

REPORT ON MACHINERY.

Received at London Office

TUE. APR. 2 1918.

Date of writing Report 4th Jan'y 1917 When handed in at Local Office 19 Port of Rohe
 No. in Survey held at Rohe Date, First Survey 29th Jan'y 1917 Last Survey 19th Decem 1917
 Reg. Book. on the Single Screw Steamer "Sumatra Maru" (Number of Visits 49)
 Master Rohe Built at Rohe By whom built The Kawasaki Dry Dock Co Ltd Tons { Gross 5856 Net 4257 When built 1917
 Engines made at Rohe By whom made The Kawasaki Dry Dock Co Ltd when made 1917
 Boilers made at do By whom made do when made do
 Registered Horse Power - Owners The Osaka Shosen Kaisha Port belonging to Osaka
 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 26:43½:42 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" 5/8"
 Dia. of Tunnel shaft as per rule 13.48 Dia. of Crank shaft journals as per rule 14.15 Dia. of Crank pin 14 3/8 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 bearings)
 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 Four Sizes of Pumps Bal. 10.11.12 Duplex. 2 Wess 9 1/2 x 7. 2d. Gen. Serv. 4 1/2. 5. 6 dup. In Holds, &c. Small " 5 1/2. 3 1/2. 9 dup. No. and size of Suctions connected to both Bilge and Donkey pumps No. 1. 3 + 4 holds. Two 3 1/2 each hold. No 2 hold. Two 4"
 In Engine Room Three 3 1/2"
One 3" to tunnel well.
 No. of Bilge Injections 1 sizes 10" Connected to condenser, or to circulating pump Cir. 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 grating in E. Rm.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Beardmore. Jno Spencer. Jno Dunlop & Co. Steel Co of Scot. David Galvill & Sons. Alaw Wood.
 Total Heating Surface of Boilers 5741 Is Forced Draft fitted Yes No. and Description of Boilers Two S. E + 1 Aus S. E.
 Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 4th + 13 Aug No. of Certificate LLOYD'S TEST 400 LBS. HYD. ALJ 4913/17
 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 direct spring 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 15 Range of tensile strength 29-32 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams Double
 long. seams Drub Shaps. Yrb. Riv. Diameter of rivet holes in long. seams 13/8 Pitch of rivets 8 3/4 x 4 3/8 Top of plates or width of butt straps 1.7 5/8
 Per centages of strength of longitudinal joint rivets 95.8 Working pressure of shell by rules 209 lbs Size of manhole in shell 16 x 12
 plate 84.3
 Size of compensating ring (7 1/2 + flange) x 1 5/8 No. and Description of Furnaces in each boiler One Morrison Material Steel Outside diameter 48 1/4
 Length of plain part top all round crown 5/8 Description of longitudinal joint weld No. of strengthening rings -
 bottom bottom 5/8
 Working pressure of furnace by the rules 208 lbs Combustion chamber plates: Material Steel Thickness: Sides 11/16 Back 11/16 Top 11/16 Bottom 7/8
 Pitch of stays to ditto: Sides 8 5/8, 8 1/2 Back 9 x 8 1/2 Top 9 3/4 x 8 1/2 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 9 3/8 x 8 1/2 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 Drub 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 wid. Working pressure of plate by rules 200 lbs
 Diameter of tubes 3 1/4 Pitch of tubes 4 7/16 x 4 5/16 Material of tube plates Steel Thickness: Front 13/16 Back 13/16 Mean pitch of stays 8 3/4
 Pitch across wide water spaces 13 3/4 (two) 5/8 Working pressures by rules 200 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10 1/2 x 13/16 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 230 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 -

SUPERHEATER. Type Schmidt Date of Approval of Plan - Tested by Hydraulic Pressure to 600 lbs
 Date of Test 11th Sept 1917 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 205 lbs Is Easing Gear fitted No

IS A DONKEY BOILER FITTED? Auxiliary blr. If so, is a report now forwarded? Yes

SPARE GEAR. State the articles supplied:—
Set packing rings + springs each piston.
Set joint ring bolts + nuts.
One crank shaft. Propeller shaft.
Two main bearing bolts + nuts.
Two cross head.
Two blades + two sets studs + nuts.
Set coupling.
Slide valve spindle each size.
Set feed + bilge pump valves.
Centrifugal impeller + shaft.
Assorted bolts + nuts + iron.
Crankhead + cr. pin brasses. A.P. rod + nut.
Three safety valve springs. Condenser tubes etc. etc.

The foregoing is a correct description,

Kawasaki Dockyard Co. Ltd.
Per: [Signature] Secretary.

Manufacturer.

Dates of Survey while building:
During progress of work in shop: Jan 29, Feb 10, 14, 16, 20, 28, Mar 14, April 26, May 4, 24, 25, 29, 30, June 5, 26, July 9, 23, 24, 27.
During erection on board vessel: Aug 4, 13, 25, 30, Sept 7, 11, 14, 17, 22, 25, 28, Oct 16, 22, 25, 29, Nov 5, 8, 14, 19, 24, 26, 27, Dec 5, 10, 12, 13, 15, 17, 19, 1917.
Total No. of visits: 49.
Is the approved plan of main boiler forwarded herewith? Forwarded with Rpt No 216 on the donkey side vessel Borneo Mar.

Dates of Examination of principal parts:
Cylinders 30/5/17 etc Slides 5/6/17 etc Covers 30/5/17 Pistons 31/4/17 Rods 7/9/17 etc
Connecting rods 7/9/17 etc Crank shaft 7/9/17 etc Thrust shaft 17/9/17 etc Tunnel shafts 25/9/17 Screw shaft 25/9/17 Propeller 14/9/17
Stern tube 22/10/17 Steam pipes tested 22/10/17 5426/11/17 Engine and boiler seatings 24/11/17 Engines holding down bolts 5/12/17
Completion of pumping arrangements 13/12/17 45/12/17 Boilers fixed 5/12/17 Engines tried under steam 15 1/2 17 Dec 1917
Completion of fitting sea connections 24/11/17 Stern tube 8/11/17 Screw shaft and propeller 19/11/17
Main boiler safety valves adjusted 12/12/17 Thickness of adjusting washers Lock nuts. Intervals. Ste. Ble. A 10/32 Port B. F 9/16 A 9/16
Material of Crank shaft Steel Identification Mark on Do. LLOYD'S ALJ:R Material of Thrust shaft Steel Identification Mark on Do. LLOYD'S ALJ:R
Material of Tunnel shafts Steel Identification Marks on Do. ALJ Material of Screw shafts Steel Identification Marks on Do. ALJ
Material of Steam Pipes Steel Test pressure 600 lbs Spare 24 R 19.11.17 ALJ 25/9/17

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: 'Was Queen' 'Was Admiral' 'Borneo Mar' 'Celebes Mar' etc

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery has been made + fitted under special survey in accordance with the requirements of the Rules + the materials + workmanship have been found good.

On trial a mean speed of over 14 knots was maintained + the main parts of the machinery afterwards opened for survey were found in good condition. The vessel is in my opinion eligible for the notation + LMC 12.17.

It is submitted that this vessel is eligible for THE RECORD. + LMC 12.17. F.D. [Signature]

[Signature] Arthur L. Jones
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... 30 : When applied for,
Special ... 594 : 26 Dec 1917
Donkey Boiler Fee ... 50 : When received,
Travelling Expenses (if any) £ : 27 Dec 1917

Committee's Minute WED. APR. 3 1918.
Assigned + L.M.C. 12.17. F.D.

