

# REPORT ON MACHINERY

No. 3034

SAT. 16 APR. 1921

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19 Port of Kobe

No. in Survey held at Kobe Date, First Survey Nov. 3<sup>rd</sup> 1919 Last Survey Nov. 18<sup>th</sup> 1920

Reg. Book. on the Steel Single Screw Steamer "PACIFIC MARU" (Number of Visits 86)

Master R. Ishidzuka Built at Kobe By whom built Kawasaki Dockyard Co. Ltd. Tons } Gross 5872.89  
Net 4253.84

Engines made at Kobe By whom made Kawasaki Dockyard Co. Ltd. when made 1920

Boilers made at do By whom made do when made 1920

Registered Horse Power \_\_\_\_\_ Owners Kawasaki Dockyard Co. Ltd. Port belonging to Kobe

Nom. Horse Power as per Section 28 440 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 3

Dia. of Cylinders 26" 43/2" 72" Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 15.41 Material of steel  
as fitted 16" screw shaft)

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No liner Is the after end of the liner made water tight in the propeller boss ✓

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'-5 1/4"

Dia. of Tunnel shaft as per rule 13.48 Dia. of Crank shaft journals as per rule 14.15 Dia. of Crank pin 14 3/4" Size of Crank webs 9 1/2" x 20 1/2" Dia. of thrust shaft under collars 14 3/8" Dia. of screw 17'-6" Pitch of Screw 19'-0" mean No. of Blades 4 State whether moceable Yes Total surface 100 sq. ft.

No. of Feed pumps One Diameter of ditto 5" Stroke 24 Can one be overhauled while the other is at work Yes (with Weir's Feed)

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

No. of Donkey Engines Seven Sizes of Pumps Ballast 10" x 11" x 12" dupl. No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three 3 1/2" Donkey 7 1/2" x 5" x 6" dupl. Oil 5 1/2" x 5 1/2" x 8" Oil 10" x 7" x 10" Oil pumps 6 x 3 1/2" x 6" Sing. No. 1, 3 + 4 Holds each two 3 1/2"

One 3 1/2" to Tunnel Well No. 2 Hold two 4"

No. of Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump Cir. pp. 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

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper platform of Eng. Rm.

## BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Carnegie Steel Co. Illinois Steel Co. Marine Furnace Assn + Kawasaki Hyogo works.

Total Heating Surface of Boilers = 56360 Is Forced Draft fitted Yes No. and Description of Boilers Two 5. 6 + Auscy. 5. 6.

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 10-6-20; 15-6-20 No. of Certificate No. 11105 TEST WT. 400 LBS. W.P. 200 LBS. 10-6-20 A.W.R. No. 21105 TEST WT. 400 LBS. W.P. 200 LBS. 15-6-20 A.W.R.

Can each boiler be worked separately Yes Area of fire grate in each boiler 60 1/2 No. and Description of Safety Valves to each boiler Two Spring Loaded Area of each valve 3 3/4" dia. 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 12" Mean dia. of boilers 14'-6" Length 12'-0" Material of shell plates steel

Thickness 1 3/8" Range of tensile strength 26-78 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Ends double riveted

long. seams Double riveted Diameter of rivet holes in long. seams 1 7/16" Pitch of rivets 9 1/8" + 4 1/16" Lap of plates or width of butt straps 20 1/8" + 1 3/8"

Per centages of strength of longitudinal joint rivets 95.84 Working pressure of shell by rules 212 lbs. Size of manhole in shell 16" x 12"

Size of compensating ring (7/8" flange) 1 5/16" No. and Description of Furnaces in each boiler 3 Morrison's Material steel Outside diameter 48 1/4"

Length of plain part top 21" Thickness of plates bottom 3/32" Description of longitudinal joint Welded No. of strengthening rings ✓

Working pressure of furnace by the rules 221 lbs. Combustion chamber plates: Material steel Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 7/8"

Pitch of stays to ditto: Sides 8 5/8" x 8 1/2" Back 8 1/2" x 9" Top 8 1/2" x 9 3/8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 203 lbs.

Material of stays steel Area at smallest part 2.1 Area supported by each stay 8 1/2" x 9 3/8" Working pressure by rules 230 lbs. End plates in steam space:

Material steel Thickness 1 5/16" Pitch of stays 19 3/4" x 20 1/2" How are stays secured Double nuts + small washers Working pressure by rules 202 lbs. Material of stays steel

Area at smallest part 10" Area supported by each stay 19 3/4" x 20 1/2" Working pressure by rules 260 lbs. Material of Front plates at bottom steel

Thickness 1 3/16" Material of Lower back plate steel Thickness 3/4" Greatest pitch of stays 1 3/2" at wide water space Working pressure of plate by rules 232 lbs.

Diameter of tubes 3 1/4" Pitch of tubes 4 1/16" x 4 5/16" Material of tube plates steel Thickness: Front 1" Back 1 3/16" Mean pitch of stays 8 3/4"

Pitch across wide water spaces 13 3/4" + 3/8" double Working pressures by rules 240 lbs. Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 10 3/4" + 1 1/16" (2) Length as per rule 34 1/2" Distance apart 9 3/8" Number and pitch of stays in each 3 @ 8 1/2"

Working pressure by rules 220 lbs. Steam dome: description of joint to shell None % 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 \_\_\_\_\_

## SUPERHEATER. Type Schmidt Date of Approval of Plan \_\_\_\_\_ Tested by Hydraulic Pressure to 600 lbs.

No. 1 17-8-20 No. 2 20-8-20 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes

Diameter of Safety Valve 3" Pressure to which each is adjusted 210 lbs. Is Easing Gear fitted No

006731-006740-0269



