

# REPORT ON MACHINERY.

Received at London Office

FRI 22 AUG. 1919

Date of writing Report 12th July 1919 When handed in at Local Office 19 Port of Yokohama  
 No. in Survey held at Tokyo Date, First Survey 18th Jan'y Last Survey 11th July, 1919  
 Reg. Book. on the S. S. "Yakumo Maru" (Number of Visits 36)  
 Master Built at Tokyo By whom built Ishikawajima Shipbuilding Co When built 7-1919  
 Engines made at Tokyo By whom made Ishikawajima Shipbuilding & E Co Ltd. when made 7-1919  
 Boilers made at Tokyo By whom made Ishikawajima Shipbuilding & E Co Ltd when made 7-1919  
 Registered Horse Power 1670 Owners Suzuki & Co Port belonging to Kobe  
 Nom. Horse Power as per Section 28 279 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

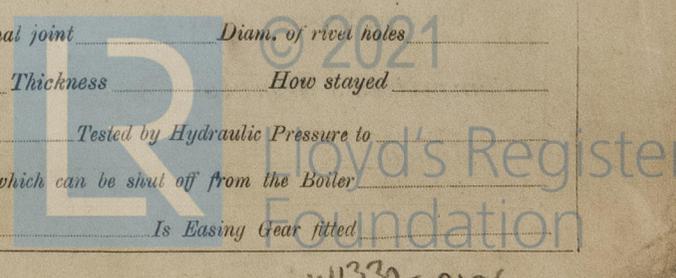
Tons { Gross 3206  
 Net 1965

**ENGINES, &c.—Description of Engines** Triple expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 22 - 37 - 61 Length of Stroke 42 Revs. per minute 77 Dia. of Screw shaft as per rule 12.85 Material of Steel  
 as fitted 13 screw shaft) 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 x 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 Tight If two  
 liners are fitted, is the shaft lapped or protected between the liners xx Length of stern bush 4 - 9 1/2  
 Dia. of Tunnel shaft as per rule 11.21 Dia. of Crank shaft journals as per rule 11.77 Dia. of Crank pin 12 1/2 Size of Crank webs 16 1/2 x 7 1/2 Dia. of thrust shaft under  
 collars 12 1/2 Dia. of screw 16'-0" Pitch of Screw 16'-0" No. of Blades 4 State whether moveable No Total surface 74 sq ft  
 No. of Feed pumps 2 Diameter of ditto 3 1/2 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 3 Sizes of Pumps 6 x 4 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps  
7 x 5 x 7 In Engine Room 4 of 3" 7 1/2 x 9 x 10 In Holds, &c. No.1 hold 2 - 3", No.2 hold 2 - 3",  
No.3 hold 2 - 3", Shaft tunnel 1 - 2 1/2"  
 No. of Bilge Injections 1 sizes 5 1/2 Connected to \_\_\_\_\_ to circulating pump Yes 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 Yes  
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both  
 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 xx  
 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 Top platform

**BOILERS, &c.—(Letter for record S ) Manufacturers of Steel** Worth Bros  
 Total Heating Surface of Boilers 3640 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 2 Multitubular  
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 20-6-19 No. of Certificate 55  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 46.5 sq ft No. and Description of Safety Valves to  
 each boiler 2 Spring loaded Area of each valve 9.62 sq ft 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 18" Mean dia. of boilers 13'-6" Length 11'-6" Material of shell plates S  
 Thickness 1 1/4 Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.  
 long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 8 3/8 Lap of plates or width of butt straps 18 3/8  
 Per centages of strength of longitudinal joint rivets 84 Working pressure of shell by rules 206 Size of manhole in shell 16 x 12  
 plate 85 Size of compensating ring 36"x32"x1 1/4" No. and Description of Furnaces in each boiler 3 Morr Material S Outside diameter 40 1/2  
 Length of plain part top x Thickness of plates crown 1/32" Description of longitudinal joint Weld No. of strengthening rings None  
 bottom x Working pressure of furnace by the rules 202 Combustion chamber plates: Material S Thickness: Sides 25/32 Back 21/32 Top 23/32 Bottom 25/32  
 Pitch of stays to ditto: Sides 10x8 Back 8 1/2 x 8 1/2 Top 8x8 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 217  
 Material of stays S Area at smallest part 1.79 Area supported by each stay 66.5 sq ft Working pressure by rules 242 End plates in steam space:  
 Material S Thickness 1 1/4 Pitch of stays 16 1/2 x 18 How are stays secured D.nuts Working pressure by rules 190 Material of stays S  
 Area at smallest part 6.33 Area supported by each stay 298.5 sq ft Working pressure by rules 220 Material of Front plates at bottom S  
 Thickness 29/32 Material of Lower back plate S Thickness 27/32 Greatest pitch of stays 14x8 1/2 Working pressure of plate by rules 182  
 Diameter of tubes 3 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates S Thickness: Front 29/32 Back 7/8 Mean pitch of stays 4 3/8  
 Pitch across wide water spaces 14 Working pressures by rules 276 Girders to Chamber tops: Material S Depth and  
 thickness of girder at centre 11x1 1/2 Length as per rule 36 Distance apart 10 Number and pitch of stays in each 3  
 Working pressure by rules 210 Steam dome: description of joint to shell xx % of strength of joint xx  
 Diameter xx Thickness of shell plates xx Material xx Description of longitudinal joint xx Diam. of rivet holes xx  
 Pitch of rivets xx Working pressure of shell by rules xx Crown plates xx Thickness xx How stayed xx

**SUPERHEATER.** 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 \_\_\_\_\_

If not, state in which, and when, one will be sent?



IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded?

Rpt.

SPARE GEAR. State the articles supplied:— One propeller, 3 valve spindles, one air pump rod, one circulating pump rod, each set of Ip, Ip, & Lp packing rings, for piston, one complete set of top & bottom ends & bolts for one connecting rod, one quarter set of total number of jink ring bolts, one complete set of main bearing bolts for one bearing, one complete set of coupling bolts & nuts for one coupling, one safety valve spring for each main boiler, one half set of air pump valves, one half set of circulating pump valve, one set of ecc. rod & bolts, a quantity of assorted bolts & nuts, one set of feed & bilge pump valves.

The foregoing is a correct description,

T. Uchida THE ISEIKAWAJIMA SHIP BUILDING AND ENGINEERING Co. Ltd, TOKYO. Manufacturer.

Dates of Survey while building: During progress of work in shops - Jan 18, 25, Feby 3, 12, 21, March 3, 10, 17, 24, 31, April 4, 8, 14, 16, 23, 28, 30. May, 2, 6, 13, 17, 20, 22, 27, 30, June 4, 6, 10, 13, 17, 20, 23. During erection on board vessel - June 27, July 5, 8, 11. Total No. of visits 36.

Is the approved plan of main boiler forwarded herewith No  " " " donkey " " "

Dates of Examination of principal parts—Cylinders 23-4-19 Slides 13-5-19 Covers 23-4-19 Pistons 13-5-19 Rods 8-5-18 Connecting rods 9-3-19 Crank shaft 30-9-18 Thrust shaft 28-1-18 Tunnel shafts 29-3-18 Screw shaft 15-11-18 Propeller 27-5-19 Stern tube 17-5-19 Steam pipes tested 20-6-19 Engine and boiler seatings 10-6-19 Engines holding down bolts 27-6-19 Completion of pumping arrangements 5-7-19 Boilers fixed 5-7-19 Engines tried under steam 11-7-19 Completion of fitting sea connections 23-6-19 Stern tube 17-5-19 Screw shaft and propeller 23-6-19 Main boiler safety valves adjusted 5-7-19 Thickness of adjusting washers P.B. f 3/8 a 7/16, S.B. f 1/2 a 11/16". Material of Crank shaft S Identification Mark on Do. R.O.B. Material of Thrust shaft S. Identification Mark on Do. R.O.B. Material of Tunnel shafts S Identification Marks on Do. R.O.B. Material of Screw shafts S Identification Marks on Do. R.O.B. Material of Steam Pipes Steel & Copper Test pressure 540 lbs & 360 lbs. Is an installation fitted for burning oil fuel No  Is the flash point of the oil to be used over 150°F. X

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 See below

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been built under special survey in accordance with the approved plans and the society's Rules, The materials and workmanship are good, and the machinery has been satisfactorily tried under steam. The vessel being eligible in my opinion for record LMC 7-19.

Duplicate " Shinryu Maru " Report No. 2398, " Taizan Maru " Report No. 2402, " Genchu Maru " Report No. 2417, " Gozan Maru " Report No. 2429, " Yubae Maru " Report No. 2486.

It is submitted that this vessel is eligible for THE RECORD. + LMC 7. 19. F.D.

JWD 28/8/19 JPR

The amount of Entry Fee ... £ 30.00 When applied for, Special ... £ 510.00 12.7.19 Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ : : 15.7.19

J. J. Cairns Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. AUG. 29. 1919

Assigned June 7. 19



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