

REPORT ON MACHINERY.

No. 960

Port of Kobe

Received at London Office MIN. 20 FEB 1911

No. in Survey held at Kobe Date, first Survey 5th Mar: 1910 Last Survey 11 January 1911

eg. Book. on the Steel Screw Steamer "Yaiun Maru" (Number of Visits)

Master M. Sakamoto Built at Kobe By whom built The Kawasaki Dockyard Co Ltd Tons { Gross 2940 Net 2342 When built 1911-1

Engines made at Kobe By whom made The Kawasaki Dockyard Co Ltd when made 1911-1

Boilers made at do By whom made do when made do

Registered Horse Power 149 Owners The Kawasaki Dockyard Co Ltd Port belonging to Kobe

nom. Horse Power as per Section 28 149 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 17 1/2 : 28 : 46 Length of Stroke 36 Revs. per minute 70 Dia. of Screw shaft as per rule 11-4/8 Material of screw shaft Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No. Is the after end of the liner made water tight

the propeller boss Yes 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

cranks are fitted, is the shaft lapped or protected between the liners Lapped near liners Length of stern bush 3'-10 1/2"

Dia. of Tunnel shaft as per rule 9.05 Dia. of Crank shaft journals as per rule 9.509 Dia. of Crank pin 9 5/8 Size of Crank webs 6" x 14" Dia. of thrust shaft under

rollers 9 5/8 Dia. of screw 15'-0" Pitch of Screw 14'-0" No. of Blades 4 State whether moveable No Total surface 78

No. of Feed pumps Two Diameter of ditto 3 1/4 Stroke 18 Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two Diameter of ditto 3 1/4 Stroke 18 Can one be overhauled while the other is at work Yes

No. of Donkey Engines Two Sizes of Pumps 7 1/2 x 4 1/2 x 6" Duplex No. and size of Suctions connected to both Bilge and Donkey pumps

in Engine Room Three 3 1/2" 7 x 8 x 10 Duplex In Holds, &c. One a side in each of Nos. 1 & 2 holds. 3" dia

No. of Bilge Injections 1 sizes 4 1/2" Connected to condenser, or to circulating pump As per 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 ✓

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

Dates of examination of completion of fitting of Sea Connections 23rd Nov 1910 of Stern Tube 21st Nov 1910 Screw shaft and Propeller 28th Nov 1910

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper S. R. platform.

MANUFACTURERS, &c.—(Letter for record S.) Manufacturers of Steel Colville, 'Hallside' Clydesdale

Total Heating Surface of Boilers 2446.6 Is Forced Draft fitted No No. and Description of Boilers Two Single ended.

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 7.11.10 port No. of Certificate 21 & 22

Can each boiler be worked separately Yes Area of fire grate in each boiler 41 No. and Description of Safety Valves to

each boiler Two Direct Spring Area of each valve 3 1/4 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 1' 6" Mean dia. of boilers 11' 0" Length 10' 6" Material of shell plates Steel

Thickness 1" Range of tensile strength 28 to 32 Tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double

Long. seams Inter. riv. Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 6 3/4 x 3 3/8" Lap of plates or width of butt straps 1' 2 1/2" x 7/8"

Percentages of strength of longitudinal joint 84.25 Working pressure of shell by rules 196 lbs Size of manhole in shell 12' x 17'

Size of compensating ring 2' 9 3/4" x 2' 4 3/4" No. and Description of Furnaces in each boiler Two 'Morison's' Material Steel Outside diameter 3' 6 1/4"

Length of plain part top Thickness of plates bottom 11/32" 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 19/32" Back 19/32" Top 21/32" Bottom 3/4"

Pitch of stays to ditto: Sides 9 3/4" x 6" Back 8 1/2" x 7 1/2" Top 9" x 8 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 190 lbs

Material of stays Steel at smallest part 1' 5" 1.79 Area supported by each stay 63.5 x 81 Working pressure by rules 189 lbs End plates in steam space:

Material Steel Thickness 1/8" Pitch of stays 16" x 15" How are stays secured Out. nuts Working pressure by rules 190 lbs Material of stays Steel

Section diameter at smallest part 5' 2 1/2" Area supported by each stay 16" x 15" Working pressure by rules 229 lbs Material of Front plates at bottom Steel

Thickness 3/4" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 12 1/2" Working pressure of plate by rules 180 lbs

Diameter of tubes 3 3/4" Pitch of tubes 4 3/8" x 4 1/4" Material of tube plates Steel Thickness: Front 1/8" Back 3/4" Mean pitch of stays 9"

Pitch across wide water spaces 9" Working pressures by rules 180 lbs Girders to Chamber tops: Material Steel Depth and

Thickness of girder at centre 9 1/4" x 1 1/2" Length as per rule 31 1/2" Distance apart 8 1/2" Number and pitch of stays in each Two @ 9"

Working pressure by rules 236 lbs Superheater or Steam chest; how connected to boiler ✓ Can the superheater be shut off and the boiler worked

separately ✓ Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet

holes ✓ Pitch of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓

stiffened with rings ✓ Distance between rings ✓ Working pressure by rules ✓ End plates: Thickness ✓ How stayed ✓

Working pressure of end plates ✓ Area of safety valves to superheater ✓ Are they fitted with easing gear ✓

Lloyd's Register Foundation

11232-0011

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. Description *No donkey boiler*
 Made at By whom made When made Where fixed
 Working pressure tested by hydraulic pressure to Date of test No. of Certificate Fire grate area Description of Safety
 Valves No. of Safety Valves Area of each Pressure to which they are adjusted Date of adjustment
 If fitted with easing gear If steam from main boilers can enter the donkey boiler Dia. of donkey boiler Length
 Material of shell plates Thickness Range of tensile strength Descrip. of riveting long. seams
 Dia. of rivet holes Whether punched or drilled Pitch of rivets Lap of plating Per centage of strength of joint Rivets
 Working pressure of shell by rules Thickness of shell crown plates Radius of do. No. of stays to do. Dia. of stays Plates
 Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of joint
 Working pressure of furnace by rules Thickness of furnace crown plates Stayed by
 Diameter of uptake Thickness of uptake plates Thickness of water tubes Dates of survey

SPARE GEAR. State the articles supplied:— *Two crosshead bolts & nuts. Two crank pin bolts & nuts. Two main bearing bolts & nuts. One set coupling bolts & nuts. Set feed pump valves. Set bilge pump valves. Set piston rings, & junk rings for each piston. Set 14" piston valve packing rings. Assorted bolts & nuts & iron. One each size valve spindle. Air pump rod. Air pump rod. 2 Safety valve springs. A.P. valves & seats. Air pump valves. Set feed check valves & seats. Condenser tubes & glands. Fire bars. Boiler tubes. etc.*
 The foregoing is a correct description, *KAWASAKI DOCKYARD COMPANY Ltd. Business Manager. Manufacturer.*

Dates of Survey while building { During progress of work in shops - 5th March to 28th Nov 1910
 { During erection on board vessel - 1st Oct 1910 to 11th Jan 1911
 Total No. of visits ? Continuous attendance Is the approved plan of main boiler forwarded herewith *Yes*
 " " " donkey " " "

Dates of Examination of principal parts—Cylinders 26.10.10 Slides 29.10.10 Covers 21.10.10 Pistons 1.12.10 Rods 9.11.10
 Connecting rods 9.11.10 Crank shaft 27.10.10 Thrust shaft 9.11.10 Tunnel shafts 10.11.10 Screw shaft 14.11.10 Propeller 24.11.10
 Stern tube 8.11.10 Steam pipes tested 15.12.10 Engine and boiler seatings 17.11.10 Engines holding down bolts 9.12.10
 Completion of pumping arrangements 15.12.10 Boilers fixed 9.12.10 Engines tried under steam 27.12.10
 Main boiler safety valves adjusted 26.12.10 Thickness of adjusting washers 1/2"
 Material of Crank shaft *Steel* Identification Mark on Do. *L.R. 10.10AL* Material of Thrust shaft *Steel* Identification Mark on Do. *Lloyd No. 138 19.8.10 D*
 Material of Tunnel shafts *Steel* Identification Marks on Do. *Lloyd No. 139 4.11.10 D* Material of Screw shafts *Steel* Identification Marks on Do. *Lloyd No. 144 30.8.10 D*
 Material of Steam Pipes *Copper* Test pressure *360 lbs*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery has been made & fitted in accordance with the requirements of the Rules & the workmanship has been found good. The shafting has been made & finished by W. Beardmore & Co. Except the crank shaft made at Kawasaki Works from Daniel & Lueg tested in situ. The machinery in my opinion renders the vessel eligible for the notation +LMC 1.11 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. + LMC. 1. 11.

J.W.D. 20/2/11

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

The amount of Entry Fee £20⁰⁰ : : When applied for.
 Special £335⁰⁰ : : 30th Jan 1911
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :
 When received, 2.2.1911
 TUE. 21 FEB 1911

Committee's Minute
 Assigned *Thorne 1.11*



Ship (No. 1) Office

Certificate (if required) to be sent to

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

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