

REPORT ON MACHINERY.

No. 2186

Received at London Office

TUE. APR. 2 1918.

Date of writing Report 18 Jan. 1917 When handed in at Local Office 19 Port of Kobe
 Date, First Survey 17 Mar. 1916 Last Survey 14 Decem. 1917
 (Number of Visits 47)
 Name of Ship Single Screw Steamer "Oridono Maru"
 Built at Kobe By whom built The Mitsui Bishi Dockyard Co Ltd When built 1917
 Engines made at Kobe By whom made The Mitsui Bishi Dockyard Co Ltd when made 1917
 Boilers made at do By whom made do when made do
 Registered Horse Power Owners Tatsunuma Kisen K. Kaisha Port belonging to Nishinomiya
 Nom. Horse Power as per Section 28 510 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 26½ : 43 : 72 Length of Stroke 48 Revs. per minute 70 Dia. of Screw shaft as per rule 15½ Material of screw shaft as fitted 15¾ 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
 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
 Length of stern bush 5' 7"
 Dia. of Tunnel shaft as per rule 13.16 Dia. of Crank shaft journals as per rule 13.82 Dia. of Crank pin 14 Size of Crank webs 9½ x 26 Dia. of thrust shaft under
 as fitted 13¾ Dia. of screw 18" 0" Pitch of Screw 18" 0" No. of Blades 4 State whether moveable Yes Total surface 100 sq ft
 To. of Feed pumps 2 Diam. of ditto 8 Stroke 21 Can one be overhauled while the other is at work Yes
 To. of Bilge pumps 2 Diam. of ditto 5 Stroke 21 Can one be overhauled while the other is at work Yes
 To. of Donkey Engines 3 Sizes of Pumps Gen. Service 8½ x 6 x 9 Dup. Weir fed 10½ x 8 x 21 No. and size of Suctions connected to both Bilge and Donkey pumps
 n Engine Room 3½ Ballast 10, 12, 12 44 Holds, &c. Two 3½ to each hold, Nos 1, 2, 3 & 4.
 Tunnel well 3½
 To. of Bilge Injections 1 sizes 9¾ Connected to condenser, or to circulating pump Cir. p. Is a separate Donkey Suction fitted in Engine room & size 4½ x 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 Now.
 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 Forward bilge suction How are they protected Strong wood casings
 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.
 OILERS, &c.—(Letter for record 5) Manufacturers of Steel David Colville & Son. Leeds Forge

Total Heating Surface of Boilers 7618 Is Forced Draft fitted Yes No. and Description of Boilers Three Single Ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 27 7/11/17 No. of Certificate LLOYDS TEST 360 lbs
 R.O.B. 277/11/17
 Can each boiler be worked separately Yes Area of fire grate in each boiler 61.19 No. and Description of Safety Valves to
 each boiler Two Direct Spring Area of each valve 3½ 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 3 ft Mean dia. of boilers 15' 0" Length 11' 6" Material of shell plates Steel
 Thickness 1½ Range of tensile strength 28/32 ton Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double riv.
 long. seams Double shape Diameter of rivet holes in long. seams 1½ Pitch of rivets 9½ x 4 19 Top of plates or width of butt straps 19½ x 1½ in
 Per centages of strength of longitudinal joint rivets 89.8 Working pressure of shell by rules 183 lbs Size of manhole in shell 16 x 12 out
 plate 85.7
 Size of compensating ring 4½ x 1½ + fl. No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 48¾
 Length of plain part top bottom Thickness of plates crown 19/32 Description of longitudinal joint Weld No. of strengthening rings
 Working pressure of furnace by the rules 193 lbs Combustion chamber plates: Material Steel Thickness: Sides 11/32 Back 11/32 Top 11/32 Bottom 3/4
 Pitch of stays to ditto: Sides 8½ x 8½ Back 8½ x 9 Top 8½ x 8½ If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 180 lbs End plates in steam space:
 Material of stays Steel Area at smallest part 1½ Area supported by each stay 8½ x 9 Working pressure by rules 180 lbs Material of stays Steel
 Thickness 1¾ Pitch of stays 20¾ x 18 How are stays secured Double nuts Working pressure by rules 180 lbs Material of Front plates at bottom Steel
 Area at smallest part 6.33 Area supported by each stay 20¾ x 18 Working pressure by rules 180 lbs
 Thickness ¾ Material of Lower back plate Steel Thickness 11/8 Greatest pitch of stays 14½ at ends 15½ Working pressure of plate by rules 180 lbs
 Diameter of tubes 3 Pitch of tubes 4½ x 4½ Material of tube plates Steel Thickness: Front 3/4 Back 3/4 Mean pitch of stays 9½
 Pitch across wide water spaces 13½ with Working pressures by rules 180 lbs Girders to Chamber tops: Material Steel Depth and
 Thickness of girder at centre 10.3 (12 out. pl.) Length as per rule 35¾ Distance apart 8½ Number and pitch of stays in each 3 @ 8½
 Working pressure by rules 194 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
 UPPER HEATER. 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

IS A DONKEY BOILER FITTED? No ✓

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Complete set of crosshead & crank pin braces & bolts & nuts for same. Two main bearing bolts. Set coupling bolts for one coupling. Set feed & bilge pump valves. Set packing rings for each piston. Assorted bolts & nuts. Iron various sizes. Escape valve springs, one set. 1 Safety valve spring each boiler. Set boiler check valves (main & donkey) for one boiler. Air & circulating pump valves. Set eccentric rods & balls. Etc. Etc. ✓

The foregoing is a correct description,
KOBÉ WORKS, MITSUBISHI ZOSÉN KAISHA, LTD.

Manufacturer.

General Manager.

Dates of Survey while building { During progress of work in shops -- 17, 29 Mar. 21 Apr. 19 July 1916. 21 Feb. 19, 30 Mar. 19, 24, 25, 30 April. 18, 26 May.
During erection on board vessel -- 4, 10, 12 June. 3, 4, 7, 12, 17, 29 July. 26, 27, 28 Aug. 4, 15, 21, 23, 29 Sept. 9, 23, 30 Oct.
Total No. of visits } 47 } 9, 13, 14 Dec. 1917. Is the approved plan of main boiler forwarded herewith *forwarded* with Rpt No 2047 on "S.S. Commandant Dorris"

Dates of Examination of principal parts—Cylinders 30/3/17 etc Slides 10/6/17 etc Covers 10/6/17 etc Pistons 30/3/17 etc Rods 4/6/17 etc
Connecting rods 19/3/17 Crank shaft 28/8/17 Thrust shaft 28/8/17 Tunnel shafts 17/7/17 Screw shaft 3/7/17 Propeller 28/8/17
Stern tube 22/8/17 Steam pipes tested 3/12/17 Engine and boiler seatings 16/11/17 Engines holding down bolts 9/12/17
Completion of pumping arrangements 9/12/17 Boilers fixed 29/11/17 Engines tried under steam 13/12/17
Completion of fitting sea connections 21/11/17 Stern tube 12/11/17 Screw shaft and propeller 22/11/17
Main boiler safety valves adjusted 13/12/17 Thickness of adjusting washers Locknuts
Material of Crank shaft Steel Identification Mark on Do. *LLOYD'S 28-8-17 ALJ R* Material of Thrust shaft Steel Identification Mark on Do. *LLOYD'S 28-8-17 ALJ R*
Material of Tunnel shafts Steel Identification Marks on Do. *LLOYD'S 17-7-17 ALJ R* Material of Screw shafts Steel Identification Marks on Do. *R 3-7-17 ALJ*
Material of Steam Pipes Steel ✓ Test pressure 540 lbs. ✓

Is an installation fitted for burning oil fuel ✓

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 *"Ayaka Maru" Rote Rpt No. 2005*
Commandant Dorris 2047

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

The machinery has been made & fitted under Special Survey & the materials & workmanship have been found good.

The vessel is eligible in my opinion for the notation + L.M.C. 12.17 ✓

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 12.17. F.D. *ARK*

3/4/18.

The amount of Entry Fee ... *yen 30* : When applied for,
Special ... *yen 682* : *17 Dec 1917*
Donkey Boiler Fee ... £ : When received,
Travelling Expenses (if any) *yen 15* : *20 Dec 1917*

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

Committee's Minute

FRI. APR. 5 1918.

Assigned

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



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