

REPORT ON MACHINERY.

No. 2448

Received at London Office

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No. in Survey held at Kobe Date, First Survey 23rd Sept 1918 Last Survey 10th March 1919
Reg. Book. on the Steel Single Scr. Strut. "Washington maru" (Number of Visits 42)

Master M. Yamamoto Built at Kobe By whom built Kawasaki Dryd. Co. Lim. When built 1919
Engines made at Kobe By whom made The Kawasaki Dryd Co. Lim when made 1919
Boilers made at do By whom made do when made do

Registered Horse Power Owners do 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 26:13½:72 Length of Stroke 48 Revs. per minute 40 Dia. of Screw shaft as per rule 15½ 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 Linner 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' 5¼"

Dia. of Tunnel shaft as per rule 13.48 as fitted 13.55 Dia. of Crank shaft journals as per rule 14.15 as fitted 14.21 Dia. of Crank pin 14.3¼ Size of Crank webs 90½ x 20½ Dia. of thrust shaft under collars 14.3/8 Dia. of screw 17' 6" Pitch of Screw 19' 0" mean No. of Blades 4 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 Weirs' 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. 10" x 11" x 12" duplex Weirs' feed 9½" x 24" hop Gen. serv. 7½" x 5" x 6" dupl. No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Three 3½ + One 3½ to tunnel well. In Holds, &c. Nos. 1, 3 + 4 holds each two 3½ No. 2 hold, two 4"

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

Dates of examination of completion of fitting of Sea Connections 13/2/19 of Stern Tube 6/2/19 Screw shaft and Propeller 13/2/19
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper platform of Eng. Rm.

OILERS, &c.—(Letter for record S.) Manufacturers of Steel Carnegie, Worth Bros, Man Wood, Illinois Steel Co.
2304.8 x 2 + 1132 Amber Amer. Spiral Pipe Works
Total Heating Surface of Boilers = 5741 Is Forced Draft fitted Yes No. and Description of Boilers Two S. & E. & one S.E.
Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 27th Dec. 1918 No. of Certificate 110405 TEST 400 LBS 2/12/18 6/12/18 ALD R

Can each boiler be worked separately Yes Area of fire grate in each boiler 60½' No. and Description of Safety Valves to each boiler Two spring loaded Area of each valve 3¼" 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 1½" Range of tensile strength 28 to 32 Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams Double riv. ✓
Long. seams Double riv. ✓ Diameter of rivet holes in long. seams 1¾" Pitch of rivets 8¾" x 4¾" Lap of plates or width of butt straps 19½" x 1¼"
Per centages of strength of longitudinal joint rivets 95.84 Working pressure of shell by rules 202 lbs Size of manhole in shell 16 x 12"

Size of compensating ring (7½" x flange) 1½" No. and Description of Furnaces in each boiler 3 Morrison's Material Steel Outside diameter 48¼"
Length of plain part top 9/32" Thickness of plates crown 9/32" Description of longitudinal joint Weld No. of strengthening rings ✓
bottom 7/8" 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 8½" x 8½" Back 8½" x 9" Top 8½" x 9¾" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 203 lbs
Material of stays Steel Diameter at smallest part 2.1" Area supported by each stay 8½" x 9¾" Working pressure by rules 230 lbs End plates in steam space: 93
Material Steel Thickness 1½" Pitch of stays 19¾" x 20½" How are stays secured Nut nuli Working pressure by rules 201 lbs Material of stays Steel
Diameter at smallest part 10" Area supported by each stay 19¾" x 20½" 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 13½" at wid. Working pressure of plate by rules 200 lbs
Diameter of tubes 3¼" Pitch of tubes 4 7/16" x 4 5/16" Material of tube plates Steel Thickness: Front 1" Back 13/16" Mean pitch of stays 8¾"
Pitch across wide water spaces 13 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 (2) Length as per rule 34½" Distance apart 9 3/8" Number and pitch of stays in each 3 @ 8½"

Working pressure by rules 220 lbs Superheater or Steam chest; how connected to boiler ~ Can the superheater be shut off and the boiler worked separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet
2 plates Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed
Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

18.20
7 ft

