No 5. 2 @ 3 1/2. Tunnel well

Age Injections 1 sizes 8 3/4. Connected to condenser, or to circulating pump Circ pp. Is a separate Donkey Suction fitted in Engine room & size 1 @ 3 1/2.

Are 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

connections with the sea direct on the skin of the ship Yes. Are they Valves or Cocks Larger valves, smaller cocks.

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

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

Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes.

Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes.

Screw Shaft Tunnel watertight Yes. Is it fitted with a watertight door Yes. worked from E.R. top platform.

RS, &c.—(Letter for record S.) Manufacturers of Steel Cambria Steel Co. USA & American Spiral Pipe Works.

Heating Surface of Boilers 7974 sq. ft. Is Forced Draft fitted Yes. No. and Description of Boilers Three Single ended.

Pressure 190 lbs. Tested by hydraulic pressure to 380 lbs. Date of test April 14, 18, 24. No. of Certificate LLOYD'S TEST. 380 LBS. 14. 18. 24. ALT. R.

boiler be worked separately Yes. Area of fire grate in each boiler 64 sq. ft. No. and Description of Safety Valves to

Two Spring loaded. Area of each valve 4. Pressure to which they are adjusted 190 lbs. Are they fitted with easing gear Yes.

distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers 15-9. Length 11-9. Material of shell plates Steel

1/2. Range of tensile strength 28-32 lbs. Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams DRK.

ms TRABS. Diameter of rivet holes in long. seams 1 7/16. Pitch of rivets 9 7/8. Gap of plates or width of butt straps 20 3/16.

ages of strength of longitudinal joint rivets 98. Working pressure of shell by rules 214. Size of manhole in shell 16 x 12.

compensating ring 3-4 x 2-6 x 1/2. No. and Description of Furnaces in each boiler Three Morrison Material Steel Outside diameter 4-1 3/4.

of plain part top. Thickness of plates crown 5/8. Description of longitudinal joint Welded. No. of strengthening rings

pressure of furnace by the rules 202 lbs. Combustion chamber plates: Material Steel Thickness: Sides 21/32 Back 23/32. Top 21/32. Bottom 1"

stays to ditto: Sides 9 7/8 x 8 1/4. Back 9 7/8 x 9. Top 9 x 8 1/4. If stays are fitted with nuts or riveted heads Nuts. Working pressure by rules 200 lbs.

l of stays Steel Area at smallest part 1.79 x 2.10 Area supported by each stay 88.87 sq. in. Working pressure by rules 212. End plates in steam space:

Steel Thickness 1 1/4. Pitch of stays DR. W. How are stays secured DR. W. Working pressure by rules 196. Material of stays Steel.

at smallest part 7.50. Area supported by each stay Working pressure by rules 208. Material of Front plates at bottom Steel.

Material of Lower back plate Steel. Thickness 7/8. Greatest pitch of stays 14 1/2. Working pressure of plate by rules 190 lbs.

of tubes 3. Pitch of tubes 4 1/4. Material of tube plates Steel Thickness: Front 3/32. Back 7/8. Mean pitch of stays 9.26.

across wide water spaces 14. Working pressures by rules 275. Girders to Chamber tops: Material Steel. Depth and

s of girder at centre 9 3/4 x 1 1/2. Length as per rule 34. Distance apart 9. Number and pitch of stays in each 3 @ 8 1/4.

g pressure by rules 190 lbs. Steam dome: description of joint to shell % of strength of joint

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

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

REHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

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

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

007626-007638



IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two connecting rod top end bolts & nuts.  
Two connecting rod bottom end bolts & nuts.  
Two main bearing bolts and nuts.  
One set coupling bolts & nuts.  
One set of feed and relief pump valves.  
One set of piston springs.

Quantity of assorted bolts & nuts.  
Some of various sizes.

The foregoing is a correct description,

*M. Matsuda*

Manufacturer.



Dates of Survey while building  
During progress of work in shops -- Continuous attendance. 25<sup>th</sup> February. - 8<sup>th</sup> April.  
During erection on board vessel -- May 5, 6, 8, 14, 22, 23, 29 June 2, 23, 24, 26, & 29<sup>th</sup>.  
Total No. of visits 12 during erection.

Is the approved plan of main boiler forwarded herewith *Yes*.

Dates of Examination of principal parts—Cylinders 17<sup>th</sup> Jan'y. Slides 17<sup>th</sup> Jan'y. Covers 17<sup>th</sup> Jan'y. Pistons 17<sup>th</sup> Jan'y. Rods 23. 8. 18.  
Connecting rods 13 May. 18. Crank shaft 29 April 18. Thrust shaft 9. 8. 18. Tunnel shafts 3. 2. 19. Screw shaft 4. 6. 18. Propeller 12. 5. 19. 2. 6.  
Stern tube Steam pipes tested 9<sup>th</sup> June. Engine and boiler seatings May 2<sup>nd</sup>. Engines holding down bolts 10<sup>th</sup> May.  
Completion of pumping arrangements 23<sup>rd</sup> June. Boilers fixed 5<sup>th</sup> May. Engines tried under steam 23<sup>rd</sup> June.  
Completion of fitting sea connections June 2<sup>nd</sup>. Stern tube 19<sup>th</sup> May. Screw shaft and propeller 16. 5. 19. 2. 6. 19.  
Main boiler safety valves adjusted 23<sup>rd</sup> June. Thickness of adjusting washers Lock nuts.  
Material of Crank shaft Steel. Identification Mark on Do. 10. 11. 18. 20. 11. 18. Material of Thrust shaft Steel. Identification Mark on Do. 10. 11. 18. 20. 11. 18.  
Material of Tunnel shafts Steel. Identification Marks on Do. 10. 11. 18. 20. 11. 18. Material of Screw shafts Steel. Identification Marks on Do. 10. 11. 18. 20. 11. 18.  
Material of Steam Pipes Copper. Test pressure 380 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 *Yes*. If so, state name of vessel *S. S. Eastern Shore. Yore Maru*

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 materials and workmanship have been found good. In my opinion the machinery is eligible for the Record of L.M.C. June 1919.

It is submitted that  
this vessel is eligible for  
THE RECORD. + L.M.C. 6. 19

F.D.

*JUD* 18/11/19

*GROR*

*R. B. Batcher*

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ *4/6* 30. 00.  
Special ... £ 8 55. 00.  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 30<sup>th</sup> June 1919.  
When received, 3<sup>rd</sup> July 1919.

Committee's Minute

Assigned *+ L.M.C. 6. 19.*



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