

REPORT ON MACHINERY.

No. 2869
TUE. SEP. 28 1920

Received at London Office

Date of writing Report July 28th 1920 When handed in at Local Office

Port of Kobe

No. in Survey held at Kobe
Reg. Book.

Date, First Survey Dec 8. 19. Last Survey June 7 19 20.

on the Steel Single Screw Steamer "MALACCA MARU" Tons Gross 5373.76 Net 3209.71

Master S. Shinomiya Built at Kobe By whom built Mitsubishi Zosen Kaisha Ltd. When built 1920

Engines made at Kobe By whom made Mitsubishi Zosen Kaisha Ltd. when made 1920

Boilers made at do By whom made do when made 1920

Registered Horse Power 493 Owners Nippon Yusen Kaisha Port belonging to Tokyo

Nom. Horse Power as per Section 28 493 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 1/2": 44 1/2": 75" Length of Stroke 48" Revs. per minute 15.25 Dia. of Screw shaft as fitted 16" Material of screw shaft Steel

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 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 6'-0"

Dia. of Tunnel shaft as per rule 13.75 as fitted 14" Dia. of Crank shaft journals as per rule 14.48 as fitted 14 3/4" Dia. of Crank pin 15" Size of Crank webs 28"x9 1/2" Dia. of thrust shaft under

collars 14 3/4" Dia. of screw 18'-3" Pitch of Screw 19'-8 1/6" No. of Blades 4 State whether moveable Yes Total surface 96.8 sq ft

No. of Feed pumps 2 Diameter of ditto 5 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 5 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Donkey Engines Four Sizes of Pumps Feed 2 sets Mumford 9 1/2"x12"x21" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3 @ 3 1/2" In Holds, &c. Nos. 1, 2, 3 + 4 Holds 2 @ 3 1/2"

Reserve bunker + Cross bunker 2 @ 3 1/2"; Dry tank + Tunnel Well 1 @ 3 1/2"

No. of Bilge Injections 1 sizes 8" Connected to condenser, or to circulating pump Cir. Pp. 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 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 Yes 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 Engine room top

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Wm. Beardmore & Co., David Gilchrist & Sons.

Total Heating Surface of Boilers 6569.1 Is Forced Draft fitted Yes No. and Description of Boilers Three Single ended

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 24th Apr. 1920 No. of Certificate LLOYD'S TEST W.P. 200 LBS. No. 24-4-20-R

Can each boiler be worked separately Yes Area of fire grate in each boiler 54 No. and Description of Safety Valves to

each boiler 2 spring loaded Area of each valve 19.24 sq in Pressure to which they are adjusted 200 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 11'-6" Mean dia. of boilers 14'-0" Length 11'-6" Material of shell plates Steel

Thickness 1 1/6" Range of tensile strength Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.L.

long. seams TR.DBS. Diameter of rivet holes in long. seams 1 1/6" Pitch of rivets 9 1/2" Lap of plates or width of butt straps 2 1/2"

Per centages of strength of longitudinal joint rivets 88.39 Working pressure of shell by rules 233 lbs. Size of manhole in shell (3'-1" x 2'-9") 12" x 16"

Size of compensating ring 3'-1" x 2'-9" No. and Description of Furnaces in each boiler 3 Morrison's Material Steel Outside diameter 3'-7 3/4"

Length of plain part top bottom Thickness of plates crown 5/8" Description of longitudinal joint Weld No. of strengthening rings 1

Working pressure of furnace by the rules 230 lbs. Combustion chamber plates: Material Steel Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 15/16"

Pitch of stays to ditto: Sides 8 1/2" x 9 1/4" Back 8" x 9" Top 9 3/4" x 7" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 207 lbs.

Material of stays Steel Area at smallest part 2.03 Area supported by each stay 79.5 Working pressure by rules 229 lbs. End plates in steam space:

Material Steel Thickness 1 3/32" Pitch of stays 20" x 18" How are stays secured DN + W. Working pressure by rules Material of stays Steel

Area at smallest part 7.67 Area supported by each stay 360 lbs. Working pressure by rules 214 lbs. Material of Front plates at bottom Steel

Thickness 3/4" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 13 3/4" x 8" Working pressure of plate by rules 290 lbs.

Diameter of tubes 3/4" Pitch of tubes 4 1/2" x 4 3/8" Material of tube plates Steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 9" x 8 3/4"

Pitch across wide water spaces 13 3/4" Working pressures by rules 245 lbs. Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 10 1/4" x 1 3/4" Length as per rule 2'-7 3/8" Distance apart 9 3/4" Number and pitch of stays in each 3 @ 7"

Working pressure by rules 266 lbs. Steam dome: description of joint to shell % of strength of joint

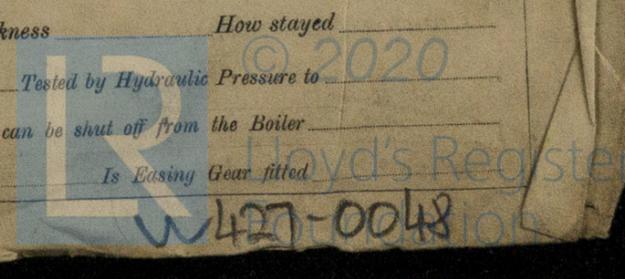
Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

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



427-0048

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

Rpt. 13.

SPARE GEAR. State the articles supplied:—

- 1 Complete set of Connecting rod top & bottom bolts.
- 2 Propeller blades.
- 2 Main bearing bolts.
- 1 Set top & bottom braces for Conn. rod.
- 1 Set of coupling bolts.
- 1 pair Eccentric rods
- 1 Set of Traction & delivery seats & valves for feed & bilge pump.
- 1 Air pump rod with nut
- 1 Set of each piston packing ring.
- 1 Impeller shaft for Centrifugal pump.
- 1 Propeller shaft.
- 1 of each size of valve rod.
- 1 Complete set of valve & seat main & auxy. feed check valve for 1 boiler.
- 13 Junk ring bolts, cylinder easing cover bolts.
- 1 each size of escape valve for main engine.
- 3 off safety valve springs.
- 53 Condenser tubes.
- 150 Fire bars.

The foregoing is a correct description,

Kobe Works, Mitsubishi, Zosen Kaisha Ltd

Mototaru Haranishi

Manufacturer.

Dates of Survey while building: During progress of work in shops - Dec. 8, 29; Jan. 7, 14, 15, 16; Feb. 3, 13, 16, 19, 25; Mar. 4, 6, 14, 18, 22, 26; Apr. 2, 6, 8, 12, 17, 23, 24, 26, 28; May 1, 5, 6, 11, 19, 24, 26, 27, 29 June 3, 7.

Total No. of visits: 36

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 8-12-19 Slides 8-12-19 Covers 8-12-19 Pistons 8-12-19 Rods 8-12-19
 Connecting rods 8-12-19 Crank shaft 3, 6, 20 Thrust shaft 8-12-19 Tunnel shafts 15-11, 1920 Screw shaft 24 April Propeller May 1920
 Stern tube April 12 Steam pipes tested 25-5-20 Engine and boiler seatings Apr 28 Engines holding down bolts May 19
 Completion of pumping arrangements May 29th Boilers fixed May 19th Engines tried under steam 3-6-1920
 Completion of fitting sea connections May 26th Stern tube May 4th Screw shaft and propeller 4-5-1920
 Main boiler safety valves adjusted May 27 Thickness of adjusting washers Lock nuts.
 Material of Crank shaft Steel Identification Mark on Do. Lloyd's 26-4-20 Material of Thrust shaft steel Identification Mark on Do. Lloyd's 8-12-19
 Material of Tunnel shafts steel Identification Marks on Do. Lloyd's 8-12-19, 12-19, 29-12-19, 15-1-20, 4-3-20, 24-4-20 Material of Screw shafts steel Identification Marks on Do. Lloyd's 26-12-19
 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.

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

Is this machinery duplicate of a previous case. If so, state name of vessel Practically same as "Eastern Victor"

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

The machinery has been made and fitted under special survey and the materials and workmanship have been found good.
 In my opinion the machinery is eligible for the record of + L.M.C. 6.20.

Note: no certificates. Shafting not forged Kobe.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 6.20 (D)

Roll 1/10/20 GRR

R. Satchell

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 30
 Special ... £ 782
 Donkey Boiler Fee ... £
 Travelling Expenses (if any) £

When applied for, June 7 1920
 When received, June 22 1920

Committee's Minute

TUE. OCT. 5 1920

Assigned

+ L.M.C. 6.20

F.D.

CERTIFICATE WRITTEN



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Lloyd's Register Foundation

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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