

REPORT ON MACHINERY.

No. 2080

Received at London Office

MON NOV 26 1917.

Date of writing Report 15 Septem 1917 When handed in at Local Office 10 Port of Kobe
 No. in Survey held at Kobe & Harima Bay. Ohs. Date, First Survey 14 Feb ry. Last Survey 5 Septem. 1917
 Reg. Book. on the Steel Single Screw Steamer "Yaito Maru" (Number of Vessels)
 Master M. Tanaka Built at Oo. Harima Pm. By whom built The Harima Dockyard Co. When built 1917-9
 Engines made at Kobe By whom made The Kobe Steel Works when made 1917-9
 Boilers made at Oo By whom made The Harima Dockyard Co. when made 1917-9
 Registered Horse Power 281 Owners Uchida Kisen Kabushiki Kaisha Port belonging to Amagasaki
 Nom. Horse Power as per Section 28 281 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 22" 34" 61" Length of Stroke 42" Revs. per minute 70 Dia. of Screw shaft 12.54 Material of Steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight
 in the propeller boss Yes If the liner is in more than one length are the joints burned Yes 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 Yes If two
 liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 4" 9 1/2"
 Dia. of Tunnel shaft 11.2 Dia. of Crank shaft journals 11.46 Dia. of Crank pin 12 1/2 Size of Crank webs 3 1/4" x 24" Dia. of thrust shaft under
 collars 12 1/2 Dia. of screw 15.3 Pitch of Screw 1 1/4" 16" 7 1/2" No. of Blades 4 State whether moveable No Total surface 85 sq. ft.
 No. of Feed pumps 2 Diameter of ditto 4" Stroke 22" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 22" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 7.9 x 10 dup. Ballast No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two 3 1/2" wing + 3 1/2" centre In Holds, &c. Two 3 1/2" each hold
9 tunnel well 3 1/2"

No. of Bilge Injections 1 sizes 4" 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 Yes
 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 of Eng. Rm.

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Beardmore & Co. Cambria Ste. Co. North Bros. Carnegie
John Marshall. Kobe Steel Works (Stays)
 Total Heating Surface of Boilers 3680 Is Forced Draft fitted Yes No. and Description of Boilers Two Single Ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 14 July 1917 No. of Certificate LLOYDS TEST 360 LBS HYD. A.L.J. 14/7/17. R
 Can each boiler be worked separately Yes Area of fire grate in each boiler 46.5 No. and Description of Safety Valves to
 each boiler Two Direct Spring Area of each valve 3 1/2" dia Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 13.6" Length 11' 6" Material of shell plates Steel
 Thickness 1 1/4" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double
 long. seams Triple riveted Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 3/8" 14 5/16" Lap of plates or width of butt straps 18 3/8" 1 1/2" int
 Per centages of strength of longitudinal joint 84.9 Working pressure of shell by rules 207 lbs Size of manhole in shell 16 x 12
 plate 85.5 Size of compensating ring 40" x 29" x 1 1/4" No. and Description of Furnaces in each boiler 3 "Beighton" Material Steel Outside diameter 40 1/2"
 Length of plain part top Thickness of plates crown 1 1/2" Description of longitudinal joint Weld No. of strengthening rings Yes
 Working pressure of furnace by the rules 186 Combustion chamber plates: Material Steel Thickness: Sides 25/32 Back 21/32 Top 23/32 Bottom 25/32
 Pitch of stays to ditto: Sides 8 x 10 1/2 Back 8 1/2 x 8 1/4 Top 8 1/2 x 10 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 205
 Material of stays Steel Area at smallest part 1.73 sq. in. Area supported by each stay 8 3/4 x 8 1/4 Working pressure by rules 192 End plates in steam space:
 Material Steel Thickness 1 1/8" Pitch of stays 16 1/2 x 18 1/4 How are stays secured Double nuts & small washers Working pressure by rules 198 lbs Material of stays Steel
 Area at smallest part 6.09 Area supported by each stay 16 1/2 x 18 1/4 Working pressure by rules 205 Material of Front plates at bottom Steel
 Thickness 29 Material of Lower back plate Steel Thickness 27 Greatest pitch of stays 14" Working pressure of plate by rules 180 lbs
 Diameter of tubes 3" Pitch of tubes 4 1/2" x 4 1/4" Material of tube plates Steel Thickness: Front 29 Back 7 Mean pitch of stays 8 3/4"
 Pitch across wide water spaces 14" Working pressures by rules 180 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 11 1/2" x 15" (2) Length as per rule 35 15/32 Distance apart 9 1/2 Number and pitch of stays in each 3 @ 8"
 Working pressure by rules 280 lbs Steam dome: description of joint to shell Yes % of strength of joint Yes
 Diameter Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet holes Yes
 Pitch of rivets Yes Working pressure of shell by rules Yes Crown plates Yes Thickness Yes How stayed Yes

SUPERHEATER. Type Yes Date of Approval of Plan Yes Tested by Hydraulic Pressure to 2020
 Date of Test Yes Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes
 Diameter of Safety Valve Yes Pressure to which each is adjusted Yes Is Easing Gear fitted Yes

W1265-0144

IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes

SPARE GEAR.

State the articles supplied:—

Two crank pin bolts & nuts & "brasses". One crank
Two main bearing bolts & nuts. Four crosshead bolts & nuts & set of brasses.
Set coupling bolts & nuts for one coupling. Set of eccentric rods.
Set of feed & bilge pump valves & seats. Assorted bolts & nuts. Iron of various
1/2 set air pump valves. 1/4 of total number pump ring bolts.
1/2 set circulating pump valves. Main & ady. check valve & seat.
2 safety valve springs. Propeller. Valve spindle each size. A.P. rod. 1 P. piston
Condenser tubes & ferrules. Set ecc. rods & bolts
Etc. etc.

The foregoing is a correct description,

Y. Pirata.

Manufacturer.

Dates of Survey while building
During progress of work in shops --
During erection on board vessel --
Total No. of visits

14th July to 5th June (Continuous attendance)

5th June to 5th September 1917 Ten visits.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 19/2/17 Slides 4/3/17 Covers 4/3/17 Pistons 13/3/17 Rods 23/3/17

Connecting rods 23/3/17 Crank shaft 1.5.17 Thrust shaft 1.5.17 Tunnel shafts 20.4.17 Screw shaft 24/4/17 Propeller 14/5/17

Stern tube 28/3/17 Steam pipes tested 30/7/17 Engine and boiler seatings 15/7/17 Engines holding down bolts 2/7/17

Completion of pumping arrangements 1/8/17 Boilers fixed 20/7/17 Engines tried under steam 28/8/17

Completion of fitting sea connections 5/6/17 Stern tube 14/5/17 Screw shaft and propeller 18/5/17

Main boiler safety valves adjusted 13/8/17 Thickness of adjusting washers 5/8"

Material of Crank shaft Steel Identification Mark on Do. R. 1.5.17 Material of Thrust shaft Steel Identification Mark on Do. R. 1.5.17

Material of Tunnel shafts Steel Identification Marks on Do. R. 1.5.17 Material of Screw shafts Steel Identification Marks on Do. R. 1.5.17

Material of Steam Pipes Solid drawn copper Test pressure 360 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 No. If so, state name of vessel

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

The machinery has been made & fitted under Special Survey in accordance with the Rule requirements & the materials & workmanship have been found good.

The vessel is in my opinion eligible for the record & LMC 9.17 in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 9.17. F.D.

Arthur L. Jones

Engineer Surveyor to Lloyd's Register of Shipping

The amount of Entry Fee ... £20 : When applied for,
Special ... £510 75 : 14 Sep 1917
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ : 29 Sep 1917

Committee's Minute TUE. 4-DEC. 1917

Assigned

+ LMC 9.17.

F.D.



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Foundation