

REPORT ON MACHINERY.

SA No. 2590

Received at London Office

Date of writing Report 20th Aug 1919 When handed in at Local Office 1919 Port of Kobe

No. in Survey held at Kobe Date, First Survey 25th Jan. 1919 Last Survey 19th July 1919

Reg. Book. on the Steel Single Screw Steamer "Sydney Maru" (Number of Visits 25) Tons { Gross 4105
Net 2523

Master K. Okada Built at Kobe By whom built The Kawasaki Dockyard Co. Ltd. When built 1919

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 356 Owners Kokusai Kisen Kaisha Ltd Port belonging to Kobe

Nom. Horse Power as per Section 28 356 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 23½" + 39" + 65" Length of Stroke 48" Revs. per minute 84 Dia. of Screw shaft 15" Material of Forged 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 63¾"

Dia. of Tunnel shaft 12.65 as per rule 127/8 Dia. of Crank shaft journals 13.3 as per rule 13½" Dia. of Crank pin 13¾" Size of Crank webs 25¼ x 9" Dia. of thrust shaft under collars 13½" Dia. of screw 16'-6" Pitch of Screw 17'-0" to 19'-0" No. of Blades 4 State whether moveable yes Total surface 85 sq. ft.

No. of Feed pumps One Diameter of ditto 4½" Stroke 24" Can one be overhauled while the other is at work yes With Weir's Independent

No. of Bilge pumps Two Diameter of ditto 4½" Stroke 24" Can one be overhauled while the other is at work yes Feed pumps

No. of Donkey Engines Three Sizes of Pumps Ballast 10" x 11 x 12 duplex. General dky. 7½ x 5 x 6 duplex. No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three 3½" In Boiler Room Two 3½" In Holds, &c. No. 1 - two 3½" No. 2 - two 3½" No. 3 - two 3½" No. 4 - two 3½" Tunnel Well - One 3"

No. of Bilge Injections 1 sizes 1½" Connected to condenser, or to circulating pump in p. Is a separate Donkey Suction fitted in Engine room & size yes 3½"

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 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 Two 3½" Bilge Suctions from Nos. 1 + 2 Holds How are they protected Wood covering

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 deck level

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

Total Heating Surface of Boilers 4610 Is Forced Draft fitted yes No. and Description of Boilers Two - Single Ended

Working Pressure 200 lbs. Tested by hydraulic pressure to 4000" Date of test 1919 No. of Certificate 1919

Can each boiler be worked separately yes Area of fire grate in each boiler 60.5 sq. ft. No. and Description of Safety Valves to each boiler Two spring loaded Area of each valve 3¾" 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 18" Mean dia. of boilers 14'-6" Length 12'-0" Material of shell plates steel

Thickness 1½" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged Welded Descrip. of riveting: cir. seams double rivet

long. seams double rivet Diameter of rivet holes in long. seams 1¾" Pitch of rivets 8¾" + 4¾" Lap of plates or width of butt straps 9¾" + 1¼"

Per centages of strength of longitudinal joint 84.3 rivets 97.3 plate Working pressure of shell by rules 202 Size of manhole in shell 18 x 22"

Size of compensating ring 7½" flange x 1¾" No. and Description of Furnaces in each boiler Three Morrison's Material Steel Outside diameter 48½"

Length of plain part top 21½" Thickness of plates bottom 21½" Description of longitudinal joint Welded No. of strengthening rings ✓

Working pressure of furnace by the rules 221 lbs. Combustion chamber plates: Material Steel Thickness: Sides 1½" Back 1½" Top 1½" Bottom 7/8"

Pitch of stays to ditto: Sides 8½" x 8½" Back 8½" x 9" Top 8½" x 9½" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 202

Material of stays Steel Area at smallest part 2.10 Area supported by each stay 76.5 Working pressure by rules 24.7 End plates in steam space: 39 ins.

Material Steel Thickness 1½" Pitch of stays 19¾" x 20½" How are stays secured Double nuts + small washers Working pressure by rules 202 Material of stays Steel

Area at smallest part 10.12 Area supported by each stay 405 Working pressure by rules 260 Material of Front plates at bottom Steel

Thickness 13/16" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 15 x 15 Working pressure of plate by rules 225

Diameter of tubes 3¼" Pitch of tubes 4½" x 4½" Material of tube plates Steel Thickness: Front 13/16" Back 13/16" Mean pitch of stays 8¾"

Pitch across wide water spaces 3¾" x 3¾" Working pressures by rules 267 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10¾" x 13/16 (2) Length as per rule 34½" Distance apart 9¾" Number and pitch of stays in each Three @ 8½"

Working pressure by rules 202 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 1919 Tested by Hydraulic Pressure to 1919

Date of Test 1919 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler ✓

Diameter of Safety Valve 1919 Pressure to which each is adjusted 1919 Is Easing Gear fitted 1919

IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

| | | | | |
|--------------------------------|------------------------------------|---|-----------------------------------|---|
| Four Main bearing bolts + nuts | ✓ | Set packing rings + springs for pistons | Set Feed Check Valves + Seats | |
| Four Crank-pin | " | ✓ | Pair Eccentric rods | Centrif. Impeller + Shaft. |
| Four Crosshead-pin | " | ✓ | Valve rod for each Valve | Two Safety Valve Springs |
| Set coupling | " | ✓ | Crank-pin + Crosshead-pin brasses | Set Feed-Bilge P. Valves + Seats |
| Propeller Shaft + nut | ^{LLOYDS} 9-6-19 AWB | ✓ | Air Pump Rod + nut. | 1/30 Set Condenser Tubes + Glands |
| 4 Set junk-ring bolts + nuts | | ✓ | Set A.P. Head Valves | Fire Bars, assorted Bolts, nuts + studs etc. |

The foregoing is a correct description,

Kawasaki Dockyard Co. Ltd.

Per

Secretary.

Manufacturer.

1919-
Dates of Survey while building
During progress of work in shops - - Jan. 25; Feb. 1, 7, 12, 18, 27; Mar. 18, 19, 20, 24, 29; April 2, 5, 9, 12, 30; May 13, 23, 30 + 31
During erection on board vessel - - June 2, 5, 30; July 9, 14, 19.
Total No. of visits 25.

Is the approved plan of main boiler forwarded herewith *No.*

Same as for S/S SHANGHAI MARU
Rpt. No 241;

Dates of Examination of principal parts—Cylinders 31-5-19 Slides 23-6-19 Covers 31-5-19 Pistons 23-6-19 Rods 23-6-19
Connecting rods 9-6-19 Crank shaft 29-5-19 Thrust shaft 29-5-19 Tunnel shafts 9-6-19 Screw shaft 31-5-19 Propeller 31-5-19
Stern tube 29-5-19 Steam pipes tested 19-6-19 Engine and boiler seatings 20-6-19 Engines holding down bolts 9-7-19
Completion of pumping arrangements 9-7-19 Boilers fixed 9-7-19 Engines tried under steam 17-7-19 19-7-19
Completion of fitting sea connections 18-6-19 Stern tube 18-6-19 Screw shaft and propeller 24-6-19
Main boiler safety valves adjusted 14-7-19 Thickness of adjusting washers Lock nuts - Caps Sealed by Gorst Inspr.
Material of Crank shaft Steel Identification Mark on Do. LLOYDS 29-5-19 AWB Material of Thrust shaft Steel Identification Mark on Do. LLOYDS 29-5-19 AWB
Material of Tunnel shafts Steel Identification Marks on Do. LLOYDS 31-5-19 AWB Material of Screw shafts Steel Identification Marks on Do. LLOYDS 31-5-19 AWB
Material of Steam Pipes Steel Test pressure 600 lbs. STONE T. SHE. 9-6-19 AWB

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. Shanghai Maru (Rpt. 241)
S.S. Hankow Maru (Rpt. 253)

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

The Machinery of this Vessel has been made and fitted under Special Survey in accordance with the requirements of the Rules, and the materials and workmanship are good.
It is eligible in my opinion for the notation *L.M.C. 7-19.

It is submitted that
this vessel is eligible for
THE RECORD + LMC 7.19. F.D.

The amount of Entry Fee ... Yen 30.- : When applied for,
Special ... £ 661.- : 23rd July, 1919
Donkey Boiler Fee ... £ : When received,
Travelling Expenses (if any) £ 15.- : 28th July 1919

Committee's Minute

TUE 7-OCT. 1919

Assigned

+ LMC 7.19 20.

Alexander Watt.

Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation