

## REPORT ON MACHINERY.

No. 2404

Received at London Office

MON. 24 MAR. 1919

Date of writing Report 5-2-1919 When handed in at Local Office 12-2-1919 Port of Kobe

No. in Survey held at Imoshima + Osaka Date, First Survey 26 Sept 1918 Last Survey 26 Dec 1918  
Reg. Book. on the single screw steel steamer Tōmei Maru.Master M. Murakami Built at Imoshima By whom built Osaka Iron Works Ltd Tons Gross 3194 Net 1981-98  
When built 1918

Engines made at Imoshima By whom made Osaka Iron Works Ltd when made 1918

Engines made at Osaka By whom made Osaka Iron Works Ltd when made 1918

Indicated Horse Power Owners Kobe Shosen Kaisha Ltd Port belonging to Kobe

Horse Power as per Section 28 288 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Engines, &amp;c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

No. of Cylinders 2 2. 3 7. 6 1 Length of Stroke 4 2 Revs. per minute 90.5 Dia. of Screw shaft as per rule 12.8 as fitted 13 Material of screw shaft Steel

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

Propeller boss Yes If the liner is in more than one length are the joints burned One length If the liner does not fit tightly at the part

In the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two

are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 4'-9 3/4

Dia. of Tunnel shaft as per rule 11.2 as fitted 11 3/8 Dia. of Crank shaft journals as per rule 11.77 as fitted 12 Dia. of Crank pin 12 Size of Crank webs 7 1/2 x 23 Dia. of thrust shaft journals 3 x 25 1/2

Dia. of screw 16-0 Pitch of Screw 16-4 1/2 No. of Blades 4 State whether moveable Solid Total surface 80 ft

No. of Feed pumps 2 Diameter of ditto 3 1/4 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 4 Sizes of Pumps 9 x 10 1/2 x 10 for Ballast duplex 6 x 4 x 6 for Donkey fuel duplex and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 1 chain bilge 4" 2 E.R. bilge S &amp; P both 3" In Holds, &amp;c. 1 No 1, 2 Holds 2 No 3 Hold 2 Boiler room all

dia 1 No 3, Hold 3 1/2 Tunnel bilge 2 1/2

No. of Bilge Injections 1 sizes 4 1/2 Connected to condenser, or to circulating pump Bilge pump Is a separate Donkey Suction fitted in Engine room &amp; size Yes 3"

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

All connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both large 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

How are they protected Wood &amp; iron bands

All Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

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. middle plating

Suppliers, &amp;c.—(Letter for record S) Manufacturers of Steel Luckin Smith &amp; Co. Ltd. Brighton patent plate Co

Total Heating Surface of Boilers 3824 ft 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 5th Dec 1918 No. of Certificate 360 lbs

Can each boiler be worked separately Yes Area of fire grate in each boiler 45 ft No. and Description of Safety Valves to

boiler Two spring loaded Area of each valve 3 1/2 dia Pressure to which they are adjusted 180 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 1'-6" Mean dia. of boilers 13'-6" Length 11'-6" Material of shell plates Steel

Thickness 1 3/16" Range of tensile strength 26,790 to 27,000 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.I.

seams J.R. &amp; B.S. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 3/8" Lap of plates or width of butt straps 1'-6 1/2"

Percentages of strength of longitudinal joint rivets 92.7 plate 85.3 Working pressure of shell by rules 180 lbs Size of manhole in shell 24 x 16 end plates

No. of compensating ring Flanged end plates No. and Description of Furnaces in each boiler 3 Lighttons Material Steel Outside diameter 3'-4 1/2"

Length of plain part top bottom Thickness of plates crown bottom Description of longitudinal joint Weld No. of strengthening rings

Working pressure of furnace by the rules 180 Combustion chamber plates: Material Steel Thickness: Sides 23 3/4 Back 23 3/4 Top 23 3/4 Bottom 7/8"

No. of stays to ditto: Sides 9.5 Back 9.3 Top 9.75 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 214

Material of stays Steel Area at smallest part 2.10 sq in Area supported by each stay 90 sq in Working pressure by rules 210 End plates in steam space:

Material Steel Thickness 1 3/8" Pitch of stays 25" x 19" How are stays secured S.N. W's Working pressure by rules 180 Material of stays Steel

Area at smallest part 8.76 sq in Area supported by each stay 475 sq in Working pressure by rules 180 Material of Front plates at bottom Steel

Thickness 1" Material of Lower back plate Steel Thickness 15/16 Greatest pitch of stays 14" wide water spaces Working pressure of plate by rules 180

Diameter of tubes 3" Pitch of tubes 4.3 in 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 10" x 1 7/8" Length as per rule 32 Distance apart 10 1/2" Number and pitch of stays in each 2 @ 9"

Working pressure by rules 207 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

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Foundation



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied :-

One set piston springs. 2 Bottom end bolts & nuts. 2 chain bearing bolts & nuts. 1 set coupling bolts. 2 Top end bolts & nuts. 2 fuel pump valves & seats. 2 bilge pump valve & seats. 1/4 set of total number of junk ring bolts. Two slide valve spindles Two eccentric rods for main engine One set of top & bottom end brasses One set main bearing bolts 30 of total number of condenser tubes One air pump rod & one set valves. One set circulating pump valves & pump rod Two safety valve springs One set fuel check valve & seats 6 Patent tube stoppers 6 common tube stoppers

The foregoing is a correct description, 1/4 of total of five bars

*[Signature]*

Manufacturer.

Dates of Survey while building	{	During progress of work in shops --	26 <sup>th</sup> Sept	Oct 7 <sup>th</sup>	13 <sup>th</sup>	18 <sup>th</sup>	25 <sup>th</sup>	Nov 5 <sup>th</sup>	8 <sup>th</sup>	12 <sup>th</sup>	18 <sup>th</sup>	21 <sup>st</sup>	27 <sup>th</sup>
		During erection on board vessel ---	Dec 2 <sup>nd</sup>	5 <sup>th</sup>	10 <sup>th</sup>	12 <sup>th</sup>	17 <sup>th</sup>	21 <sup>st</sup>	26 <sup>th</sup>				
		Total No. of visits	Eighteen										

Is the approved plan of main boiler forwarded herewith

yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders Nov 7<sup>th</sup> 18 Slides Nov 25<sup>th</sup> 18 Covers 7<sup>th</sup> 10-18 Pistons 7<sup>th</sup> 10-18 Rods 20-10-18 Connecting rods 20-10-18 Crank shaft 14-10-18 Thrust shaft 9-8-18 Tunnel shafts 27-9-18 Screw shaft 23-7-18 Propeller 7-10-18 Stern tube Oct 25<sup>th</sup> 18 Steam pipes tested 17-12-18 Engine and boiler seatings 17-12-18 Engines holding down bolts 21-12-18 Completion of pumping arrangements 21-12-18 Boilers fixed 17-12-18 Engines tried under steam 21-12-18 Completion of fitting sea connections 17-12-18 Stern tube 27-11-18 Screw shaft and propeller 27-11-18 Main boiler safety valves adjusted 21-12-18 Thickness of adjusting washers Lock nuts

Material of Crank shaft Steel Identification Mark on Do. 19-18-18 Material of Thrust shaft Steel Identification Mark on Do. 19-18-18

Material of Tunnel shafts Steel Identification Marks on Do. 19-18-18 Material of Screw shafts Steel Identification Marks on Do. 19-18-18

Material of Steam Pipes Steel Test pressure 360 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

General Remarks

(State quality of workmanship, opinions as to class, &c. The machinery has been made

and fitted under special survey in accordance with the requirements of the rules and the material and workmanship have been found good. The machinery is eligible in my opinion for the record of + LMC 12.18

It is submitted that this vessel is eligible for THE RECORD. + LMC 12.18. F.D.

*[Signature]* 8/3/19

The amount of Entry Fee ...	£	yen: 20 <sup>00</sup> / <sub>100</sub>	When applied for,
Special ...	£	yen: 602 <sup>00</sup> / <sub>100</sub>	30 <sup>th</sup> Dec 1918
Donkey Boiler Fee ...	£	— : —	When received,
Travelling Expenses (if any) £	—	— : —	13 Jan 1919

*[Signature]* John Sim

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute, FRI. 28 MAR. 1919

Assigned

+ LMC 12.18 F.D.



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Rpt. 13.

Port of

No. in Reg. Book

Owners

Yard No.

DESCRIPTION

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Capacity of

Where is Dy

Position of

Positions of

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circuits

If vessel is

Are the fuse

Are all fuse

are per

Are all switc

Total number

A Engine

B Officer

C Chief

D Sten

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Branch cables

Branch cables

Leads to lamp

Cargo light ca

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Joints in cable

Are all the joi

positions

Are there any

How are the

sign

Certificate (if required) to be sent to

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

ORIGINAL CERTIFICATE