

REPORT ON MACHINERY

No. 3257

REC'D. 21 SEP. 1921

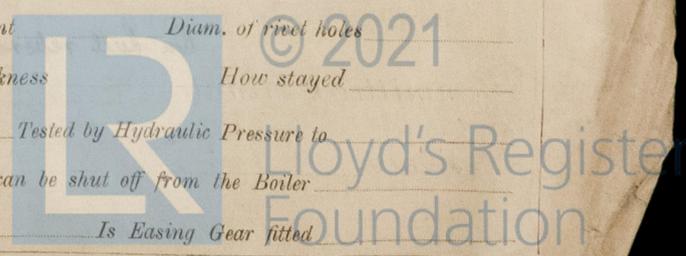
Received at London Office

Date of writing Report 19 When handed in at Local Office 19 Port of Kobe
 No. in Survey held at Habu, Innoshima Date, First Survey 28th Febr. 1920 Last Survey 5th August 1921
 Reg. Book. on the Steel Single Screw Steamer "USURI MARU" (Number of Visits 28)
 Master Built at Innoshima By whom built Osaka Iron Works, Ltd. Tons { Gross 612.80
 Engines made at Innoshima By whom made Osaka Iron Works, Ltd. when made 1920 Net 446.36
 Boilers made at Osaka By whom made do when 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 no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 27.45.75 Length of Stroke 51 Revs. per minute about 68 Dia. of Screw shaft as per rule 15.19 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 ✓ 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'-3³/₄"
 Dia. of Tunnel shaft as per rule 13.687 Dia. of Crank shaft journals as per rule 14.37 Dia. of Crank pin 14⁷/₈" Size of Crank webs 9¹/₄ x 27¹/₂" Dia. of thrust shaft under
 collars 14⁷/₈" Dia. of screw 18'-3" Pitch of Screw 18'-3" No. of Blades 4 State whether moveable yes Total surface 100^{sq}
 No. of Feed pumps 2 Diameter of ditto 4" Stroke 27" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4¹/₂" Stroke 27" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 4 Sizes of Pumps WEIRS: 10¹/₂ x 8 x 21 (2) 7¹/₂ x 5¹/₂ x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 3 @ 3¹/₂" In Holds, &c. No. 1, 2, B.R., D.T., 4, 5 holds 2 @ 3¹/₂"
Tunnel Well 1 @ 2¹/₂"
 No. of Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump air pp. Is a separate Donkey Suction fitted in Engine room & size yes
 Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the stances on Engine room bulkheads always accessible ✓
 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 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 Tank air & filling pipes How are they protected Wooden casing
 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

OILERS, &c.—(Letter for record S) Manufacturers of Steel The Illinois Steel Co.
 Total Heating Surface of Boilers 8100^{sq} Is Forced Draft fitted yes No. and Description of Boilers Three Single Ended
 Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 30-11-1920 No. of Certificate 300
 Can each boiler be worked separately yes Area of fire grate in each boiler 63.25^{sq} No. and Description of Safety Valves to
 each boiler Two Spring loaded Area of each valve 3" dia. Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork ✓ Mean dia. of boilers 15'-0" Length 12'-0" Material of shell plates steel
 Thickness 1⁵/₁₆" Range of tensile strength 26 to 30 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R.
 long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1¹/₄" Pitch of rivets 9" Lap of plates or width of butt straps 19¹/₂"
 Per centages of strength of longitudinal joint rivets 87.2% Working pressure of shell by rules 188 lbs. Size of manhole in shell 12" x 16"
 plate 85.24%
 Size of compensating ring 2-10x3'-2"x1¹/₄" No. and Description of Furnaces in each boiler 3 Deighton's Material steel Outside diameter 48¹/₄"
 Length of plain part top ✓ Thickness of plates crown 19¹/₃₂" Description of longitudinal joint ✓ No. of strengthening rings ✓
 bottom ✓ Working pressure of furnace by the rules 195 lbs. Combustion chamber plates: Material steel Thickness: Sides 5¹/₈" Back 5¹/₈" Top 5¹/₈" Bottom 7¹/₈"
 Pitch of stays to ditto: Sides 8¹/₂ x 8¹/₂" Back 8¹/₂ x 8¹/₂" Top 8" x 9" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 186 lbs.
 Material of stays steel Area at smallest part 1.79^{sq} Area supported by each stay 72.25^{sq} Working pressure by rules 222 lbs. End plates in steam space:
 Material steel Thickness 1¹/₃₂" Pitch of stays 18" x 20" How are stays secured nuts & washers Working pressure by rules 194 lbs. Material of stays steel
 Area at smallest part 7.50 Area supported by each stay 362^{sq} Working pressure by rules 215 lbs. Material of Front plates at bottom steel
 Thickness 3¹/₄" Material of Lower back plate steel Thickness 3¹/₄" Greatest pitch of stays 14" double 1¹/₂" Working pressure of plate by rules 228 lbs.
 Diameter of tubes 3" Pitch of tubes 4¹/₈ x 4¹/₈" Material of tube plates steel Thickness: Front 3¹/₄" Back 3¹/₄" Mean pitch of stays 8¹/₄ + 12³/₄"
 Pitch across wide water spaces 13¹/₄" Working pressures by rules 204 lbs. Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 9³/₄ x 1³/₄" Length as per rule 33⁵/₈" 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 ✓ % 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

54 SUPERHEATER. 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 _____
 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:—

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. Miyatani.

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 " " " " Yes

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 Thrust shaft Steel Identification Mark on Do. LLOYDS 22-6-20 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 Screw shafts Steel Identification Marks on Do. LLOYDS 22-6-20 Y.J.R.
 Material of Steam Pipes Steel Test pressure 540 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 5/8 "TAIBU MARU" (Kobe Rpt. No. 2293)
 General Remarks (State quality of workmanship, opinions as to class, &c.) 5/8 "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.

Reed
21/9/21
Am

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 ... £ 1539.75 Aug. 9th 1921
 Donkey Boiler Fee ... £ : : When received,
 Travelling Expenses (if any) \$: 12.10.1921

J. G. Fry
Engineer Surveyor to Lloyd's Register of Shipping.

On hull report.
 Committee's Minute TUE. 27th SEP. 1921
 Assigned + L.M.C.B.-21
 F. D. C.L.



Kobe

W

NEVER REUSED AGAIN