

REPORT ON MACHINERY.

No. 2161

Received at London Office

Date of writing Report 4th Jan'y 1918 When handed in at Local Office 19 Port of Kobe MON 11 MAR 1918
 Date, First Survey Novem: 22nd 1916 Last Survey Novem: 26th 1917
 on the Single Screw Steamer "Borneo Maru" (Number of Visits 48) Tons { Gross 5856.55
 Net 4257.71
 Built at Kobe By whom built The Kawasaki Dryd. Co. Ltd. When built 1917
 Engines made at Kobe By whom made The Kawasaki Dryd. Co. Ltd. when made 1917
 Boilers made at do By whom made do when made do
 Registered Horse Power 440 Owners The Osaka Shosen Kaisha Port belonging to Osaka
 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 3
 Dia. of Cylinders 26" 43 1/2" 42" Length of Stroke 48 Revs. per minute 70 Dia. of Screw shaft 15.41 Material of Steel
 as fitted 16" screw shaft
 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
 If the liner is in more than one length are the joints burned Yes 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 Yes If two
 liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 5' 5 1/4"
 Dia. of Tunnel shaft 13.48 as per rule 13.48 Dia. of Crank shaft journals 14.15 as per rule 14.15 Dia. of Crank pin 14 3/4 Size of Crank webs 9 1/2 x 20 1/2 Dia. of thrust shaft under
 as fitted 13 3/4 as fitted 14 3/8
 Collars 14 3/8 Dia. of screw 14 1/2 Pitch of Screw 19.0 No. of Blades 4 State whether movable 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 (Weir 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 Four Sizes of Pumps Bal. 10-11-12 duplex. 2 Weir feed 9 1/2 x 7 1/2 24 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three 3 1/2" Gen. Ser. 7 1/2 x 5.6 dup. In Holds, &c. Nos. 1, 3 & 4 holds, two 3 1/2"
One 3 1/2" to tunnel well. Small dry. 5 1/2 x 3 1/2 x 9 dup. No. 2. hold, two 4"
 No. of Bilge Injections 1 sizes 10" Connected to condenser, or to circulating pump Yes 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 Yes
 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 grating in E. Rm.

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Steel Co of Scot. D. Colville, S.M. Durham.
4609 + 1132 (Ans. blr.) Wm. Beardmore. John Marshall & Co.
 Total Heating Surface of Boilers 5441 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers No. 1, 3 & 4 S.E. + Ave. S.E.
 Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 26th 30 June 1917 No. of Certificate LLOYDS TEST 400 lbs. hyd. 26-30/6/17 A.L.S. 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 Yes
 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 1/2" Length 12' 0" Material of shell plates Steel
 Thickness 15/16" Range of tensile strength 29-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double Riv.
 long. seams Double shape Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 8 3/4" x 4 3/8" Cap of plates or width of butt straps 1" 7/8"
 Per centages of strength of longitudinal joint treble riveted rivets 95.8 Working pressure of shell by rules 209 lbs Size of manhole in shell 16" x 12"
 plate 84.3 No. and Description of Furnaces in each boiler Three Morrison Material Steel Outside diameter 48 1/4"
 Length of plain part top 1 1/2" + flange 1 1/2" Thickness of plates all round 5/8" Description of longitudinal joint weld No. of strengthening rings 0
 bottom 5/8" Working pressure of furnace by the rules 208 lbs Combustion chamber plates: Material Steel Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 7/8"
 Pitch of stays to ditto: Sides 8 5/8" x 8 1/2" Back 9" x 8 1/2" Top 9 3/8" x 8 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 203 lbs
 Material of stays Steel Area at smallest part 2.1 sq. ft. Area supported by each stay 9 3/8" x 8 1/2" Working pressure by rules 230 lbs End plates in steam space: Yes
 Material Steel Thickness 1 5/16" Pitch of stays 19 3/4" x 20 1/2" How are stays secured Double nuts Working pressure by rules 201 lbs Material of stays Steel
 Area at smallest part 10.5 sq. ft. 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 ends Working pressure of plate by rules 200 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 7/16" x 4 5/16" Material of tube plates Steel Thickness: Front 13/16" Back 13/16" Mean pitch of stays 8 3/4"
 Pitch across wide water spaces 13 3/4" double 5/8" Working pressures by rules 200 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10 1/2" 13 (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 230 lbs Steam dome: description of joint to shell Yes % of strength of joint Yes
 Diameter 18 1/4" Thickness of shell plates 5/8" Material Steel Description of longitudinal joint Weld Diam. of rivet holes 1 1/8"
 Pitch of rivets 1 1/8" Working pressure of shell by rules 205 lbs Crown plates Yes Thickness 5/8" How stayed Yes
 Tested by Hydraulic Pressure to 600 lbs
SUPERHEATER. Type Schmidt Date of Approval of Plan 18th Aug. 1917 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes
 Date of Test 25th Aug. 1917 Pressure to which each is adjusted 205 lbs Is Easing Gear fitted No
 Diameter of Safety Valve 3"

W1399-0108

Lloyd's Register
Foundation