

Date of writing Report Oct 28<sup>th</sup> 1919 When handed in at Local Office Oct 28<sup>th</sup> 1919 Port of Kobe  
No. in Survey held at Kobe Date, First Survey Feb. 18<sup>th</sup> Last Survey Oct. 14<sup>th</sup> 1919  
Reg. Book. on the Steel Single Screw Steamer "Scotland Maru" (Number of Visits 44)  
Master K. MURAKAMI Built at Kobe By whom built Kawasaki Dockyard Co. Ltd. Tons { Gross 5863  
Net 1263  
Engines made at Kobe By whom made Kawasaki Dockyard Co. Ltd. when made 1919  
Boilers made at do By whom made do when made 1919  
Registered Horse Power Owners Kawasaki Kisen Kaisha 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 Three  
Dia. 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  
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 13.54" Dia. of Crank shaft journals as per rule 14.15 14.22" Dia. of Crank pin 14 3/4" Size of Crank webs 92 x 20 3/8 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. feet  
No. of Feed pumps One Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work yes (with Weirs 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 Three Sizes of Pumps 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" 10" x 11" x 12" Dupl. In Holds, &c. Nos. 1, 3 + 4 Hold 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 in p. 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 E. R.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Illinois Steel Co, Carnegie Steel Co & Amer. Spiral  
2252 x 24 x 1132 (AUX. BLR) Rife Works.  
Total Heating Surface of Boilers 5636 Is Forced Draft fitted yes No. and Description of Boilers Two S. & Aux. S. &c.  
Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 29-7-19 4-8-19 No. of Certificate 400 LBS AM R. WL 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 2678 to 32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Ends Dble  
long. seams Double riveted Diameter of rivet holes in long. seams 17/16" Pitch of rivets 9/8" + 4 1/16" Lap of plates or width of butt straps 20 3/8" + 1 3/8"  
Per centages of strength of longitudinal joint 95.84 Working pressure of shell by rules 200 lbs. Size of manhole in shell 16" x 12"  
Size of compensating ring (1 1/2" flange) 1 1/8" No. and Description of Furnaces in each boiler 3 "Morison's" Material steel Outside diameter 48 1/4"  
Length of plain part top ✓ Thickness of plates bottom 2 1/32" Description of longitudinal joint Weld No. of strengthening rings ✓  
Working pressure of furnace by the rules 221 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 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 5/8" Pitch of stays 19 3/4" x 20 1/2" How are stays secured Double nuts + small washers Working pressure by rules 201 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 13/16" Material of Lower back plate steel Thickness 3/4" Greatest pitch of stays 13 1/2" at wide Working pressure of plate by rules 200 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 13/16" Mean pitch of stays 8 3/4"  
Pitch across wide water spaces 13 3/4" + 3/4" doubled Working pressures by rules 210 lbs. Girders to Chamber tops: Material steel Depth and  
thickness of girder at centre 10 3/4" + 13/16" (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 ✓ % 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

UPERHEATER. 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 Valves ✓ Pressure to which each is adjusted ✓ Is Easing Gear fitted ✓



IS A DONKEY BOILER FITTED? Aux Blr only. 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 impeller  
Two Crank pin " " Set junk ring bolts + nuts Crosshead + Crankpin brass  
Two Crosshead " " One part Crank shaft A. B. rod + nut  
Set coupling " " Propeller shaft. <sup>P383</sup> LLOYDS 3-10-19 W.L.R. 3 Safety valve springs  
Set Feed + Bilge pump valves Four blades + 2 sets studs + nuts Cond. + Blr tubes etc. etc  
Assorted bolts + nuts + iron Slide valve sprindles each size

The foregoing is a correct description.  
Kawasaki Dockyard Co., Ltd.

Per J. A. Takane Secretary. Manufacturer.

1919.  
Dates of Survey { During progress of work in shops -- Feb. 18, 28; Mar. 5, 10, 26; Apr. 24; May 30; June 5, 19, 24, 25, 27, 30; July 4, 7, 11, 12, 15, 19, 24, 25, 29, 31; Aug. 21, 12, 13, 20, 21, 22, 27, 29; Sept. 3, 8, 11, 12, 15, Oct. 12, 6, 7, 11 + 14.  
while building { During erection on board vessel --  
Total No. of visits 44.

Is the approved plan of main boiler forwarded herewith No Same  
" " " " " for S/S. NAPLES MARU. Rpt. No 2587.

Dates of Examination of principal parts—Cylinders 24-6-19 Slides 12-9-19 Covers 3-9-19 Pistons 3-9-19 Rods 8-9-19  
Connecting rods 21-8-19 Crank shaft 13-8-19 Thrust shaft 13-8-19 Tunnel shafts 24-7-19 Screw shaft 27-8-19 Propeller 29-8-19  
Stern tube 22-8-19 Steam pipes tested 25<sup>th</sup> 31-7-19 Engine and boiler seatings 8-9-19 Engines holding down bolts 6-10-19  
Completion of pumping arrangements 6-10-19 Boilers fixed 6-10-19 Engines tried under steam 10-10-19 overhaul 11-10-19  
Completion of fitting sea connections 27-8-19 Stern tube 27-8-19 Screw shaft and propeller 6-9-19  
Main boiler safety valves adjusted 7-10-19 Thickness of adjusting washers Locknuts (Caps sealed by Gov. Inspr.)  
Material of Crank shaft Steel Identification Mark on Do. 13-8-19 LLOYDS W.L.R. Material of Thrust shaft Steel Identification Mark on Do. 13-8-19 LLOYDS W.L.R.  
Material of Tunnel shafts Steel Identification Marks on Do. 24-7-19 LLOYDS W.L.R. Material of Screw shafts Steel Identification Marks on Do. 27-8-19 LLOYDS W.L.R.  
Material of Steam Pipes Steel Test pressure 600 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. Mar Queen Rpt No 2009.  
S.S. War Prince " No 2031.  
S.S. Naples Maru " 2587  
S.S. Port Said Maru " 2589  
S.S. Cape Town Maru " 2622

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

The Machinery of this vessel has been made + fitted under Special Survey in accordance with the requirements of the Rules + the workmanship + materials are good.

The Vessel is eligible in my opinion for the notation  
+ L.M.C. 10-19.

It is submitted that  
this vessel is eligible for  
THE RECORD. + L.M.C. 10-19. F.D.

2 S.B. & 1 Aux. SB

The amount of Entry Fee ... Yes : 30.  
Special ... £. 735.  
Auxiliary Donkey Boiler Fee included :  
Travelling Expenses (if any) Yes : 15.-

When applied for, Oct 15<sup>th</sup> 1919  
When received, Oct 20<sup>th</sup> 1919

Alexander Watt  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 23 DEC. 1919

Assigned

MAINTENANCE CERTIFICATE  
DATE

+ L.M.C. 10-19

W.D.



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Foundation