

## REPORT ON MACHINERY

No. 3077

TUE. 8 MAR. 1921

Received at London Office

Date of writing Report Jan. 20<sup>th</sup> 1921 When handed in at Local Office 1<sup>st</sup> Feb 1921 Port of Kobe  
 No. in Survey held at Kobe Date, First Survey 15<sup>th</sup> Nov. 1919 Last Survey 17<sup>th</sup> Dec 1920  
 Reg. Book. on the Steel Single Screw Steamer "ATLANTIC MARU" (Number of Visits 94) Tons { Gross 5873  
 Master T. ITANI Built at Kobe By whom built Kawasaki Dockyard Co. Ltd. When built 1921  
 Engines made at Kobe By whom made Kawasaki Dockyard Co. Ltd. when made 1921  
 Boilers made at do By whom made do when made 1921  
 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": 43½": 72" Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft as per rule 15.41 Material of screw shaft 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' - 5¼"  
 Dia. of Tunnel shaft as per rule 13.48 Dia. of Crank shaft journals as per rule 14.15 Dia. of Crank pin 14¾" Size of Crank webs 9½" x 20½" 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. feet  
 No. of Feed pumps One Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work yes (with Weir 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.  
 Weir feed 9½" x 7" x 24" dupl.  
 Non-feed 7½" x 5" x 6" dupl.  
 Donkey 5½" x 5½" x 9"  
 Oil transfer 10" x 7" x 10"  
 2 Weir Vetr. oil pumps. 6 x 3½" x 6" Single No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Three 3½" Nos. 1, 3 + 4 Holds 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 C. pp. Is a separate Donkey Suction fitted in Engine room & 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 Up. platform of Eng. Rm.

OILERS, &c.—(Letter for record S.) Manufacturers of Steel Carnegie Steel Co., Illinois Steel Co., Marine Engineers Assoc.  
 2252 x 2 + 1132 (Aux. Blv.) + Kawasaki Myogo Works. & Ambr. Spiral Pipe Co.  
 Total Heating Surface of Boilers 56360 Is Forced Draft fitted yes No. and Description of Boilers Two 5-6 + Aux. 5-6 SB  
 Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 31-7-20: 10-8-20 No. of Certificate W.F. 2001b. 10-8-20 AW.B.  
 Can each boiler be worked separately yes Area of fire grate in each boiler 60½' No. and Description of Safety Valves to  
 each boiler 2 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 26786 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 1½" Pitch of rivets 9½" + 4½" Lap of plates or width of butt straps 20½" + 1½"  
 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 (7½" + flange) 1½" No. and Description of Furnaces in each boiler 3 Morrison's Material Steel Outside diameter 48½"  
 Length of plain part top Thickness of plates bottom 2½" 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 1½" Back 1½" Top 1½" Bottom 7½"  
 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 Double 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 1½" Material of Lower back plate Steel Thickness ¾" Greatest pitch of stays 13½" at Wide Water space Working pressure of plate by rules 232 lbs.  
 Diameter of tubes 3¼" Pitch of tubes 4½" x 4½" Material of tube plates Steel Thickness: Front 1" Back 1½" Mean pitch of stays 8¾"  
 Pitch across wide water spaces 13¾" x 8" double Working pressures by rules 240 lbs. Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 10¼" x 13" (2) 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

2. SUPERHEATER. Type Schmidt Date of Approval of Plan 15-9-20 Tested by Hydraulic Pressure to 600 lbs.  
 No. 1 No. 2 Date of Test 15-9-20 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



Rpt. 5a  
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AUXILIARY  
IS AN ~~ENGINE~~ 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 impeller  
Two Crank pin bolts + nuts. ✓ Set fink ring bolts + nuts. shaft + nut.  
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 (See below for marks) 3 Safety Valve springs  
Set feed + bilge pump valves. ✓ 1 Feed check valve + Seat. Cond. Blr. tubes etc.  
Assorted bolts nuts + iron. ✓ Slide valve spindle each size 1 Set A.P. head valves.

The foregoing is a correct description,

Osaka Dockyard Co. Ltd.

Per *Osaka* Manufacturer.

Secretary.

Dates of Survey while building  
During progress of work in shops - - 1919 Nov. 15, 22; Dec. 1, 8, 23, 25; 1920 Jan. 8, 13; Feb. 7, 10, 12, 22, 24, 25, 27; Mar. 4, 5, 6, 13, 16, 18, 20, 30; Apr. 1, 5, 6, 7, 20, 22, 24, 26, 27, 28, 29, 30; May 4, 5, 7, 8, 10, 13, 21; Sept. 4, 6, 15, 18;  
During erection on board vessel - - May 13, 15, 18, 19, 29, 31; June 3, 4, 6, 7, 8, 9, 10, 14, 15, 16, 22, 24, 26, 29; July 1, 3, 6, 13, 16, 18, 21, 24, 27, 28, 29, 31; Nov. 6, 10, 18, 27; Dec. 1, 3, 8, 13, 17.  
Total No. of visits 93

Is the approved plan of main boiler forwarded herewith yes

AUXILIARY  
" " " " " "

Dates of Examination of principal parts—Cylinders 24-7-20 Slides 6-9-20 Covers 6-9-20 Pistons 6-9-20 Rods 4-9-20  
Connecting rods 22-6-20 Crank shaft 27-7-20 Thrust shaft 16-7-20 Tunnel shafts 13-7-20 Screw shaft 6-9-20 Propeller 16-7-20  
Stern tube 19-7-20 Steam pipes tested 18-11-20 Engine and boiler seatings 21-7-20 Engines holding down bolts 3-12-20  
Completion of pumping arrangements 11-12-20 Boilers fixed 3-12-20 Engines tried under steam 11-12-20  
Completion of fitting sea connections 31-7-20 Stern tube 21-7-20 Screw shaft and propeller 28-7-20  
Main boiler safety valves adjusted 8-12-20 Thickness of adjusting washers Lock nuts

Material of Crank shaft O.H.F.S. Identification Mark on Do. LLOYDS 27-7-20 A.W.R. Material of Thrust shaft O.H.F.S. Identification Mark on Do. PA372 LLOYDS 16-7-20 A.W.R.

Material of Tunnel shafts O.H.F.S. Identification Marks on Do. KT30: P971: PA628: PA273: PB335: PB560 LLOYDS 13-7-20 A.W.R. Material of Screw shafts O.H.F.S. Identification Marks on Do. PA363 LLOYDS 12-7-20 A.W.R.

Material of Steam Pipes Solid Drawn Steel ✓ Test pressure 600 lbs. water

Is an installation fitted for burning oil fuel yes ✓ Is the flash point of the oil to be used over 150°F. yes ✓

Have the requirements of Section 49 of the Rules been complied with yes ✓

Is this machinery duplicate of a previous case yes ✓ If so, state name of vessel 5% ARGONNE (Kobe Rpt. No. 1941)  
5% WAR QUEEN ( " " " 2009)  
5% EASTERN OCEAN ( " " " 2710)  
5% THAMES MARU ( " " " 2923)  
5% PACIFIC MARU ( " " " 3034)

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 + the materials + workmanship are good.

The machinery worked satisfactorily on trial and Oil Fuel was used for Boilers. The Oil Fuel Suction Piping from Settling Tank to stockhold Pumps was tested to 50 lbs./sq. inch water pressure and the Pressure Piping from Pumps to Burners - to 250 lbs./sq. inch water.

The machinery of this vessel is eligible, it is submitted for the notation L.M.C 12-20 and "Fitted for Burning Oil Fuel 12-20 F.P. above 150 Fahr."

A Blue print of arrangement of Oil Fuel Piping and Shut-off valves is sent herewith

It is submitted that this vessel is eligible for THE RECORD + LMC 12. 20. F.D.

Fitted for oil fuel 12. 20. F.P. above 150°F.

The amount of Fee Yen 30.- : When applied for, Dec. 21st 1920  
Included : 735.- :  
When received, Dec. 28th 1920  
Travelling Expenses (if any) £ 20.-

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

Committee's Minute

FRI. 11 MAR. 1921

Assigned

+ L.M.C 12. 20 F.D.

Fitted for oil fuel 12. 20 F.P. above 150°F.



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