

REPORT ON MACHINERY.

Received at London Office TUE. APR. 23 1918.

Date of writing Report 19 When handed in at Local Office 19 Port of Mohe
 No. in Survey held at Ozaka Date, First Survey 24 March Last Survey 19 Novem 1917
 Reg. Book. on the Single Screw Steamer "Kohso maru" (Number of Visits 29)
 Master Built at Ozaka By whom built The Ozaka Iron Works, Ltd When built 1917
 Engines made at Ozaka By whom made The Ozaka Iron Works, Ltd when made 1917
 Boilers made at do By whom made do when made do
 Registered Horse Power Owners The Ozaka Shosen Kaisha Port belonging to Ozaka
 Nom. Horse Power as per Section 28 288 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 22:37:61 Length of Stroke 42 Revs. per minute 70 Dia. of Screw shaft as per rule 12.8 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 Fitted tightly If two
 liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 4' 8 3/4"
 Dia. of Tunnel shaft as per rule 11.2 Dia. of Crank shaft journals as per rule 11.77 Dia. of Crank pin 12 Size of Crank webs 7 3/8 x 23 Dia. of thrust shaft under
 collars 12 Dia. of screw 16" 0 Pitch of Screw 16" 0 No. of Blades 4 State whether moveable No Total surface 73 1/2 sq ft.
 No. of Feed pumps Two Diameter of ditto 3 1/4 Stroke 24 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps Two Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Two Sizes of Pumps Bal. 7, 8 1/2, 9 Dup. No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two 3" in Blr in two 3" In Holds, &c. Two 3" in each hold. After side 3 1/2"
 No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump at p. 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 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 None 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 Upper platform in ERm

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Parkhead. Sth Durham. Beighton flux.
 Total Heating Surface of Boilers 3824 Is Forced Draft fitted Yes No. and Description of Boilers Two Single Ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 28 July 1917 No. of Certificate LLOYDS 440 TEST 360 LBS ALJ 28-7-17 R
 Can each boiler be worked separately Yes Area of fire grate in each boiler 45 No. and Description of Safety Valves to
 each boiler Two Spring loaded Area of each valve 3 1/2 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 10" Mean dia. of boilers 13.6" Length 11.6" Material of shell plates Steel
 Thickness 1 3/32 Range of tensile strength 28 3/4 - 32 1/2 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double
 long. seams Str. riv. Diameter of rivet holes in long. seams 1 3/16 Pitch of rivets 8 1/8 x 4 1/16 Top of plates or width of butt straps 17 3/4 x 1"
 Shaps. Per centages of strength of longitudinal joint 92.9 88.5 Working pressure of shell by rules 184 lbs Size of manhole in shell 12 x 16 in end plate
 plate 85.4 86.4 Size of compensating ring Flanged End pl. No. and Description of Furnaces in each boiler 3 "Beighton" cf. Material Steel Outside diameter 40 1/4"
 Length of plain part top Thickness of plates bottom 1/2" Description of longitudinal joint Weld No. of strengthening rings —
 Working pressure of furnace by the rules 187 1/2 Combustion chamber plates: Material Steel Thickness: Sides 23/32 Back 23/32 Top 23/32 Bottom 7/8
 Pitch of stays to ditto: Sides 9 x 10 Back 8 3/4 x 10 Top 9 x 10 1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 187 1/2
 Material of stays Steel Area at smallest part 2.10 Area supported by each stay 94 1/2 Working pressure by rules 200 1/2 End plates in steam space:
 Material Steel Thickness 1 3/8 Pitch of stays 25 x 19 How are stays secured brab. nut Working pressure by rules 181 1/2 Material of stays Steel
 Area at smallest part 3 1/4 Area supported by each stay 25 x 19 Working pressure by rules 180 1/2 Material of Front plates at bottom Steel
 Thickness 1 Material of Lower back plate Steel Thickness 15/16 Greatest pitch of stays 14" at bow Working pressure of plate by rules 180 lbs
 Diameter of tubes 3 Pitch of tubes 4 3/8 x 4 1/4 Material of tube plates Steel Thickness: Front 1" Back 13/16 Mean pitch of stays 10 1/2"
 Pitch across wide water spaces 14" Working pressures by rules 180 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 9 1/2 x 13/16 (2) Length as per rule 32 Distance apart 10 1/2 Number and pitch of stays in each 2 @ 9"
 Working pressure by rules 202 1/2 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 —



W1331-0162

IS A DONKEY BOILER FITTED? No. ✓

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 Crank pin bolts + nuts ✓
Feed + helpe pump valves. ✓ 2 Crosshead bolts + nuts. ✓
Set piston springs. ✓ 2 Main bearing bolts + nuts. ✓
Assorted bolts + nuts. ✓ 1 Set Coupling bolts + nuts. ✓
Iron of various sizes. ✓

The foregoing is a correct description,

G. Yumida
Manufacture
Manager

Dates of Survey while building { During progress of work in shops -- } 24 Mar. 29. 11. 18. 27 April 1, 8, 30 May 4, 12, 30 June 6, 10, 28 July
{ During erection on board vessel --- } 11, 16, 29 Aug. 3, 13, 29 Sept. 2, 9, 20, 29 Oct 1, 11, 13, 19 Nov.
Total No. of visits 29

Is the approved plan of main boiler forwarded herewith? Sent with Rat No 1737 on 5.5.17 Teicho Maru
" " " donkey " " " " "

Dates of Examination of principal parts—Cylinders 1-5-17 U.C Slides 4-6-17 U.C Covers 4-6-17 U.C Pistons 10-7-17 Rods 30-5-17
Connecting rods 30-5-17 Crank shaft 11-4-17 Thrust shaft 2-4-17 Tunnel shafts 12-6-17 Screw shaft 9-4-17 Propeller 29-8-17
Stern tube 29-8-17 Steam pipes tested 29/10/17 Engine and boiler seatings 29-9-17 Engines holding down bolts 29-10-17
Completion of pumping arrangements 4-11-17 Boilers fixed 20-10-17 Engines tried under steam 1-11-17
Completion of fitting sea connections 9-10-17 Stern tube 9-10-17 Screw shaft and propeller 9-10-17
Main boiler safety valves adjusted 1-11-17 Thickness of adjusting washers Locknuts

Material of Crank shaft Steel Identification Mark on Do. LLOYDS 11-4-17 ALJ R Material of Thrust shaft Steel Identification Mark on Do. LLOYDS 2-4-17 ALJ R
Material of Tunnel shafts Steel Identification Marks on Do. LLOYDS 18-23/4/17: 30/5/17 1/2/17 Material of Screw shafts Steel Identification Marks on Do. LLOYDS 9-4-17 ALJ R
Material of Steam Pipes Steel Test pressure 540 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 "Yogu Maru" (Robt Rpt No 1932)
"Peking Maru" "Nankang Maru" etc

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery has been made under Special Survey in accordance with the requirements of the Rules & the materials & workmanship have been found good.

On the trial trip the crowns of the port wing furnace of the port boiler & starboard wing furnace of the starboard boiler collapsed & these two furnace flues have been renewed. Slight depression occurred in the crowns of the two other flues of the port boiler & in the port flue of the starboard boiler & the crowns have been heated & set up fair. After these renewals & repairs the boilers were hypd. tested to 270 lbs (= 90 lbs above the w.p.) & found tight. There was indication that oil had found its way into the boilers & brought about the collapse.

The vessel is in my opinion eligible for the notation +LMC in the Register Book with date 11-17
It is submitted that this vessel is eligible for THE RECORD. + LMC 11-17. F.D. J.P.S.

The amount of Entry Fee ... Yen 20 : When applied for.
Special ... Yen 5:16 : 20 Nov 1917
Donkey Boiler Fee ... Yen 4 :
Travelling Expenses (if any) Yen 25 : When received, 26 Nov 1917

Arthur Jones
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute WED. APR. 3 1918.

Assigned + J.M.C. 11-17 J.D.



Certificate (if required) to be sent to
The Surveyors are requested not to write on or below the space for Committee's Minute.

CERTIFICATE WRITTEN