

REPORT ON MACHINERY.

No. 3127

Received at London Office

Date of writing Report Apr. 26th 1921 When handed in at Local Office

19 Port of Kobe

No. in Survey held at Kobe

Date, First Survey Mar. 4th 1920 Last Survey Feb. 24th 1921

Reg. Book.

(Number of Visits 62)

on the Steel Single Screw Steamer "KOYU MARU"

Master Built at Kobe By whom built Mitsubishi Zosen Kaisha Tons Gross Net 1921

Engines made at Kobe By whom made Mitsubishi Zosen Kaisha when made 1921

Boilers made at do By whom made do when made 1921

Registered Horse Power Owners Airoumi Shoji Kaisha Ltd. Port belonging to Nishinomiya

Nom. Horse Power as per Section 28 495.8 496 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 26½":44½":75 Length of Stroke 48" Revs. per minute about 80 Dia. of Screw shaft as per rule 15.25 Material of screw shaft as fitted 16½ forged 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 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

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 68"

Dia. of Tunnel shaft as per rule 13.75 Dia. of Crank shaft journals as per rule 14.43 Dia. of Crank pin 15" Size of Crank webs shaped Dia. of thrust shaft under

collars 14¾" Dia. of screw 18'-3" Pitch of Screw 19'-9" 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 with Independ. Feed pump

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 1 G. S. pump Sizes of Pumps 7" x 5" x 7" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room P + S 3½" + Bilge Well, Dry tank Suction one 3½" In Holds, &c. Nos. 1, 2, 3 + 4 3½" P + S.

In Tunnel Well one 3½"; In Gross Bunker 3½" P + S.

No. of Bilge Injections 1 sizes 8" dia. Connected to condenser, or to circulating pump Cir. pp. Is a separate Donkey Suction fitted in Engine room & size Yes one - 4"

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 Bilge Suction Air Sounding How are they protected By wooden lagging

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 of E. Room.

OILERS, &c.—(Letter for record S) Manufacturers of Steel Lukens Steel Co. + North Steel Co. U. S. A.

Three @ 2206.7 Leeds Forge Co. + Nippon Steel Works.

Total Heating Surface of Boilers = 6620 sq. ft. Is Forced Draft fitted yes No. and Description of Boilers Three S. G. Scotch Boilers

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 1-12-1920 No. of Certificate 110705 TEST

Can each boiler be worked separately yes Area of fire grate in each boiler 58.44 sq. ft. No. and Description of Safety Valves to

each boiler Two Spring loaded Area of each valve 19.34 sq. in. 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 about 2'-6" Mean dia. of boilers 14'-0" Length 11'-6" Material of shell plates Steel

Thickness 1½" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged Descrip. of riveting: air seams Double riveted

mg. seams Double riveted Diameter of rivet holes in long. seams 1½" Pitch of rivets 9½" Lap of plates or width of butt straps 20½"

Percentages of strength of longitudinal joint plate 85.5% Working pressure of shell by rules 221 lbs. Size of manhole in shell 12" x 16" (door)

Size of compensating ring 33x37x1½" Plg. No. and Description of Furnaces in each boiler 3 Leeds Bulk Material Steel Outside diameter 3'-9½"

Length of plain part top 5" Thickness of plates crown 5" Description of longitudinal joint Welded No. of strengthening rings 1

Working pressure of furnace by the rules 230 lbs. Combustion chamber plates: Material Steel Thickness: Sides ¾" Back ¾" Top ¾" Bottom 1½"

Pitch of stays to ditto: Sides 7½" x 11" Back 9" x 9½" Top 7" x 11½" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 214 lbs.

Material of stays steel Area at smallest part 2.03 sq. ft. Area supported by each stay 7½" x 11" Working pressure by rules 221 lbs. End plates in steam space:

Material Steel Thickness 1½" Pitch of stays 20" x 18" How are stays secured Double nuts Working pressure by rules 214 lbs. Material of stays Steel

Area at smallest part 7.67 sq. ft. Area supported by each stay 360 lbs. Working pressure by rules 222 lbs. Material of Front plates at bottom Steel

Thickness 3½" Material of Lower back plate Steel Thickness 3½" Greatest pitch of stays 16" x 11" Working pressure of plate by rules 223 lbs.

Diameter of tubes 3½" Pitch of tubes 4½" x 4½" Material of tube plates Steel Thickness: Front 3½" Back 2½" Mean pitch of stays 13½" x 6.56

Pitch across wide water spaces 13½" Working pressures by rules 203 lbs. Girders to Chamber tops: Material Steel Depth and

Thickness of girder at centre 10½" x 5½" x 2 Length as per rule 2'-8" Distance apart 11½" Number and pitch of stays in each 3 @ 7"

Working pressure by rules 225 lbs. Steam dome: description of joint to shell None % 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 None 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?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied :-

- 1 Complete set of top & bottom brasses
1 Set each of H.P. & L.P. piston packing rings.
1 Set each of metallic packings for piston rods & valve spindles.
1 pair of Eccentric rods.
1 of each size of valve spindle
1/4 total number of junk-ring bolts.
1 Complete set of Coupling bolts for one coupling.
1 Complete set of main bearing bolts for one bearing.
1 Air pump rod
1 Set air pump valves.
1 impeller + impeller spindle circulating pump
1 Set of valve + seats for feed + bilge pump
1 Set of valves + seats for boiler check
3 Safety valve springs
Condenser tubes, ferrule
assorted bolts, steel bar etc.

The foregoing is a correct description,

Mototeru, Harumiishi.

Kobe Works, Mitsubishi Zosen Kaisha, Ltd.

Manufacturer.

Dates of Survey while building
During progress of work in shops - - - 1920
During erection on board vessel - - - 1921
Total No. of visits 62
Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 19-7-20 Slides 1-2-21 Covers 20-12-20 Pistons 20-12-20 Rods 28-1-21
Connecting rods 28-1-21 Crank shaft 20-11-20 Thrust shaft 17-11-20 Tunnel shafts 13-12-20 Screw shaft 14-12-20 Propeller 20-12-20
Stern tube 20-12-20 Steam pipes tested 12-2-21 Engine and boiler seatings 17-11-20 Engines holding down bolts 26-1-21
Completion of pumping arrangements 24-2-21 Boilers fixed 26-1-21 Engines tried under steam 1
Completion of fitting sea connections 26-1-21 Stern tube 22-1-21 Screw shaft and propeller 2-1-21
Main boiler safety valves adjusted 17-2-21 Thickness of adjusting washers Lock nuts
Material of Crank shaft Steel Identification Mark on Do. LLOYDS 20-11-20 A.W.R. Material of Thrust shaft Steel Identification Mark on Do. LLOYDS 17-11-20 W.L.R.
Material of Tunnel shafts Steel Identification Marks on Do. LLOYDS 13-12-20 A.W.R. Material of Screw shafts Steel Identification Marks on Do. LLOYDS 14-12-20 A.W.R.
Material of Steam Pipes Steel Test pressure 600 lb
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 yes If so, state name of vessel S/S. MALACCA MARU (Kobe Reg. No. 286)
S/S. EASTERN VICTOR (" " 274)

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

The Shafting has been forged & tested at the Builders Works.
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 notation of L.M.C 21. subject to the machinery being tried under steam.
The engines have not yet been tried under steam owing to the vessel being laid up meanwhile.

It is submitted, that
this vessel is eligible for
THE RECORD + L.M.C.

See Kobe Report No 3927

The amount of Entry Fee Yen 50.
Special ... 1490
Donkey Boiler Fee ... 180
Travelling Expenses (if any) £
When applied for, 19
When received, 14.10.21

Committee's Minute

Assigned

FRI JAN 20 1922

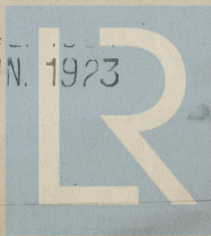
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See Kob 3927

FRI 22 JUN 1923

A Watt.

Engineer Surveyor to Lloyd's Register of Shipping.



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