

## REPORT ON MACHINERY

No. 2964.

TUE. NOV 16 1920

Received at London Office

Date of writing Report Sept. 24<sup>th</sup> 1920 When handed in at Local Office

Port of Kobe

No. in Survey held at Osaka + Imposhima

Date, First Survey 24<sup>th</sup> Febr.Last Survey 27<sup>th</sup> July 1920

Reg. Book.

on the Single Screw Steel Steamer "HONOLULU MARU"

(Number of Visits 19)

Gross 5750.95

Net 3540.62

Master K. Hirano

Built at Imposhima

By whom built

Osaka Iron works

When built 1920

Engines made at Colbing

By whom made

F. Schichau

when made 1909

Boilers made at Colbing

By whom made

do

when made 1909

Registered Horse Power

Owners Osaka Shosen Kaisha

Port belonging to Osaka

Nom. Horse Power as per Section 28 651.36

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted yes

## ENGINES, &amp;c.—Description of Engines Triple Expansion

No. of Cylinders Three

No. of Cranks 3

Dia. of Cylinders 27 $\frac{1}{2}$ " 46 $\frac{1}{2}$ " 76 $\frac{3}{8}$ "

Length of Stroke 47.25"

Revs. per minute 85

Dia. of Screw shaft

as per rule 14.94

Material of 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'-6" ✓

Dia. of Tunnel shaft as per rule 14.01

as fitted 14 $\frac{1}{2}$ "

Dia. of Crank shaft journals as per rule 14.71

as fitted 14 $\frac{3}{4}$ "Dia. of Crank pin 14 $\frac{3}{4}$ "Size of Crank webs 3-3 $\frac{1}{2}$ "

Dia. of thrust shaft under

collars 14 $\frac{3}{4}$ "

Dia. of screw 17'-0"

Pitch of Screw 18'-6"

No. of Blades 4

State whether moveable yes

Total surface 900' ✓

No. of Feed pumps 2 Weirs

Diameter of ditto 10x13 $\frac{1}{2}$ "

Stroke 21"

Can one be overhauled while the other is at work yes ✓

No. of Bilge pumps 2

Diameter of ditto 4 $\frac{1}{2}$ "Stroke 17 $\frac{1}{2}$ "

Can one be overhauled while the other is at work yes ✓

No. of Donkey Engines 6

Sizes of Pumps 5 $\frac{1}{2}$ x5 $\frac{1}{2}$ x5 $\frac{1}{2}$ "11 $\frac{1}{2}$ x11x14 $\frac{1}{2}$ "Weirs (2) 10x13 $\frac{1}{2}$ "

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

In Engine Room 3 @ 3 $\frac{1}{2}$ "Tunnel Well 2 $\frac{1}{2}$ "In Holds, &c. 2 each Nos. 1, 2, 4, 5 + 6. @ 3 $\frac{1}{2}$ " dia.

See Note ltr 8/2/21.

No. of Bilge Injections 1 sizes 9"

Connected to condenser, or to circulating pump Cir. pp.

Is a separate Donkey Suction fitted in Engine room & size 3 $\frac{1}{2}$ " dia.

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 yes ✓

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 Ford. Suction

How are they protected By limber boards ✓

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.

## BOILERS, &amp;c.—(Letter for record S) Manufacturers of Steel

Total Heating Surface of Boilers 10031.60' Is Forced Draft fitted yes

No. and Description of Boilers 4 Single Ended Scotch

Working Pressure 200 lbs.

Tested by hydraulic pressure to 300 lbs.

Date of test 7-6-20

No. of Certificate 23-6-20

Can each boiler be worked separately yes

Area of fire grate in each boiler 58.410'

No. and Description of Safety Valves

each boiler 2 spring loaded

Area of each valve 7.068

Pressure to which they are adjusted 200 lbs.

Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 24"

Mean dia. of boilers 14'-4"

Length 11'-5"

Material of shell plates steel

Thickness 1 $\frac{1}{16}$ " Range of tensile strength ✓

Are the shell plates welded or flanged no

Descrip. of riveting: cir. seams D.R

long. seams QRDBS.

Diameter of rivet holes in long. seams 1 $\frac{1}{2}$ " ✓Pitch of rivets 13 $\frac{3}{8}$ "Lap of plates or width of butt straps 2-7 $\frac{1}{2}$ +1-8

Per centages of strength of longitudinal joint rivets 118.6

plate 89.18

Working pressure of shell by rules 239.5

Size of manhole in shell 17" x 13"

Size of compensating ring 3-9x2-10x1 $\frac{1}{4}$ "

No. and Description of Furnaces in each boiler 3 Morrison

Material steel

Outside diameter 46 $\frac{3}{4}$ "

Length of plain part top ✓

bottom ✓

Thickness of plates crown 1 $\frac{1}{16}$ "bottom 1 $\frac{1}{16}$ "

Description of longitudinal joint Welded

No. of strengthening rings ✓

Working pressure of furnace by the rules 242

Combustion chamber plates: Material steel

Thickness: Sides 3 $\frac{1}{4}$ "Back 1 $\frac{1}{16}$ "Top 3 $\frac{1}{4}$ "Bottom 3 $\frac{1}{4}$ "Pitch of stays to ditto: Sides 6 $\frac{1}{2}$ x7Back 7 $\frac{1}{2}$ x8 $\frac{1}{2}$ Top 6 $\frac{1}{2}$ x7 $\frac{1}{2}$ 

If stays are fitted with nuts or riveted heads Both

Working pressure by rules 254 lbs

Material of stays steel

Area at smallest part 2.070"

Area supported by each stay 7 $\frac{1}{2}$ x8 $\frac{1}{2}$ 

Working pressure by rules 292

End plates in steam space:

Material steel

Thickness 1 $\frac{1}{8}$ "Pitch of stays 16"x13 $\frac{1}{4}$ "

How are stays secured DN + W.

Working pressure by rules 261

Material of stays steel

Area at smallest part 5.93

Area supported by each stay 14x13

Working pressure by rules 270

Material of Front plates at bottom steel

Thickness 1"

Material of Lower back plate steel

Thickness 1"

Greatest pitch of stays 15"

Working pressure of plate by rules 400

Diameter of tubes 2 $\frac{1}{16}$ "Pitch of tubes 4 x 3 $\frac{1}{16}$ "

Material of tube plates steel

Thickness: Front 1 $\frac{1}{8}$ "Back 7 $\frac{1}{8}$ "

Mean pitch of stays 3.937"

Pitch across wide water spaces 13 $\frac{3}{4}$ "

Working pressures by rules 239

Girders to Chamber tops: Material steel

Depth and

thickness of girder at centre 8 $\frac{1}{4}$ " x 1 $\frac{1}{4}$ "

Length as per rule 28"

Distance apart 7 $\frac{1}{2}$ "Number and pitch of stays in each 3 @ 6 $\frac{1}{2}$ "

Working pressure by rules 200

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

W1328-0091



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

4 Bolts + nuts for Conn. rod top end.	Crank shaft.	1 Slide valve rod for each size.
2 Bolts + nuts for Conn. rod bot. end.	Propeller shaft + nut.	1 Air pump rod
4 Main bearing bolts + nuts	2 Bronze propeller blades.	1 Set feed check valves + seats.
1 Set coupling bolts + nuts.	1 Set crosshead brasses	1/4 set junk ring bolts + nuts
1 Set each feed + bilge pump valves + seats.	1 Set Crank pin brasses.	Set of safety valve springs
1 Set packing rings + springs for each piston.	Piston rod with nut for each size	And a quantity of spare
Assorted iron + bolts, studs + nuts.	1 eccentric rod for each size	gear for the various
The foregoing is a correct description,		auxiliary machinery

A. Inijetani

OSAKA IRON WORKS, LTD.

Manufacturer.

Dates of Survey while building  
During progress of work in shops -- 1920 Feb. 24; Apr. 15<sup>th</sup>; May 19, 22, 26<sup>th</sup>; June 1, 5, 10, 21, 22, 23;  
During erection on board vessel --- June 28; July 1, 12, 13, 14, 19, 26, 27<sup>th</sup>.  
Total No. of visits 19

Original Boiler plan with 3/8" Ore  
Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 26-7-20 Slides 26-7-20 Covers 26-7-20 Pistons 26-7-20 Rods 26-7-20

Connecting rods 26-7-20 Crank shaft 26-7-20 Thrust shaft 24-2-20 Tunnel shafts 24-2-20 Screw shaft Propeller

Stern tube 1-6-20 Steam pipes tested 13-7-20 Engine and boiler seatings 26-5-20 Engines holding down bolts 12-7-20

Completion of pumping arrangements 18-7-20 Boilers fixed 12-7-20 Engines tried under steam 19-7-20

Completion of fitting sea connections 25-6-20 Stern tube 20-6-20 Screw shaft and propeller 21-6-20

Main boiler safety valves adjusted 19-7-20 Thickness of adjusting washers Lock nuts.

Material of Crank shaft Steel Identification Mark on Do. (2) LLOYDS 24-2-20 Material of Thrust shaft Steel Identification Mark on Do. LLOYDS 24-2-20

Material of Tunnel shafts Steel Identification Marks on Do. Y.J.R. Material of Screw shafts Steel Identification Marks on Do.

Material of Steam Pipes Steel Test pressure 600 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 no If so, state name of vessel

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

It is stated, that the machinery now installed, with the exception of the thrust shaft + 2 intermediate shafts, and the Port furnace + combustion chamber of the Forward boiler was originally that of the steamer "Poltava". All cylinders pistons, valve + rods, condenser and pumps have been examined and found or now placed in good condition. The boilers have been examined externally + internally and the following repairs effected. Forward boiler Bottom end plate, a crack extending from bottom of S. furnace to top of manhole below has been gas welded. The P. furnace has been removed + a new furnace (Deighton) + combustion chamber with stays + tubes complete, fitted. All boilers (4) examined under water pressure of 300 lbs. per sq. inches and found sound, all now marked

The machinery worked satisfactorily on trial. In our opinion the machinery of this vessel is in safe working condition and eligible for the record of L.M.C. 7-20

The amount of Entry Fee ... Yen 30.- :  
Special ... £ 500.- :  
Donkey Boiler Fee ... £ :  
Travelling Expenses (if any) £ :

When applied for,

19

When received,

17/11/20

J. G. Lloyd + W. Rawson.

Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute

FRI. NOV. 26 1920

Assigned

+ L.M.C. 7.20. L.D.

+ N.B. + B 1909 revised 1920



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