

REPORT ON MACHINERY.

Received at London Office MON. 13 JUN 1921

Date of writing Report 3rd May, 1921 When handed in at Local Office 10 Port of YOKOHAMA

No. in Survey held at YOKOHAMA Date, First Survey 30th Oct, 1920 Last Survey 2nd May, 1921
 Reg. Book. on the Steel Twin Screw Steamer " MATSUMOTO MARU " (Yard No. 81) (Number of Visits 61)

Master Kenzo Kurihara Built at YOKOHAMA By whom built Yokohama Dock Co., Ltd Tons { Gross 7024.73
 Net 4334.12
 When built 1921

Engines made at YOKOHAMA By whom made Yokohama Dock Co., Ltd when made 1921

Boilers made at YOKOHAMA By whom made Yokohama Dock Co., Ltd when made 1921

Registered Horse Power Owners Nippon Yusen Kabushiki Kaisha Port belonging to Tokyo

Nom. Horse Power as per Section 28 632 ✓ Is Refrigerating Machinery fitted for cargo purposes No ✓ Is Electric Light fitted Yes ✓

ENGINES, &c.—Description of Engines Twin Triple Reciprocating ✓ No. of Cylinders 6 ✓ No. of Cranks 6 ✓

Dia. of Cylinders 20 1/2 x 33 1/2 x 56" Length of Stroke 48" ✓ Revs. per minute 90 ✓ Dia. of Screw shaft as per rule 13.1" Material of S ✓
 as fitted 13 1/2" 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 XX If two liners are fitted, is the shaft lapped or protected between the liners XXX Length of stern bush 62 ✓

Dia. of Tunnel shaft as per rule 11.61" Dia. of Crank shaft journals as per rule 12.2" Dia. of Crank pin 12.75" Size of Crank webs 17 1/2 x 8 1/2" Dia. of thrust shaft under collars 12' 5" Dia. of screw 15' - 9" Pitch of Screw 18' - 0" ✓ No. of Blades 4 ✓ State whether moveable Yes Total surface 78 sq ft

No. of Feed pumps 2 ✓ Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes ✓
 2 Weirs 10 1/2" x 8" x 24"

No. of Bilge pumps 4 ✓ Diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes ✓
 B.P. 10 x 12 x 12" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 3-3 1/2" Oil.P. G.S. 8 1/2 x 6 x 9" Nos. 1. 3. 4. 5. 6. 7. 2 each
 3 1/2", tunnel 4-3" tunnel well one 3", fore peak 1-3", chain locker 1-1 1/2", after peak 1-3".

No. of Bilge Injections 2 sizes 8' Connected to circulating pump Yes ✓ Is a separate Donkey Suction fitted in Engine room & size two 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 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 Below ✓

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 Nos. 1. 2. 3. 4. hold bilge pipes How are they protected Wood lining ✓

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 E.R. top platform ✓

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel D. Colville and Sons Ltd ✓

Total Heating Surface of Boilers 9200 ✓ Is Forced Draft fitted Yes No. and Description of Boilers 4 Multitubular ✓
 4 SB.

Working Pressure 200 ✓ Tested by hydraulic pressure to 400 ✓ Date of test 18-3-21 ✓ No. of Certificate 759-60-1-2
 30-3-21

Can each boiler be worked separately Yes ✓ Area of fire grate in each boiler 56.2 ✓ No. and Description of Safety Valves to each boiler 2 Spring loaded ✓ Area of each valve 9.6 sq in Pressure to which they are adjusted 205 ✓ Are they fitted with easing gear Yes ✓

Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 14-3" Length 11-6" Material of shell plates S

Thickness 15/16 Range of tensile strength 26 to 32 ✓ Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.L.
 long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1-3/8" Pitch of rivets 9 1/2" Lap of plates or width of butt straps 20 1/2"

Per centages of strength of longitudinal joint rivets 88.4 Working pressure of shell by rules 209 Size of manhole in shell 16" x 12"
 plate 85.6

Size of compensating ring 36" x 30 3/4" No. and Description of Furnaces in each boiler 3 E.C. Material S Outside diameter 41 1/4"

Length of plain part top XX Thickness of plates crown 5/8" Description of longitudinal joint Weld No. of strengthening rings X
 bottom XX

Working pressure of furnace by the rules 244 Combustion chamber plates: Material S Thickness: Sides 11/16 Back 11/16 Top 11/16 Bottom 15/16

Pitch of stays to ditto: Sides 9" x 8" Back 9 x 8 1/2" Top 9 x 8 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 212

Material of stays S Area at smallest part 2.07" Area supported by each stay 76.8" Working pressure by rules 243 End plates in steam space: Material S Thickness 7/32 Pitch of stays 16 1/2" x 19 1/2" How are stays secured D. Nuts Working pressure by rules 208 Material of stays S

Area at smallest part 7.06" Area supported by each stay 318 sq in Working pressure by rules 230 Material of Front plates at bottom S

Thickness 3/4" Material of Lower back plate S Thickness 11/16 Greatest pitch of stays 13 5/8" x 8 1/2" Working pressure of plate by rules 236

Diameter of tubes 3 1/2" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates S Thickness: Front 3/4" Back 3/4" Mean pitch of stays 9"

Pitch across wide water spaces 13 3/4" Working pressures by rules 212 Girders to Chamber tops: Material S Depth and thickness of girder at centre 10 x 1 1/2" Length as per rule 29 1/2" Distance apart 8 1/2" Number and pitch of stays in each 2 - 9"

Working pressure by rules 327 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

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 _____

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— One crank shaft, one propeller shaft, one set coupling bolts and nuts, two main bearing bolts, one set of feed and bilge pump valves, one set connecting rod top end bolts and nuts, one set bottom end bolts and nuts, one set top and bottom ends, one piston rod, one valve spindle, one air pump rod, one set rings for each piston and piston valve of both engines, two propeller blades for each engine, 1/4 total number junk ring bolts, twelve cylinder cover nuts and studs, three escape valve springs, 1/30 total number condenser tubes, one pair eccentric rod and straps, four safety valve springs, twelve boiler tubes, a quantity of assorted bolts and nuts and iron of various sizes etc.

The foregoing is a correct description,

Sanataro Tokyo Manufacturer.

Dates of Survey while building: During progress of work in shops -- 17, 19, 20, 22, 24, 28, 31, Feb 3, 4, 7, 10, 15, 17, 19, 22, 23, 24, 26, Mar 1, 4, 5, 8, 10, 15, 18, 24, 25, 29, 30, 31, Apl 5. During erection on board vessel -- April 11, 13, 18, 21, 23, 27, May 2. Total No. of visits 61.

Is the approved plan of main boiler forwarded herewith No

Dates of Examination of principal parts: Cylinders 3-2-21, Slides 7-2-21, Covers 7-2-21, Pistons 24-12-20, Rods 24-12-20, Connecting rods 22-2-21, Crank shaft 22-2-21, Thrust shaft 4-9-20, Tunnel shafts 18-3-21, Screw shaft 27-8-20, Propeller 30-3-21, Stern tube 11-1-21, Steam pipes tested 31-3-21, Engine and boiler seatings 18-4-21, Engines holding down bolts 18-4-21, Completion of pumping arrangements 23-4-21, Boilers fixed 18-4-21, Engines tried under steam 27-4-21, Completion of fitting sea connections 5-4-21, Stern tube 24-3-21, Screw shaft and propeller 5-4-21, Main boiler safety valves adjusted 23-4-21, Thickness of adjusting washers, Jam Nuts

Material of Crank shaft S Identification Mark on Do. J.S.C. Material of Thrust shaft S Identification Mark on Do. No 208, Material of Tunnel shafts S Identification Marks on Do. Material of Screw shafts S Identification Marks on Do. R.O.B., Material of Steam Pipes Steel 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. xx

Have the requirements of Section 49 of the Rules been complied with xx

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 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, the machinery has been satisfactorily tried under steam, and is in my opinion eligible for record LMC 5-21.

It is submitted that this vessel is eligible for THE RECORD + LMC 5. 21. F.D. CL.

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

The amount of Entry Fee ... £ 60.00 When applied for, Special ... £ 903.00 3-5-19-21 Donkey Boiler Fee ... £ Travelling Expenses (if any) £ 43.00 10-5-19-21

Committee's Minute FRI. 17 JUN. 1921 Assigned + L.M.C. 5.21 F.D. e.L.

J.W.D. 17/4/21 Jass Cairns Engineer Surveyor to Lloyd's Register of Shipping.

