

REPORT ON MACHINERY

No. 3034

SAT. 16 APR. 1921

Date of writing Report Dec. 1st 1920 When handed in at Local OfficePort of KobeNo. in Survey held at Kobe
Reg. Book.Date, First Survey Nov. 3rd 1919 Last Survey Nov. 18th 1920on the Steel Single Screw Steamer "PACIFIC MARU" (Number of Visits 86)Master R. Ishidzuka Built at KobeBy whom built Kawasaki Dockyard Co. Ltd. Tons { Gross 5872.89
Net 4253.84Engines made at KobeBy whom made Kawasaki Dockyard Co. Ltd. when made 1920Boilers made at doBy whom made do when made 1920

Registered Horse Power

Owners Kawasaki Dockyard Co. Ltd. Port belonging to KobeNom. Horse Power as per Section 28 440Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines

Triple ExpansionNo. of Cylinders Three No. of Cranks 3Dia. of Cylinders 26" 43 1/2" 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 as fitted 13 3/4" Dia. of Crank shaft journals as per rule 14.15 as fitted 14 3/8" 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 moveable 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 YesNo. 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
Donkey 9 1/2" x 7 x 24" dupl.
Oil 7 1/2" x 5 x 6" dupl.
Oil 5 1/2" x 5 x 8"
Oil 5 1/2" x 7 x 10"
Oil 6 x 3 1/2 x 6" Sing.In Engine Room Three 3 1/2" ✓ 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 Yes 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 NoneAre 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 aboveAre 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 YesWhat 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 YesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges YesIs 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 5636 sq. ft. 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 W.P. 200 lbs. 10-6-20 A.W.B. W.P. 200 lbs. 15-6-20 A.W.B.Can each boiler be worked separately Yes Area of fire grate in each boiler 60 1/2 sq. ft. 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 YesSmallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 14'-6" Length 12'-0" Material of shell plates steelThickness 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 rivetedlong. seams Double riveted Diameter of rivet holes in long. seams 1 7/16" Pitch of rivets 9 1/8" + 4 1/2" 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 1/8" + 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 ✓ Thickness of plates crown 2 1/2" 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 1/16" Back 1 1/16" Top 1 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 1/8" 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 sq. ft. Area supported by each stay 8 1/2" x 9 1/8" 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 steelArea at smallest part 10 sq. ft. Area supported by each stay 19 3/4" x 20 1/2" Working pressure by rules 260 lbs. Material of Front plates at bottom steelThickness 1 3/16" Material of Lower back plate steel Thickness 3/4" Greatest pitch of stays 13 1/2" at wide water space Working pressure of plate by rules 232 lbs.Diameter of tubes 3 1/4" Pitch of tubes 4 1/6" 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" dupl. Working pressures by rules 240 lbs. Girders to Chamber tops: Material steel Depth andthickness 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 PlanNo. 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 YesDiameter of Safety Valve 3" Pressure to which each is adjusted 210 lbs. Is Easing Gear fitted No

006731-006740-0269

AUXILIARY
IS A ~~DONKEY~~ BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes.

SPARE GEAR. State the articles supplied:—

Four main bearing bolts + nuts.	Set packing rings + springs each piston.	Centrifugal pump
Two Crank pin bolts + nuts.	Set gunk ring bolts + nuts.	Impeller shaft + nut.
Two Crankhead bolts + nuts.	Set of packing for each piston rods + Valve rods.	A.P. rod + nut.
Set coupling bolts + nuts.	Propeller shaft with nut (see below for marks)	3 safety valve springs
Set feed + bidge pump valves.	1 Feed check valve + seat.	Cond. Blr. tubes etc.
Assorted bolts nuts + iron.	2 slide valve spindle each size.	1 Set A.P. head valves

The foregoing is a correct description,

Kawasaki Dockyard Co., Ltd.

Per

Manufacturer.

Dates of Survey while building	During progress of work in shops - -	1919 Nov. 3, 15, 18, 26, 27; Dec. 3, 5, 18, 25; Jan. 13, 15; Feb. 7, 10, 14, 21, 22, 24, 25, 27, 28 th ; March
	During erection on board vessel - - -	1920 4, 5, 9, 16, 18, 20, 24, 29, 30, 31; Apr. 1, 6, 7, 9, 10, 12, 15, 17, 20, 23, 24, 26, 27, 28, 29, 30; May 7, 10, 14, 15, 19, 21, 29, 31; June 1, 4, 5, 7, 9, 10, 12, 14, 15, 16, 18, 22, 25; July 12, 13, 22, 24, 31; Aug. 2, 5, 6, 17, 18, 20; Sept. 4, 20, 22, 24, 27; Nov. 10, 16, 18 th .
	Total No. of visits	86.

Is the approved plan of main boiler forwarded herewith

Yes

AUXILIARY
donkey

Yes

Dates of Examination of principal parts—Cylinders 28-6-20 Slides 5-8-20 Covers 2-8-20 Pistons 27-7-20 Rods 6-8-20

Connecting rods 22-6-20 Crank shaft 22-6-20 Thrust shaft 31-5-20 Tunnel shafts 16-6-20 Screw shaft 5-6-20 Propeller 14-6-20

Stern tube 12-6-20 Steam pipes tested 22-9-20 Engine and boiler seatings 12-7-20 Engines holding down bolts 24-9-20

Completion of pumping arrangements 24-9-20 Boilers fixed 10-11-20 Engines tried under steam 16-11-20 overhaul 18-11-20

Completion of fitting sea connections 28-6-20 Stern tube 22-6-20 Screw shaft and propeller 28-6-20

Main boiler safety valves adjusted 10-11-20 Thickness of adjusting washers Lock nuts.

Material of Crank shaft O.H.F.S. Identification Mark on Do. A.W.R. Material of Thrust shaft O.H.F.S. Identification Mark on Do. PA493: PA574: PA600: PA621: PA628: PA960

Material of Tunnel shafts O.H.F.S. Identification Marks on Do. LLOYDS 22-6-20 Material of Screw shafts O.H.F.S. Identification Marks on Do. PA629: PA630: PA631: PA632: PA633: PA634: PA635: PA636: PA637: PA638: PA639: PA640: PA641: PA642: PA643: PA644: PA645: PA646: PA647: PA648: PA649: PA650: PA651: PA652: PA653: PA654: PA655: PA656: PA657: PA658: PA659: PA660: PA661: PA662: PA663: PA664: PA665: PA666: PA667: PA668: PA669: PA670: PA671: PA672: PA673: PA674: PA675: PA676: PA677: PA678: PA679: PA680: PA681: PA682: PA683: PA684: PA685: PA686: PA687: PA688: PA689: PA690: PA691: PA692: PA693: PA694: PA695: PA696: PA697: PA698: PA699: PA700: PA701: PA702: PA703: PA704: PA705: PA706: PA707: PA708: PA709: PA710: PA711: PA712: PA713: PA714: PA715: PA716: PA717: PA718: PA719: PA720: PA721: PA722: PA723: PA724: PA725: PA726: PA727: PA728: PA729: PA730: PA731: PA732: PA733: PA734: PA735: PA736: PA737: PA738: PA739: PA740: PA741: PA742: PA743: PA744: PA745: PA746: PA747: PA748: PA749: PA750: PA751: PA752: PA753: PA754: PA755: PA756: PA757: PA758: PA759: PA760: PA761: PA762: PA763: PA764: PA765: PA766: PA767: PA768: PA769: PA770: PA771: 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