

REPORT ON MACHINERY

No. 2162
MON. 10. MAR. 1918

Received at London Office

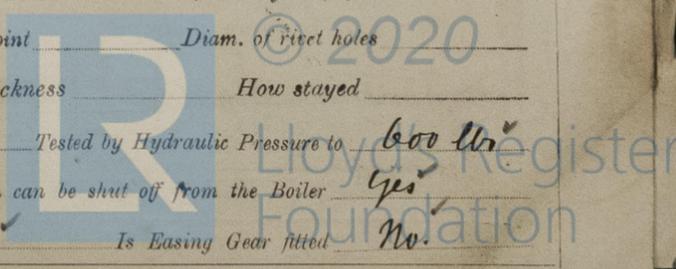
Date of writing Report 4 Jan 1918 When handed in at Local Office 19 Port of Kobe
 No. in Survey held at Kobe Date, First Survey Jan. 15^m Last Survey Dec. 13 1917
 Reg. Book. on the Single Screw Steamer "Celebes Maru" (Number of Visits 50) Tons { Gross 5856
 Net 4254
 Master Built at Kobe By whom built The Kawasaki Dockyard Co. Ltd. When built 1917
 Engines made at Kobe By whom made The Kawasaki Dockyard 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" 43 1/2" 42" Length of Stroke 48 Revs. per minute 70 Dia. of Screw shaft as per rule 15.41 Material of screw shaft Steel
 as fitted 16"
 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 1/2"
 Dia. of Tunnel shaft as per rule 13.48 Dia. of Crank shaft journals as per rule 14.15 Dia. of Crank pin 14 3/4 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 (+ twin 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 Four Sizes of Pumps Bal. 10, 11, 12 dupl. ✓ No. and size of Suctions connected to both Bilge and Donkey pumps
 in Engine Room Three 3 1/2" Gen. Ser. 4 1/2" x 5.6 dupl. ✓ In Holds, &c. Nos. 1, 3 + 4 holds, two 3 1/2" each. ✓
One 3" to tun. well. ✓ Small Dry 5 1/2" x 3 1/2" x 9 dupl. ✓ No. 2, hold, two 4" ✓
 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 4" 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 Eng. Rm.

BOILERS, &c.—(Letter for record S. ✓) Manufacturers of Steel Beardmore, Geo. Spencer, Geo. Marshall, ✓
4609 + 1132 (Aus. bet.) ✓ David Colville & Sons, ✓ Steel Co. of Scotland, ✓ Alan Wood ✓
 Total Heating Surface of Boilers 5741 Is Forced Draft fitted Yes No. and Description of Boilers Two S.E. + Aw. S.E. ✓
 Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 24 + 31 July 1917 No. of Certificate LLOYD'S TEST 400 LBS. HYD. A.L.S. 24731/17 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, 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 1 5/16" Range of tensile strength 29-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Doub. riv.
 long. seams Doub. Straps Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 8 3/4" x 4 3/8" Top of plates or width of butt straps 1" 7 5/8"
 Percentages of strength of longitudinal joint 95.8 Working pressure of shell by rules 209 lbs Size of manhole in shell 16" x 12"
 rivets 84.3 all round crown 5 7/8" Description of longitudinal joint Weld No. of strengthening rings ✓
 Size of compensating ring (7 1/2" + Flang.) 1 5/16" No. and Description of Furnaces in each boiler Three "Mirron" Material Steel Outside diameter 48 1/2"
 Length of plain part top Thickness of plates bottom 5 7/8" 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" x 8 1/2" Back 9 x 8 1/2" Top 9 3/8" 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 Doub. 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 lwd. 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" doub. 3/8" Working pressures by rules 200 lbs. Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10 1/2" x 13" (two) 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's Date of Approval of Plan Tested by Hydraulic Pressure to 600 lbs
 Date of Test 29 Aug + 3rd 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.

2500-935500-125500



IS A DONKEY BOILER FITTED? *Machinery boiler* If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied:—

Four main bearing bolts & nuts. ✓ Set packing rings & springs for each piston
 Two crank pin bolts & nuts. ✓ Set push ring bolts & nuts
 Set couplings " " ✓ One crank shaft. One Propeller shaft
 Two crossheads " " ✓ Four prop. blades & two sets studs & nuts.
 Set feed & bilge pump valves. ✓ Slide valve spindle each size.
 Assorted bolts & nuts & iron. ✓ Centrifugal impeller & shaft.

The foregoing is a correct description,

Kawasaki Dockyard Co., Ltd.

Per: *J. Kawajima*

Manufacturer.

Etc. 2 Cert

Dates of Survey while building { During progress of work in shops -- Jan 15, 24, 29. Feb. 10, 14, 21, 28. Mar. 14. Apr. 11. May 11, 19, 24. Jun 5, 9, 16. July 9, 13, 20. Aug 2, 20, 29. Sept. 3, 7, 17, 22, 25, 28. Oct 9, 11, 18, 21, 22, 29, 30. Nov. 3, 5, 6, 9, 13, 16. Dec. 3, 4, 6, 11, 13. 1917.
 Total No. of visits *50.*

Is the approved plan of main boiler forwarded herewith *Approved*
 " " " *Donkey* " *with report No. 2 on Sister Vn. "Borneo"*

Dates of Examination of principal parts—Cylinders *19/5/17 etc* Slides *5/6/17 etc* Covers *19/5/17 etc* Pistons *24/7/17 etc* Rods *11/5/17 etc*
 Connecting rods *28/9/17 etc* Crank shaft *13/7/17 etc* Thrust shaft *7/9/17 etc* Tunnel shafts *7/9/17 etc* Screw shaft *5/10/17 etc* Propeller *21/10/17 etc*
 Stern tube *30/10/17* Steam pipes tested *9/10/17 5/19/17* Engine and boiler seatings *3/11/17* Engines holding down bolts *24/11/17*

Completion of pumping arrangements *29/11/17* Boilers fixed *24/11/17* Engines tried under steam *4/12/17*

Completion of fitting sea connections *6/11/17* Stern tube *3/11/17* Screw shaft and propeller *6/11/17*

Main boiler safety valves adjusted *27/11/17* Thickness of adjusting washers *Lock nuts*

Material of Crank shaft *Steel* Identification Mark on Do. *LLOYD'S 13-17* Material of Thrust shaft *Steel* Identification Mark on Do. *LLOYD'S 13-17*

Material of Tunnel shafts *Steel* Identification Marks on Do. *LLOYD'S 17-9-17* Material of Screw shafts *Steel* Identification Marks on Do. *LLOYD'S 5-10-17*

Material of Steam Pipes *Steel* " *10" and "17x20"* A.L.J. R. Test pressure *600 lbs.* Spare ribs *ALJ. K.S. 3D*

Is an installation fitted for burning oil fuel *No* Is the flash point of the oil to be used over 150°F. *K.S. 3D*

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 *"Was Queen" "Was Prince" "Borneo"*

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 are good.

The vessel made satisfactory trial trips making an average speed of 14 knots & the main parts of the engines opened out after the trials were finished 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.

A.W.D.
18/3/18

Arthur L. Jones

Engineer Surveyor to Lloyd's Register of Shipping

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

Committee's Minute *FRI. 22 MAR. 1918*

Assigned *+ L.M.C. 12.17 F.D.*

MACHINERY CERTIFICATE WRITTEN



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