

REPORT ON MACHINERY.

Received at London Office SAT. 1 APR. 1921

Date of writing Report 19 When handed in at Local Office 19 Port of Kobe
 No. in Survey held at Reg. Book. on the Steel Single Screw Steamer "YEIKOKU MARU" Date, First Survey 1st Sept. 1919 Last Survey 14th Decr. 1920
 (Number of Visits 31)
 Master Innoshima Built at Innoshima By whom built Osaka Iron Works, Innoshima When built 1920
 Engines made at Innoshima By whom made Osaka Iron Works, Innoshima when made 1920
 Boilers made at Osaka By whom made Osaka Iron Works, when made 1920
 Registered Horse Power Owners Nippon Kisen Kabushiki Kaisha Port belonging to Kobe
 Nom. Horse Power as per Section 28 390 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 24" 41" 67" Length of Stroke 48" Revs. per minute 79 Dia. of Screw shaft as per rule 13.96 Material of steel
 as fitted 14 1/2" screw shaft)
 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 Fitted closely If two
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 5'-4"
 Dia. of Tunnel shaft as per rule 12.46 Dia. of Crank shaft journals as per rule 13.00 Dia. of Crank pin 13 1/2" Size of Crank webs 8 1/2" x 25" Dia. of thrust shaft under
 collars 13 1/4" Dia. of screw 17'-0" Pitch of Screw 17'-8 1/2" No. of Blades 4 State whether moveable No Total surface 90°
 No. of Feed pumps Two Diameter of ditto 4" Stroke 25" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps Two Diameter of ditto 4 1/2" Stroke 25" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Three Sizes of Pumps Ballast 9 1/2" x 12 x 10 dupl. No. and size of Suctions connected to both Bilge and Donkey pumps
Donkey 6" x 4 x 5
 In Engine Room Three 3 1/2 In Holds, &c. No. 1, 2, 3 holds 2 @ 3 1/2"
and 3 1/2 to tunnel Well No. 4 hold 1 @ 3 1/2"
 No. of Bilge Injections 1 sizes 7 Connected to condenser, or to circulating pump Con. 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 ✓
 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 Eng. Rm.

OILERS, &c.—(Letter for record S) Manufacturers of Steel Illinois Stl. Co. Horn Beardmore Co. Carnegie Steel Co.
Am. Spiral Pipe Works, Midvale Stl. Ordnance.
 Total Heating Surface of Boilers 5400 4 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 26-6-20 No. of Certificate LLOYD'S TEST
W. 360 LBS.
 Can each boiler be worked separately Yes Area of fire grate in each boiler 63.25 No. and Description of Safety Valves to
 each boiler 2 Spring loaded Area of each valve 7" 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 1'-6" Mean dia. of boilers 15'-0" Length 12'-0" Material of shell plates Steel
 Thickness 1 5/16" Range of tensile strength 26-28 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Ends Double
Double riveted long. seams Double straps Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 9" Lap of plates or width of butt straps 1 1/2" x 1 1/4" + 1/16"
 Per centages of strength of longitudinal joint rivets 85.127 Working pressure of shell by rules 188 lbs. Size of manhole in shell 12" x 16"
 plate 85.41
 Size of compensating ring 2'-10" x 3'-2" No. and Description of Furnaces in each boiler 3 Morrison's Material Steel Outside diameter 48 1/4"
 Length of plain part ✓ Thickness of plates 19 1/32" Description of longitudinal joint Weld No. of strengthening rings ✓
 Working pressure of furnace by the rules 195 lbs. Combustion chamber plates: Material Steel Thickness: 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 nuts Working pressure by rules 186 lbs.
 Material of stays Steel Area at smallest part 1.79 Area supported by each stay 72.25 Working pressure by rules 222 lbs. End plates in steam space:
 Material Steel Thickness 1 1/32" Pitch of stays 18" + 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 Working pressure by rules 215 lbs. Material of Front plates at bottom Steel
 Thickness 3/4" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 14" + 1/2" double Working pressure of plate by rules 228 lbs.
 Diameter of tubes 3" Pitch of tubes 4 1/8" + 4 1/4" Material of tube plates Steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 8 1/4" + 12 1/4"
 Pitch across wide water spaces 13 1/4" + 2 double Working pressures by rules 204 lbs. Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 9 3/4" x 13 1/4" Length as per rule 33 1/8" 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

UPERHEATER. 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 _____

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

✓

SPARE GEAR. State the articles supplied:—

4 Connecting rod top end bolts + nuts. A quantity of assorted bolts + nuts. 1 Air pump rod. 1/30 of Condenser tubes.
 2 " " bot. end bolts + nuts. Iron of various sizes. 1 Circulating pump rod. 1/2 set junk ring bolts;
 2 Main bearing bolts + nuts. 1 pair connecting rod brasses. 1 Set check valves. and a quantity of
 1 Set of coupling bolts. 1 Set crosshead brasses. 1 Set safety valve springs. Spare gear for the
 1 Set of feed + bilge pump valves. 1 Slide valve spindle each size 1 Set bilge pump valves + seats various auxiliary
 1 Set each of piston packing rings. 1 Eccentric rod each size 10 Boiler tubes. Engines.

The foregoing is a correct description.

OSAKA IRON WORKS, LTD.
NAGASHIMA BRANCH.

A. Kiyatomi

Manufacturer.

1919 1920
 Dates of Survey { During progress of work in shops - - Sept. 4; Apr. 19, 22; May 3, 4, 5, 8, 13, 14, 15, 21, 28, 31; June 1, 23, 28; July 10; Aug. 6, 20; Sept. 8, 20, 27; Oct. 20,
 while building { During erection on board vessel - - - Oct. 29; Nov. 12, 15, 22, 25, 30; Dec. 6, 14.
 Total No. of visits 31

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders 10-7-20 Slides 10-7-20 Covers 10-7-20 Pistons 23-6-20 Rods 10-7-20
 Connecting rods 23-6-20 Crank shaft 4-6-20 Thrust shaft 22-4-20 Tunnel shafts 4-6-20 Screw shaft 4-6-20 Propeller 4-6-20
 Stern tube 31-7-20 Steam pipes tested 15-11-20 Engine and boiler seatings 20-8-20 Engines holding down bolts 12-11-20

Completion of pumping arrangements 4-11-20 Boilers fixed 30-10-20 Engines tried under steam 30-11-20

Completion of fitting sea connections 10-11-20 Stern tube 26-10-20 Screw shaft and propeller 28-10-20

Main boiler safety valves adjusted 25-11-20 Thickness of adjusting washers Lock nuts.

Material of Crank shaft Steel Identification Mark on Do. Material of Thrust shaft Steel Identification Mark on Do.

Material of Tunnel shafts Steel Identification Marks on Do. Material of Screw shafts Steel Identification Marks on Do.

Material of Steam Pipes Steel Test pressure 540 lbs. 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 S/S. FUKU MARU (Koku Rpt. No. 2679)
S/S. WAR MAID (" " " 2311)
S/S. HEIJIN MARU (" " " 2416)
S/S. NEIMEI MARU (" " " 2651)

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

The machinery has been made + fitted under special Survey in accordance with the requirements of the Rules + the materials + workmanship are good.
 The Crank Shaft, Thrust Shaft, Tunnel Shaft + Screw Shaft were forged + rough turned at Buffalo and finished at Osaka Iron Works.
 It is eligible in my opinion for the notation L.M.C. 12-20

It is submitted that
 this vessel is eligible for
 THE RECORD. + L.M.C. 12.20 F.D. C.L.

Reck

J.M. 26/4/21

The amount of Entry Fee ... Yen 30.- : When applied for,
 Special ... £ 602.- : Dec. 23rd 1920
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : : Jan. 13th 1921

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

Committee's Minute

FRI. APR. 29 1921

Assigned

+ L.M.C. 12.20

F.D. C.L.

TUE. 28 JUN. 1921

FRI. 15 JUL. 1921

© 2021

Lloyd's Register Foundation



The Surveyors are requested not to write on or below the space for Committee's Minute.