

REPORT ON MACHINERY

No. 3256

Received at London Office WFO. 21 SEP. 1921

Date of writing Report 18th Aug. 1921 When handed in at Local Office

Port of Kobe

Survey held at Kobe & Yama

Date, First Survey 9th Sept. 1919 Last Survey 27th July 1921.

on the Steel Single Screw Steamer "WATESAN MARU"

(Number of Visits 38.)

Gross 5833.59
Net 4094.24

Master Euzo Umeda Built at Yama Yard By whom built Mitsui Bussan Shipbuilding Dept. When built 1921

Engines made at Yama Yard By whom made Mitsui Bussan Shipbuilding Dept. when made 1921

Boilers made at 2 at Kobe, 1 at Yama By whom made 2 by Kobe Steel Works, 1 by Mitsui B. Kaisha when made 1921

Registered Horse Power Owners Mitsui Bussan Kaishiki Kaisha Port belonging to Kobe

Indicated Horse Power as per Section 28 488 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

GINES, &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 48" Revs. per minute 74 Dia. of Screw shaft as per rule 14.823 Material of steel

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

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

are fitted, is the shaft tapered or protected between the liners Yes Length of stern bush 5'-6"

Dia. of Tunnel shaft as per rule 13.53 Dia. of Crank shaft journals as per rule 14.2 Dia. of Crank pin 14 3/4" Size of Crank webs 2'-3" x 4'-3" Dia. of thrust shaft under

bars 14 3/8" Dia. of screw 17'-6" Pitch of Screw 19'-0" No. of Blades 4 State whether moveable Yes Total surface 100 sq

No. of Feed pumps 1 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 4 Sizes of Pumps Ballast 10x12x12 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 3 @ 3" In Holds, &c. Nos. 1, 3, 4 + 5-2 each @ 3 1/2"

Tunnel Well 3" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2"

No. of Bilge Injections 1 sizes 9 1/2" Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes

all the bilge suction pipes fitted with roses Yes Are the valves on Engine room bulkheads always accessible Yes

all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both

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

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

at pipes are carried through the bunkers Six bilge pipes How are they protected Wooden covering

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes

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

MANUFACTURERS, &c.—(Letter for record S) Manufacturers of Steel United States Steel Co. Tennessee Coal Iron & R.R. Co.

Total Heating Surface of Boilers 6836 sq ft 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 26-12-19 19-2-20 28-5-21 No. of Certificate 26-12-19 19-2-20 28-5-21

each boiler be worked separately Yes Area of fire grate in each boiler 54.9 sq ft No. and Description of Safety Valves 4

boiler 2 spring loaded Area of each valve 3 1/2" dia. Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear Yes

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

thickness 1 1/8" Range of tensile strength 2618 531-39 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double riveted

seams TRD.B.S. Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 8 5/8" Lap of plates or width of butt straps 1'-7"

percentages of strength of longitudinal joint rivets 96.9% plate 84.05% Working pressure of shell by rules 209 lbs. Size of manhole in shell 16" x 12"

of compensating ring 3'-0" x 2'-7" x 1 1/8" No. and Description of Furnaces in each boiler 3 Mouson's Material steel Outside diameter 44 1/4"

th of plain part top bottom Thickness of plates crown 19/32 bottom 1/32 Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules 213 lbs. Combustion chamber plates: Material steel Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 15/16"

of stays to ditto: Sides 9 1/2" x 7 1/4" Back 8 1/2" x 8 1/2" Top 8 3/8" x 9" 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 sq in Area supported by each stay 78.78 sq in Working pressure by rules 231 lbs. End plates in steam space:

Material steel Thickness 1 3/16" Pitch of stays 16 3/4" x 19" How are stays secured Nuts + washers Working pressure by rules 208 lbs. Material of stays steel

at smallest part 8.12 sq in Area supported by each stay 320.78 sq in Working pressure by rules 263 lbs. Material of Front plates at bottom steel

thickness 3/4" Material of Lower back plate steel Thickness 1 1/16" Greatest pitch of stays 17" x 10" Working pressure of plate by rules 230 lbs.

pitch of tubes 3" Pitch of tubes 4 1/4" x 4 1/8" Material of tube plates steel Thickness: Front 13/16" Back 3/4" Mean pitch of stays 8 1/2" x 8 1/4"

across wide water spaces 13 3/8" Working pressures by rules 253 lbs. Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 9" x 1 1/2" Length as per rule 29 1/4" Distance apart 8 3/8" Number and pitch of stays in each 2 @ 9"

Working pressure by rules 261 lbs. Steam dome: description of joint to shell % of strength of joint

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

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

al No. of Visits 58 RHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Pressure to which each is adjusted Is Easing Gear fitted

Is Easing Gear fitted

W471-0105

1647

162

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IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

1 Set Crank pin brasses
1 Bolt + nuts for Crosshead brasses.
2 Bolts + nuts for Crank pin brasses.
2 Main bearing bolts + nuts.
1 Set of coupling bolts + nuts for main shafting.
1 Set of feed + bilge pump valves.

1 Set of packing rings + springs for each size of pistons.
1/4 total number of junk ring bolts + nuts.
A quantity of assorted bolts + nuts.
Iron of various sizes.
20 plain tubes for boilers.
1 Set Crosshead brasses.
1 Eccentric rod for each size.

1 Set of feed check valve + S
1 Safety valve spring for each
1 Set of air pump valves.
1 Slide valve rod for each
1 Circulating pump shaft
A quantity of spare gear
the various auxiliary ma

The foregoing is a correct description.

MITSUI BUSSAN KAISHA, LTD.

T. H. G. D.

Manufacturer.

Dates of Survey while building: During progress of work in shops - 1919 Sept. 9; 1920 May 27, June 26, July 10, Aug. 24, Sept. 14, 21, 28, Oct. 5, 7, 12, 19, 21, 26, 30, Nov. 8, 13, 27, Dec. 9, 1921 Jan. 18, Febr. 1, 10, 26, Mar. 8, 15, 17, 24, May 6, 15, 24, June 15, 23, 30, July 6, 26, 27
During erection on board vessel - 1921 May 6, 15, 24, June 15, 23, 30, July 6, 26, 27
Total No. of visits 38.

Is the approved plan of main boiler forwarded herewith

yes

" " " donkey " " " "

Dates of Examination of principal parts—Cylinders 15-3-20 Slides 15-3-20 Covers 15-3-20 Pistons 18-3-20 Rods 18-3-

Connecting rods 18-3-20 Crank shaft 24-5-21 Thrust shaft 24-5-21 Tunnel shafts 15-6-21 Screw shaft 15-6-21 Propeller 24-5

Stern tube 10-3-21 Steam pipes tested 15-7-21 Engine and boiler seatings 26-2-21 Engines holding down bolts 23-6-

Completion of pumping arrangements 25-6-21 Boilers fixed 18-6-20 Engines tried under steam 26-7-21

Completion of fitting sea connections 15-3-21 Stern tube 16-3-21 Screw shaft and propeller 17-3-21

Main boiler safety valves adjusted 22-7-21 Thickness of adjusting washers Lock nuts

Material of Crank shaft Steel Identification Mark on Do. Lloyd's Material of Thrust shaft Steel Identification Mark on Do.

Material of Tunnel shafts Steel Identification Marks on Do. Lloyd's Material of Screw shafts Steel Identification Marks on Do.

Material of Steam Pipes Copper Test pressure 400 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 yes If so, state name of vessel S/S. "EASTERN IMPORTER" (Rpt. No. 2)

General Remarks (State quality of workmanship, opinions as to class, &c.) S/S. "EASTERN EXPORTER" (Rpt. No. 2)

All Forgings for Shafting except one Tunnel Shaft, which was forged + finished at Sumitomo Steel Works, were forged, rough turned + finished at The Nippon Steel Works Hakodate.

The Machinery has been made + fitted under Special Survey in accordance with the requirements of the Rules and the materials and workmanship have been found good.

The Machinery of this vessel is eligible, it is submitted for the notation L.M.C. 7-21

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 7.21. F.D. C.L

Roll 22/9/21

The amount of Entry Fee ... Yen 60.-

Special ... £ 1541.-

ELECTRIC LIGHT INST. FEE ... £ 225.-

Donkey Boiler Fee ... £

Travelling Expenses (if any) £ Included on Hull

Committee's Minute TUE. 27 SEP. 1921

Assigned + L.M.C. 7.21 F.D. C.L.

Engineer Surveyor to Lloyd's Register of Shipping.

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