

# REPORT ON MACHINERY.

No. 2803.

Received at London Office MON. JUN. 14 1920

Date of writing Report 28<sup>th</sup> Apr. 1920 When handed in at Local Office 19 Port of Kobe  
 No. in Survey held at Kobe Date, First Survey 3<sup>rd</sup> Sept. 1919 Last Survey 27<sup>th</sup> April 1920  
 Reg. Book. on the Steel Single Screw Steamer "CHINA MARU" (Number of Visits 62) Tons { Gross 5869.86  
 Net 4266.26  
 Master S. Karaki Built at Kobe By whom built Kawasaki Dockyard Co. Ltd When built 1920  
 Engines made at Kobe By whom made The Kawasaki Dockyard Co. Ltd when made 1920  
 Boilers made at do By whom made do when made 1920  
 Registered Horse Power \_\_\_\_\_ Owners The Kawasaki Kisen Kaisha Port belonging to Kobe  
 Nom. Horse Power as per Section 28 440<sup>437</sup> 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 26:43½:72 Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft 15.41 Material of STEEL  
 as per rule 16" 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'-5¼"  
 Dia. of Tunnel shaft 13.28 as per rule 13.54 Dia. of Crank shaft journals 14.15 as per rule 14.22 Dia. of Crank pin 14¾ Size of Crank webs 9½x20½ Dia. of thrust shaft under  
 collars 14¾ 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 yes  
 No. of Donkey Engines THREE Sizes of Pumps WEIRS FEED 9½x7x24 TWO 10½x11x12 DUPL. GEN. SERV. 7½x5x6 " DONKEY 5½x3½x9 " No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room THREE 3½ In Holds, &c. Nos 1, 3 + 4 HOLD EACH TWO 3½  
ONE 3½ TO TUNNEL WELL No 2 HOLD TWO 4"  
 No. of Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump GR. P. Is a separate Donkey Suction fitted in Engine room of size yes 3½"  
 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 ILLINOIS STEEL CO, CARNEGIE STEEL CO, AM. SPIRAL CO. (FURNACES)  
2252x2+1132 (AUX. BLT) 2 S. B. & 1 AUX. S. B.  
 Total Heating Surface of Boilers = 5636 Is Forced Draft fitted yes No. and Description of Boilers TWO S. E. + AUX. S. E.  
 Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 7-2-20 13-2-20 No. of Certificate 7-2-20 13-2-20  
 Can each boiler be worked separately yes Area of fire grate in each boiler 60½ No. and Description of Safety Valves to  
 each boiler TWO SPRING LOADED Area of each valve 3¾ 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 1½" Range of tensile strength 26.78 TO 32.00 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams ENDS DOUB.  
 long. seams TREB. RIVETED DOUB. STRAPS Diameter of rivet holes in long. seams 1¾" Pitch of rivets 8¾ + 4¾" Lap of plates or width of butt straps 19½ x ¼"  
 Per centages of strength of longitudinal joint 95.84 Working pressure of shell by rules 201 lbs. Size of manhole in shell 16" x 12"  
 plate 84.28 Size of compensating ring (1½" + flange) 1¾" No. and Description of Furnaces in each boiler 3 MORISON'S SUSPENSION Material STEEL Outside diameter 48¼"  
 Length of plain part top bottom ✓ Thickness of plates 21/32 Description of longitudinal joint WELD 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 8½ x 8½ Back 8½ x 9" Top 8½ x 9½" 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 8½ x 9½" Working pressure by rules 230 lbs. End plates in steam space:  
 Material STEEL Thickness 1½" Pitch of stays 19¾ x 20½" How are stays secured DOUB. NUTS + SMALL WASHERS Working pressure by rules 202 lbs. Material of stays STEEL  
 Area at smallest part 10" Area supported by each stay 19¾ x 20½" Working pressure by rules 260 lbs. Material of Front plates at bottom STEEL  
 Thickness 13/16" Material of Lower back plate STEEL Thickness ¾" Greatest pitch of stays 13½" AT WIDE Working pressure of plate by rules 232 lbs.  
 Diameter of tubes ¾" Pitch of tubes 4 1/16" x 4 1/16" Material of tube plates STEEL Thickness: Front 1" Back 13/16" Mean pitch of stays 8¾"  
 Pitch across wide water spaces 13¾ + 5/8 Working pressures by rules 240 lbs. Girders to Chamber tops: Material STEEL Depth and  
 thickness of girder at centre 10 3/4 x 13 (2) DOUBLED Length as per rule 34½" Distance apart 9¾" Number and pitch of stays in each 3 @ 8½"  
 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 ✓ 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 \_\_\_\_\_

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 in + shaft + nut. Two Crank-pin bolts + nuts. Set junk ring bolts + nuts. Two Crosshead bolts + nuts. Set of packing for each piston rods + valve rods. A.P. rod + nut. Set coupling bolts + nuts. Propeller shaft with nut. 3 Safety valve spring. Set feed + Bilge pump valves. 1 Feed check valve + seat. Cond. + Blr. tubes. Assorted bolts nuts + iron. Slide valve spindle each size. 1 Set A.P. Head valve.

The foregoing is a correct description,

Kawasaki Dockyard Co., Ltd.

Per J. Takane Secretary. Manufacturer.

Dates of Survey while building: During progress of work in shops - Sept 3, 15; Oct 9, 14, 15, 16, 23; Nov 5, 15, 19, 22, 26; Dec 3, 10, 11, 12, 13, 16, 17, 18, 25, 26; Jan 8, 10, 15, 16, 17, 18, 27. During erection on board vessel - Jan 26, 27, 28, 29, 30; Feb 2, 5, 6, 7, 9, 10, 12, 13, 16, 18, 19, 23, 24, 26; Mar 3, 8, 10, 12, 15, 17, 19, 22, 27, 30; Apr 6 + 27. Total No. of visits 62.

Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts - Cylinders 12-2-20 Slides 12-3-20 Covers 8-3-20 Pistons 3-3-20 Rods 15-3-20

Connecting rods 23-2-20 Crank shaft 24-2-20 Thrust shaft 9-2-20 Tunnel shafts 9-2-20 Screw shaft 26-1-20 Propeller 5-2-20

Stern tube 29-1-20 Steam pipes tested 26-12-19 Engine and boiler seatings 10-2-20 Engines holding down bolts 19-3-20

Completion of pumping arrangements 22-3-20 Boilers fixed 19-3-20 Engines tried under steam 28-3-20 OVERHAUL 30-3-20

Completion of fitting sea connections 10-2-20 Stern tube 2-2-20 Screw shaft and propeller 10-2-20

Main boiler safety valves adjusted 22-3-20 Thickness of adjusting washers Lock nuts (Caps sealed by cover)

Material of Crank shaft 7 Steel Identification Mark on Do. LLOYDS 24-2-20 WL R. Material of Thrust shaft 7 Steel Identification Mark on Do. PA. 9-2-20 WL R.

Material of Tunnel shafts 7 Steel Identification Marks on Do. LLOYDS 7-2-20 WL R. Material of Screw shafts 7 Steel Identification Marks on Do. PA. 26-1-20 WL R.

Material of Steam Pipes SOLID DRAWN STEEL Test pressure 600 lb. spare T.S. PA. 27-1-20 WL R.

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. WAR QUEEN KOBE RPT. No. 2

General Remarks (State quality of workmanship, opinions as to class, &c.) S/S NAPLES MARU " " " 2

S/S PORTSAID MARU " " " 2

S/S ENGLAND MARU " " " 2

S/S DENMARK MARU " " " 2

S/S HOLLAND MARU " " " 2

S/S SWEDEN MARU " " " 2

The Forgings for HP, IP, LP Crank Shaft Journals + Pins also Working Screw Shaft were made at Oshima Steel Works, Tokyo and finished at Kawasaki Dockyard Co. Kobe. All the other forgings were made at the Kawasaki Hyogo Steelworks and finished at the Dockyard.

The machinery of this vessel has been made and fitted under Special Survey in accordance with the requirements of the Rules and the workmanship and materials are good, It is eligible, it is submitted, for the notation + L.M.C. 4.20.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 4.20 F.D.

15/6/20. J.W.D. J.M.

The amount of Entry Fee ... Yen 30. When applied for, 13th Apr 1920

Special ... 735. When received, 20th Apr 1920

Boiler Fee Included.

Travelling Expenses (if any) 50.

Committee's Minute FRI. JUN. 18 1920

Assigned + L.M.C. 4.20 J.H.D.

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



Certificate (if required) to be sent to The Surveyors are requested not to write on or below the space for Committee's Minute.