

## REPORT ON MACHINERY.

No. 2196.

Received at London Office JUL 8 - JUL 1919

Date of writing Report 24<sup>th</sup> April 1919 When handed in at Local Office Kobe Port of Kobe

No. in Survey held at Kobe Date, First Survey 10<sup>th</sup> Sept. 1918 Last Survey 20<sup>th</sup> March 1919

Reg. Book. on the Steel Single Screw Steamer "San Francisco Maru" Number of Visits 40

Master H. Chisaki Built at Kobe By whom built The Kawasaki Dockyard Co. Ltd. Gross 5863 Tons Net 4259 Tons

Engines made at Kobe By whom made The Kawasaki Dockyard Co. Ltd. when made 1919

Boilers made at do By whom made do when made 1919

Registered Horse Power 440 Owners The Kawasaki Kisen Kaisha Port belonging to Kobe

Nom. Horse Power as per Section 28 440 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 Three

Dia. of Cylinders 26:43/2:72 Length of Stroke 48 Revs. per minute 70 Dia. of Screw shaft 15.41 as per rule 15.41 as fitted 16 Material of screw shaft Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No liner Is the after end of the liner made water tight

In the propeller boss ✓ 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' : 5 1/4"

Dia. of Tunnel shaft 13.48 as per rule 13.48 as fitted 13.48 Dia. of Crank shaft journals 14.15 as per rule 14.15 as fitted 14.21 Dia. of Crank pin 14.3/4 Size of Crank webs 902x208 Dia. of thrust shaft under

collars 14.3/8 Dia. of screw 17:6 Pitch of Screw 19:0 mean No. of Blades 1 State whether moveable yes Total surface 100 sq. ft.

No. of Feed pumps One Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work yes (with Weir's feed)

No. of Bilge pumps Two Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work yes

No. of Donkey Engines Three Sizes of Pumps Bal. 19"x11"x12" Duplex No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three 3 1/2 Weir's feed 9 1/2"x7 1/2"x24" two Gen. Sew. 12"x5"x6" dupl. In Holds, &c. No. 1, 3 + 4 holds each two 3 1/2

and One 3 1/2 to Tunnel Well No. 2 holds two 1"

No. of Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump in 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 of E. R.

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Worth Bros. Amer. Spiral Tube Co.

2300 L. 8x2+1132 aux. Blr. ✓

Total Heating Surface of Boilers = 5741 Is Forced Draft fitted yes No. and Description of Boilers Two S. E. + Aux. S. E.

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 19/12/18 23/12/18 No. of Certificate 1100'S TEST 400 LBS 19/12/18 23/12/18 ALD. R.

Can each boiler be worked separately yes Area of fire grate in each boiler 60 1/2' No. and Description of Safety Valves to

each boiler Two Spring loaded Area of each valve 3 3/4" dia. Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 14:6" Length 12:0" Material of shell plates Steel

Thickness 1 5/16" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Doub. rivd

long. seams Doub. Straps Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 8 3/4" + 4 3/8" Lap of plates or width of butt straps 19 3/8" x 1 1/4"

Per centages of strength of longitudinal joint 95.84 Working pressure of shell by rules 202 lbs. Size of manhole in shell 16" x 12" 18x22

Size of compensating ring 12" (flange) 1 1/2" No. and Description of Furnaces in each boiler 3 Morrison's Material Steel Outside diameter 48 1/2"

Length of plain part top 2 1/2" Thickness of plates bottom 2 1/2" Description of longitudinal joint Weld No. of strengthening rings ✓

Working pressure of furnace by the rules 221 Combustion chamber plates: Material Steel Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom 7/8"

Pitch of stays to ditto: Sides 8 3/8" x 8 1/2" Back 8 1/2" x 9" Top 8 1/2" x 9 3/8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 203 lbs.

Material of stays Steel Area at smallest part 2:10" Area supported by each stay 8 1/2" x 9 3/8" Working pressure by rules 230 lbs. End plates in steam space:

Material Steel Thickness 1 5/8" Pitch of stays 19 3/4" x 20 1/2" How are stays secured Doub. nuts Working pressure by rules 201 lbs. Material of stays Steel

Area at smallest part 10" Area supported by each stay 19 3/4" x 20 1/2" Working pressure by rules 260 lbs. Material of Front plates at bottom Steel

Thickness 13/16" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 13 1/2" at wide Working pressure of plate by rules 200 lbs.

Diameter of tubes 3 1/4" Pitch of tubes 1 1/2" x 1 1/2" Material of tube plates Steel Thickness: Front 1" Back 13/16" Mean pitch of stays 8 3/4"

Pitch across wide water spaces 13 3/4" + 3/4" Working pressures by rules 210 lbs. Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 10 3/4" x 13/16" (2) Length as per rule 34 1/2" Distance apart 9 3/8" Number and pitch of stays in each 3 @ 8 1/2"

Working pressure by rules 220 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

SUPERHEATER. Type None 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?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Four Main bearing bolts + nuts	Set packing rings + springs each piston	Centrifugal pump impeller + shaft.
Two Crank pin bolts + nuts	Set junk ring bolts + nuts	Crosshead + Crankpin brasses A.P. Rod.
Two Crosshead bolts + nuts	One part Crank shaft.	3 safety Valve springs.
Set Coupling bolts + nuts	Propeller shaft.	Cond. + Blk. tubes etc. etc.
Set Feed + Bilge pump valves	Four blades + 2 sets studs + nuts	
Assorted bolts + nuts + iron	Slide Valve sprindles each size	

The foregoing is a correct description,  
Kawasaki Dockyard Co., Ltd.,

Per.

Secretary.

Manufacturer.

Dates of Survey while building	{ During progress of work in shops - - and During erection on board vessel - - - Total No. of visits	10.14.28 Sept.	21.23.25 Oct.	11.21.28.30 Nov.	2.3.4.10.11.13.14.19.23.25 Dec 19
		9.18.20.21.27.30.31 Jan'y.	8.12.18.21.24.25.26 Feb'y	1.7.12.14.15.20 Mar	
		40			

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders	20/1/19 etc	Slides	18/1/19	Covers	21/1/19	Pistons	27/1/19	Rods	30/1/19
Connecting rods	12/2/19	Crank shaft	25/12/18	Thrust shaft	25/12/18	Tunnel shafts	31/1/19	Screw shaft	31/1/19
Stern tube	8/2/19	Steam pipes tested	21/2/19	Engine and boiler seatings	26/2/19	Engines holding down bolts	7/3/19	Propeller	8/2/19
Completion of pumping arrangements	7/3/19	Boilers fixed	7/3/19	Engines tried under steam	14/3/19	Screw shaft and propeller	25/2/19		
Completion of fitting sea connections	25/2/19	Stern tube	18/2/19	Thickness of adjusting washers	Lock nuts, etc.	Steel Blk. F 9/16	Port Blk. F 1/2		
Main boiler safety valves adjusted	12/3/19	Material of Crank shaft	Steel	Identification Mark on Do.	LLOYD'S 25.12.18	Material of Thrust shaft	Steel	Identification Mark on Do.	LLOYD'S 25.12.18
Material of Tunnel shafts	Steel	Identification Marks on Do.	LLOYD'S 31.1.19	Material of Screw shafts	Steel	Identification Marks on Do.	LLOYD'S 31.1.19		
Material of Steam Pipes	Steel	Test pressure	600 lbs						
Is an installation fitted for burning oil fuel		Is the flash point of the oil to be used over 150°F.		Spare shaft					

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 Portland Maru Washington Maru

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

This Machinery has been made and fitted under Special Survey in accordance with the requirements of the Rules and the materials and workmanship are good.

This vessel is eligible in my opinion for the notation + LMC 3.19

It is submitted that  
this vessel is eligible for  
THE REGISTRATION + LMC 3.19 F.D.

JUD. M. Rell.  
8.7.19

The amount of Entry Fee	400	30	When applied for,
Special	400	735	11 <sup>th</sup> Apr. 1919
Donkey Boiler Fee			When received,
Travelling Expenses (if any)	£	15	15 <sup>th</sup> Apr. 1919

Committee's Minute

Assigned

FRI. 11 JUL. 1919

+ L.M.C. 3.19

F.D.

A. L. Jones & A. Watt.

Engineer Surveyor to Lloyd's Register of Shipping



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Foundation