

## REPORT ON MACHINERY

No. 3257

WFD-21 SEP. 1921

Received at London Office

Date of writing Report

19

When handed in at Local Office

19

Port of Kobe

No. in Survey held at Habu, InnoshimaDate, First Survey 28 Feb. 1920 Last Survey 5th August 1921

Reg. Book.

on the Steel Single Screw Steamer "USURI MARU"(Number of Visits 28)Gross 6112.80Net 4464.36

Master

Built at InnoshimaBy whom built Osaka Iron Works, Ltd.When built 1921Engines made at InnoshimaBy whom made Osaka Iron Works, Ltd.when made 1920Boilers made at OsakaBy whom made dowhen made 1920

Registered Horse Power

Owners Osaka Iron Works, Ltd.Port belonging to Habu.Nom. Horse Power as per Section 28 553.Is Refrigerating Machinery fitted for cargo purposes noIs Electric Light fitted yesENGINES, &c.—Description of Engines Triple ExpansionNo. of Cylinders 3No. of Cranks 3Dia. of Cylinders 27.45.75Length of Stroke 51Revs. per minute about 68Dia. of Screw shaft as per rule 15.19Material of steelIs 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 5'-3 3/4"Dia. of Tunnel shaft as per rule 13.687Dia. of Crank shaft journals as per rule 14.37Dia. of Crank pin 14 7/8"Size of Crank webs 9 1/4 x 2 1/2"

Dia. of thrust shaft under

collars 14 7/8"Dia. of screw 18'-3"Pitch of Screw 18'-3"No. of Blades 4State whether moveable yesTotal surface 100 #No. of Feed pumps 2Diameter of ditto 4"Stroke 27"Can one be overhauled while the other is at work yesNo. of Bilge pumps 2Diameter of ditto 4 1/2"Stroke 27"Can one be overhauled while the other is at work yesNo. of Donkey Engines 4Sizes of Pumps WEIRS: 10 1/2 x 8 x 21 (2) 7 1/2 x 5 1/2 x 6"

GALLAST: 10 x 13 x 13

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3 @ 3 1/2"In Holds, &c. No. 1, 2, B.R., D.T., 4, 5 holds 2 @ 3 1/2"Tunnel Well 1 @ 2 1/2"No. of Bilge Injections 1sizes 9"Connected to condenser, or to circulating pump ✓Is a separate Donkey Suction fitted in Engine room & size yesAre all the bilge suction pipes fitted with roses yesAre the roses in Engine room always accessible yesAre the sluices on Engine room bulkheads always accessible ✓Are all connections with the sea direct on the skin of the ship yesAre they Valves or Cocks BothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yesAre the Discharge Pipes above or below the deep water line aboveAre they each fitted with a Discharge Valve always accessible on the plating of the vessel yesAre the Blow Off Cocks fitted with a spigot and brass covering plate yesWhat pipes are carried through the bunkers Tank air & filling pipesHow are they protected Wooden CasingAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yesIs the Screw Shaft Tunnel watertight yesIs it fitted with a watertight door yesworked from E.R. top platformOILERS, &c.—(Letter for record S)Manufacturers of Steel The Illinois Steel Co.Total Heating Surface of Boilers 8100 #Is Forced Draft fitted yesNo. and Description of Boilers Three Single EndedWorking Pressure 180 lbs.Tested by hydraulic pressure to 360 lbs.Date of test 30-11-1920No. of Certificate 14-12-1920Can each boiler be worked separately yesArea of fire grate in each boiler 63.25 #

No. and Description of Safety Valves to

each boiler Two Spring loadedArea of each valve 3" dia.Pressure to which they are adjusted 185 lbs.Are they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork ✓Mean dia. of boilers 15'-0"Length 12'-0"Material of shell plates steelThickness 1 5/16"Range of tensile strength 26 to 30 tonsAre the shell plates welded or flanged noDescrip. of riveting: cir. seams D.R.long. seams T.R.D.B.S.Diameter of rivet holes in long. seams 1 1/4"Pitch of rivets 9"Lap of plates or width of butt straps 19 1/2"

Per centages of strength of longitudinal joint

rivets 87.2%plate 85.24%Working pressure of shell by rules 188 lbs.Size of manhole in shell 12" x 16"Size of compensating ring 2'-10" x 3'-2" x 1 1/4"No. and Description of Furnaces in each boiler 3 Deighton'sMaterial steelOutside diameter 48 1/4"

Length of plain part

top ✓

Thickness of plates

crown 1 1/32"bottom 1 1/32"Description of longitudinal joint ✓No. of strengthening rings ✓Working pressure of furnace by the rules 195 lbs.Combustion chamber plates: Material steelThickness: Sides 5/8"Back 5/8"Top 5/8"Bottom 7/8"Pitch of stays to ditto: Sides 8 1/4" x 8 1/2"Back 8 1/2" x 8 1/2"Top 8" x 9"If stays are fitted with nuts or riveted heads nutsWorking pressure by rules 186 lbs.Material of stays steelArea at smallest part 1.79 #Area supported by each stay 72.25 #Working pressure by rules 222 lbs.

End plates in steam space:

Material steelThickness 1 1/32"Pitch of stays 18" x 20"How are stays secured nuts & washersWorking pressure by rules 194 lbs.Material of stays steelArea at smallest part 7.50Area supported by each stay 362 #Working pressure by rules 215 lbs.Material of Front plates at bottom steelThickness 3/4"Material of Lower back plate steelThickness 3/4"Greatest pitch of stays 14" double 1 1/2"Working pressure of plate by rules 228 lbs.Diameter of tubes 3"Pitch of tubes 4 1/8" x 4 1/4"Material of tube plates steelThickness: Front 3/4"Pitch across wide water spaces 13 1/4"Working pressures by rules 204 lbs.Girders to Chamber tops: Material steel

Depth and

thickness of girder at centre 9 3/4" x 1 3/4"Length as per rule 33 5/8"Distance apart 9"Number and pitch of stays in each 3 @ 8"Working pressure by rules 211 lbs.Steam dome: description of joint to shell ✓

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

PERHEATER. 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

Date of Test

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

Lloyd's Register

Foundation

W1310-0169



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

✓

SPARE GEAR. State the articles supplied:—

4 bolts + nuts for piston rod top end bolts.	1 Set bolt end brasses.	1/4 set junk ring bolts + nuts.
2 Conn. rod bolt end bolts + nuts.	1 pair Crosshead brasses.	1/30 of Condenser tubes.
2 main bearing bolts + nuts.	1 Valve spindle each size.	1/2 set air pump valves.
1 set of coupling bolts.	1 Ecc. rod each size.	1 Centrifugal pump impeller shaft.
1 set packing rings for each piston.	1 Air pump rod.	1 set safety valve springs.
1 propeller blade.	1 set each of bilge + feed pump valves + seats.	1/2 the amount of fire bars.
Assorted iron + bolts + nuts.		24 Water gauge glasses.
		a quantity of spare gear for the various auxiliary machinery.

The foregoing is a correct description,

K. Miyatomi.

Manufacturer.

Dates of Survey while building	During progress of work in shops - - - 1920	May 22, 28; June 3; July 19, 29; Aug. 6, 10; Sept. 2; Oct. 6, 11.
	During erection on board vessel - - - 1921	Febr. 28; Mar. 4, 7; Apr. 8, 14; May 9, 23; June 14, 18, 21, 28; July 1, 5, 14, 21; Aug. 1, 3, 5.
	Total No. of visits	28

Is the approved plan of main boiler forwarded herewith

Yes

" " " donkey " " " " ✓

Dates of Examination of principal parts—Cylinders 26-10-20 Slides 26-10-20 Covers 26-10-20 Pistons 20-10-20 Rods 20-10-20

Connecting rods 20-10-20 Crank shaft 8-4-21 Thrust shaft 23-9-19 Tunnel shafts 15-12-20 Screw shaft 22-6-20 Propeller

Stern tube 15-12-20 Steam pipes tested 6-6-21 Engine and boiler seatings 14-1-21 Engines holding down bolts 18-6-21

Completion of pumping arrangements 20-4-21 Boilers fixed 15-4-21 Engines tried under steam 19-7-21

Completion of fitting sea connections 27-6-21 Stern tube 6-4-21 Screw shaft and propeller 23-12-20

Main boiler safety valves adjusted 14-7-21 Thickness of adjusting washers Lock nuts.

Material of Crank shaft Steel Identification Mark on Do. LLOYDS 23-9-19 Y.J.R.

Material of Tunnel shafts Steel Identification Marks on Do. LLOYDS 23-2-19: 18-1-19: 29-1-19: 1-3-19. Y.J.R. R.O.B. R.O.B. R.O.B.

Material of Steam Pipes Steel Test pressure 540 lb. sq. in. ✓

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 3/8 "TAIBU MARU" (Kobe Rpt. No. 2293)

General Remarks (State quality of workmanship, opinions as to class, &c.) 3/8 "HOYEISAN MARU" (" " " 2405)

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

The vessel is eligible in my opinion for the notation L.M.C.B.-2

It is submitted that this vessel is eligible for THE RECORD. + L.M.C.B.-21.F.D. C.L.

Recd 21/9/21

The amount of Entry Fee ... £ 60.00 When applied for,

Special ... £ 1539.75 Aug. 9<sup>th</sup> 1921

Donkey Boiler Fee ... £ : : When received,

Travelling Expenses (if any) £ : : 12.10.21

On hull report.

Committee's Minute TUE. 27 SEP. 1921

Assigned

+ L.M.C.B.-21

F.D. C.L.

Engineer Surveyor to Lloyd's Register of Shipping.



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