

# REPORT ON MACHINERY.

Received at London Office

MON. 24 MAR 1919

Date of writing Report 30<sup>th</sup> Jan 1919 When handed in at Local Office 19 Port of Kobe

No. in Survey held at Kobe Date, First Survey 12 June 1918 Last Survey 29<sup>th</sup> Jan 1919

Reg. Book. on the Steel Single Screw Steamer "Chifuku Maru" (Number of Visits 32)

Master R. Ori Built at Kobe By whom built The Kawasaki Kkyd. Co Ltd (Kawasaki, Yari No 4311) Tons { Gross 5854  
Net 4269

Engines made at Kobe By whom made The Kawasaki Kkyd. Co Ltd when made 1919

Boilers made at do By whom made do when made do

Registered Horse Power \_\_\_\_\_ Owners do Port belonging to Kobe

Nom. Horse Power as per Section 28 436 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 : 72 Length of Stroke 18 Revs. per minute 70 Dia. of Screw shaft as per rule 15 : 4 1/4 Material of screw shaft steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No Lined 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 5 : 5 1/4

Dia. of Tunnel shaft as per rule 13 : 4 1/8 Dia. of Crank shaft journals as per rule 11 : 1 1/2 Dia. of Crank pin 1 3/4 Size of Crank webs 9 1/2 x 20 1/2 Dia. of thrust shaft under collars 1 1/8 Dia. of screw 1 1/2 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 2 1/2 Can one be overhauled while the other is at work Yes (with Weir's feed)

No. of Bilge pumps Two Diameter of ditto 5 Stroke 2 1/2 Can one be overhauled while the other is at work Yes

No. of Donkey Engines Three Sizes of Pumps Bal. 10 x 11 x 12 Duplex No. and size of Suctions connected to both Bilge and Donkey pumps Weir's Feed 9 1/2 x 2 1/2 two

In Engine Room Three 3 1/2 Gen. Hdy. 7 1/2 x 5 x 6 Dup. In Holds, &c. No. 1, 3 + 4 holds, two 3 1/2 each hold.  
One 3 1/2 to tunnel well. No. 2 hold, two 1

No. of Bilge Injections 1 sizes 9 Connected to condenser, or 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 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 Platform in Eng. Room

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel Mitsui Ste. Co. Wash. Bn. 25B & 1 Aux 5B

Total Heating Surface of Boilers 5636 Is Forced Draft fitted Yes No. and Description of Boilers Two S. E. + One Aux. S. E.

Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 16<sup>th</sup> & 19<sup>th</sup> Nov. 1918 No. of Certificate 400 LBS

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 Spring loaded 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 18 Mean dia. of boilers 14 : 6 Length 12 : 0 Material of shell plates Steel

Thickness 3/8 Range of tensile strength 26783 to 32000 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Mid. Jrb. Ends doub.

long. seams Double riv. double straps Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 9 1/8 + 4 9/16 or width of butt straps 20 1/8 x 1 3/8

Per centages of strength of longitudinal joint rivets 96 : 1 Working pressure of shell by rules 203 lbs Size of manhole in shell 12" x 16"

Size of compensating ring (7 1/2 + flange) No. and Description of Furnaces in each boiler 3 Morrison's Material Steel Outside diameter 18 1/4

Length of plain part top Thickness of plates bottom 2 1/32 Description of longitudinal joint Weld No. of strengthening rings Yes

Working pressure of furnace by the rules 221 lbs Combustion chamber plates: Material Steel Thickness: Sides 1 1/16 Back 1 1/16 Top 1 1/16 Bottom 7/8

Pitch of stays to ditto: Sides 8 3/8 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 208 lbs

Material of stays Steel Area at smallest part 2.10 Area supported by each stay 9 3/8 x 8 1/2 Working pressure by rules 230 lbs End plates in steam space: 126

Material Steel Thickness 1 5/16 Pitch of stays 19 3/4 x 20 1/2 How are stays secured Small nuts 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 3/4 Material of Lower back plate Steel Thickness 3/4 Greatest pitch of stays 1 3/2 at wide Working pressure of plate by rules 200 lbs

Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates Steel Thickness: Front 1 3/16 Back 1 3/16 Mean pitch of stays 8 3/4

Pitch across wide water spaces 1 3/4 Working pressures by rules 200 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10 3/4 x 3 3/4 (two) Length as per rule 3 1/2 Distance apart 9 3/8 Number and pitch of stays in each 3 @ 8 1/2

Working pressure by rules 217 lbs Steam dome: description of joint to shell Yes % 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 \_\_\_\_\_ 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 \_\_\_\_\_

Material of Safety Valve \_\_\_\_\_ Pressure to which each is adjusted \_\_\_\_\_ Is Easing Gear fitted \_\_\_\_\_

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

SPARE GEAR. State the articles supplied:—

Four main bearing bolts + nuts ✓	Set packing rings + springs each piston
Two Crank pin bolts + nuts + set brasses ✓	Set junk ring bolts + nuts ✓
Two Crosshead bolts + nuts + brasses ✓	Propeller shaft. Four prop. blades + two sets studs + nuts.
Set Coupling bolts + nuts ✓	Slide valve spindle each size.
Sets feed + bilge pump valves ✓	Centrif. impeller + shaft.
Assorted bolts + nuts + iron ✓	A.P rod + nut. 3 safety valve springs
	Condenser tubes. Fire bars. Boiler Tubes etc. etc.

The foregoing is a correct description,

Kawasaki Dockyard Co. Ltd.,

Per *J. Ota Kane* Secretary, Manufacturer.

Dates of Survey while building: During progress of work in shops - 26 June 2.8.21. Aug. 2.7.13.19 Sep. 3.14.21.26 Oct. 1.7.16.18.19.27.30 Nov. 9.10.14.24.28 Dec. 1918. 12.13.17.20.25.28.29 January 1919  
Total No. of visits 32.

Is the approved plan of main boiler forwarded herewith *Yes*  
" " " donkey " " " *Yes*

Dates of Examination of principal parts—Cylinders 21/10/18 27/11/18 Slides 26/10/18 Covers 26/10/18 Pistons 1/11/18 Rods 2.8.18  
Connecting rods 2/8/18 Crank shaft 2/9/18 Thrust shaft 2/9/18 Tunnel shafts 12/6/18 Screw shaft 10/12/18 Propeller 9/12/18  
Stern tube 9.12.18 Steam pipes tested 7/11/18 27/11/18 Engine and boiler seatings 28.12.18 Engines holding down bolts 20.1.19  
Completion of pumping arrangements 17.1.19 Boilers fixed 20.1.19 Engines tried under steam 28.1.19.  
Completion of fitting sea connections 12.1.19 Stern tube 24.12.18 Screw shaft and propeller 12.1.19

Main boiler safety valves adjusted 25.1.19 Thickness of adjusting washers Locknuts Clearance Star Blr F 1/16 Port Blr F 3/16 A 9/16 F 9/16 A 13/16  
Material of Crank shaft *Steel* Identification Mark on Do. *LLOYD'S 2.9.18 ALJ* Material of Thrust shaft *Steel* Identification Mark on Do. *LLOYD'S 2.9.18 ALJ*  
Material of Tunnel shafts *Steel* Identification Marks on Do. *LLOYD'S 12.6.18 A.L.J.* Material of Screw shafts *Steel* Identification Marks on Do. *K.S. 29 LLOYD'S 10.12.18 ALJ*

Material of Steam Pipes *Steel (S.D.)* ✓ Test pressure *600 lbs.*  
Is an installation fitted for burning oil fuel *No* ✓ Is the flash point of the oil to be used over 150°F. *Space* *K.S. 4F LLOYD'S 13.1.19 A.W. 9R*

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 *"War Queen" "Bar Wolf" etc "East Port" "Seijuku Maru" etc 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 approved plans + the Society's Rules + the materials + workmanship have been found good.*

*Photoprints of the midship section + Prop. + Deck plans are forwarded under separate cover.*

*Class Recommendation*

It is submitted that this vessel is eligible for THE RECORD + LMC 1.19. F.D.

*ATD* 25/3/19  
*Arthur Jones*  
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... *Yen 30* : When applied for, *1st Feb. 1919*  
Special ... *Yen 135* :  
Donkey Boiler Fee ... *Yen* : When received,  
Travelling Expenses (if any) *Yen 15* : *7.3.19*

Committee's Minute *FRI. 28 MAR. 1919*  
Assigned *+ d. mo. 1.19 J. J.*

HULL CERTIFICATE  
WRITTEN.

