

REPORT ON MACHINERY.

Port of Glasgow.

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No. in Survey held at Glasgow. Date, first Survey 10 March '99 Last Survey 29 June 1900.
 Reg. Book. on the Screw Steamer "Kotuku" (Number of Visits 66)
 Master Built at Greenock By whom built Russell 1604 When built 1900.
 Engines made at Glasgow. By whom made Ross & Duncan. when made 1900.
 Boilers made at Glasgow. By whom made Ross & Duncan. when made 1900.
 Registered Horse Power 112 Owners Dunedin Port belonging to Dunedin.
 Nom. Horse Power as per Section 28 112 Is Refrigerating Machinery fitted No. Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Triplic Expansion No. of Cylinders Three No. of Cranks Three
 Dia. of Cylinders 17"-27 1/2"-44" Length of Stroke 33" Revs. per minute 85 Dia. of Screw shaft 9 1/4" Lgth. of stern bush 38"
 Dia. of Tunnel shaft 8 1/4" Dia. of Crank shaft journals 8 1/2" Dia. of Crank pin 8 1/2" Size of Crank webs 10 1/2" x 5 1/2" Dia. of thrust shaft under collars 8 1/2" Dia. of screw 11.6" Pitch of screw 13.0" to 14.0" No. of blades 4. State whether moorable No. Total surface 144 sq. ft.
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 16 1/2" Can one be overhauled while the other is at work Yes.
 No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 16 1/2" Can one be overhauled while the other is at work Yes.
 No. of Donkey Engines Three Sizes of Pumps 6x8 1/2 x 6" (15 in 2 1/2) (4x2 1/4) No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three: two 2 1/4 dia and one 2 1/2 dia In Holds, &c. Forward Hold: two 2 1/4 dia. After Hold and Tunnel Well: one 2 1/4 dia.
 No. of bilge injections 1 sizes 4 1/2" Connected to condenser, or to circulating pump C.P. Is a separate donkey suction fitted in Engine room & size Yes: 3"
 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 Yes.
 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 stowhold 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 Hold suction How are they protected Hood casing.
 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.
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock New vessel Is the screw shaft tunnel watertight Yes.
 Is it fitted with a watertight door Yes. worked from Top platform in Engine Room.

BOILERS, &c.— (Letter for record S.) Total Heating Surface of Boilers 1692 sq. ft. Is forced draft fitted No.
 No. and Description of Boilers One: Cylind. Mult. Single ended Working Pressure 160 lbs. Tested by hydraulic pressure to 320 lbs.
 Date of test 1/5/00. Can each boiler be worked separately Yes. Area of fire grate in each boiler 59 sq. ft. No. and Description of safety valves to each boiler Two: Direct Spring Area of each valve 6.49" Pressure to which they are adjusted 165 lbs. Are they fitted with easing gear Yes.
 Smallest distance between boilers or uptakes and bunkers or woodwork About 12" Mean dia. of boilers 14.5" Length 10.3" Material of shell plates Steel
 Thickness 1 3/16" Range of tensile strength 27-32 tons Are they welded or flanged No. Descrip. of riveting: cir. seams Lap Double long. seams Double Butt Straps.
 Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 8" 4" Lap of plates or width of butt straps 17"
 Per centages of strength of longitudinal joint rivets 86.5 Working pressure of shell by rules 146 lbs. Size of manhole in shell 16" x 12"
 Size of compensating ring 6 1/2" x 17 1/2" No. and Description of Furnaces in each boiler 3: Deighton's. Material Steel Outside diameter 47"
 Length of plain part top 6.7 1/2" Thickness of plates crown 17" Description of longitudinal joint Weld. No. of strengthening rings Yes.
 Working pressure of furnace by the rules 160 lbs. Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 5/8"
 Pitch of stays to ditto: Sides 8 1/4" x 8 1/4" Back 7 1/4" x 7 1/4" Top 7 1/4" x 7 1/4" If stays are fitted with nuts or riveted heads Nuts. Working pressure by rules 160 lbs.
 Material of stays Steel Diameter at smallest part 1 1/4" Area supported by each stay 60" Working pressure by rules 165 lbs. End plates in steam space:
 Material Steel Thickness 1 5/16" Pitch of stays 16" x 16" How are stays secured Double Nuts & Washers. Working pressure by rules 163 lbs. Material of stays Steel
 Diameter at smallest part 2 3/16" Area supported by each stay 256" Working pressure by rules 184 lbs. Material of Front plates at bottom Steel
 Thickness 3/4" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 12" Working pressure of plate by rules 338 lbs.
 Diameter of tubes 3 1/2" Pitch of tubes 4 5/8" x 4 5/8" Material of tube plates Steel Thickness: Front 7/8" x 3/4" Back 3/4" Mean pitch of stays 10.6"
 Pitch across wide water spaces 14" Working pressures by rules 232 lbs. 179 lbs. Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 6 1/2" x 2 1/4" Length as per rule 27 1/2" Distance apart 7 1/2" Number and pitch of Stays in each 2: 7 1/4"
 Working pressure by rules 202 lbs. Superheater or Steam chest; None connected to boiler None 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
 holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 If 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

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