

REPORT ON MACHINERY.

FRI. 3 JUN 1898

Port of Belfast

Received at London Office 18

No. in Survey held at Belfast Date, first Survey Nov 30 1896 Last Survey May 30 1898
 Reg. Book. on the Steel Twin Screw Steamer Sado Maru (Number of Visits 52)
 Master James B Murray Built at Belfast By whom built Worlman Clark & Co Ltd When built 1898
 Engines made at Belfast By whom made Worlman Clark & Co Ltd when made 1898
 Boilers made at " By whom made " when made 1898
 Registered Horse Power 550 Owners Nippon Yusen Kaisha Port belonging to Yokohama
 Nom. Horse Power as per Section 28 554

DETAILS, &c. — Description of Engines Twin Expansion Twin Screws No. of cylinders Six
 Diameter of Cylinders 20 : 3 3/2 : 56 Length of Stroke 48" Revolutions per minute 80 Diameter of Screw shaft as per rule 11 1/2
 Diameter of Tunnel shaft as fitted 10 9/16 Diameter of Crank shaft journals 12 1/2 Diameter of Crank pin 12 1/2 Size of Crank webs 8 1/2 x 16 1/2
 Diameter of screws 15 1/2 Pitch of screw 18 1/2 No. of blades 4 State whether moveable Yes Total surface 71 each propeller
 No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Four Sizes of Pumps See other side No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three 3 1/2" In Holds, &c. Two 3 1/2" wing suction in each
of Nos 1 2 3 4 & 5 holds, and 3 1/2" port & starboard Tunnel well suction.
 No. of bilge injections 2 sizes 7" Connected to condenser, or to circulating pump Cir. 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 Below
 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 Forward bilge suction How are they protected Strong wooden casings
 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 Before launch Is the screw shaft tunnel watertight Yes
 Is it fitted with a watertight door Yes worked from Upper Eng Rm platform.

BOILERS, &c. — (Letter for record S) Total Heating Surface of Boilers 9271 Natural Draught
 No. and Description of Boilers Two double & two single ended Working Pressure 200 lb Tested by hydraulic pressure to 400 lb
 Date of test 3-11-97 Can each boiler be worked separately Yes Area of fire grate in each boiler 104.5 sq. ft. No. and Description of safety valves to
 each boiler Two, Cockburn's Area of each valve 9.62 sq. ft. Pressure to which they are adjusted 205 lb Are they fitted
 with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork Several feet Mean diameter of boilers 13'6"
 Length 14'0" Material of shell plates Steel Thickness 1 1/16" Description of riveting : circum. seams Double strap long. seams Double strap
 Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10" x 5" Lap of plates or width of butt straps 21 1/4 x 1 1/4 inside
 Percentages of strength of longitudinal joint 85 Working pressure of shell by rules 220 lb Size of manhole in shell 16 x 12"
 Size of compensating ring 2'8" x 2'11" 1/16" No. and Description of Furnaces in each boiler 6 Morrison Material Steel Outside diameter 42 1/2"
 Length of plain part top 19'32" Thickness of plates bottom 19'32" Description of longitudinal joint Welded No. of strengthening rings —
 Working pressure of furnace by the rules 223 Combustion chamber plates : Material Steel Thickness : Sides 5/8" Back 5/8" Top 5/8" Bottom 3/4"
 Pitch of stays to ditto : Sides 7/8" Back 7/8" Top 7/8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 266
 Material of stays Steel Diameter at smallest part 1 3/8" Area supported by each stay 50.7 Working pressure by rules 233 End plates in steam space :
 Material Steel Thickness 1 1/16" Pitch of stays 15" How are stays secured Double nut & washers Working pressure by rules 238 Material of stays Steel
 Diameter at smallest part 2 1/2" Area supported by each stay 107 Working pressure by rules 223 Material of Front plates at bottom Steel
 Thickness 1" Material of Lower back plate Steel Thickness 2 3/32" Greatest pitch of stays As app. Working pressure of plate by rules 200
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness : Front 29/32" Back 13/16" Mean pitch of stays 8 7/8"
 Pitch across wide water spaces 14 1/4" Working pressures by rules 200 lb Girders to Chamber tops : Material Steel Depth and
 thickness of girder at centre 9 x two 3 1/4" Length as per rule 40 7/8 D.E. Distance apart 7 1/8 D.E. Number and pitch of Stays in each Four at 7 1/8"
 Working pressure by rules 200 lb 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
 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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