

REPORT ON MACHINERY.

9840

No. 9840 Port of Glasgow Received at London Office WED 21 MAY 1890
 No. in Survey held at Dumbarton Date, first Survey 31st Oct 1889 Last Survey May 16 1890
 Reg. Book. on the S. S. "Potomac" (Number of Visits 13)
 Master J. G. Arthur Built at Dumbarton By whom built J. Denny & Co Tons { Gross 2004 Net 1263
 Engines made at Dumbarton By whom made Denny & Co when made 1890
 Boilers made at " By whom made " when made 1890
 Registered Horse Power 135 Owners Union Steam Ship Co. of N.Z. Land Port belonging to Dunedin

ENGINES, &c.
 Description of Engines Quadruple Expansion No. of Cylinders Four
 Diam. of Cylinders 18" 36" Length of Stroke 39" Rev. per minute 105 Point of Cut off, High Pressure Variable Pressure "
 Diameter of Screw shaft 10 3/4" Diam. of Tunnel shaft 10" Diam. of Crank shaft journals 10 3/4" Diam. of Crank pin 10 3/4" size of Crank webs 4"
 Diameter of screw 15 1/2" Pitch of screw 1 1/2" No. of blades 4 state whether moveable yes total surface 58.4 sq ft
 No. of Feed pumps Two diameter of ditto 3 1/4" Stroke 20" Can one be overhauled while the other is at work yes
 No. of Bilge pumps Two diameter of ditto 3 1/4" Stroke 20" Can one be overhauled while the other is at work yes
 Where do they pump from All compartments
 No. of Donkey Engines Two Size of Pumps 8" x 6" x 9" Where do they pump from Sea Bilges Hotwell and Ballast Tanks
 Are all the bilge suction pipes fitted with roses yes Are the roses always accessible yes Are the sluices on Engine room bulkheads always accessible yes
 No. of bilge injections One and sizes 1 1/2" Are they connected to condenser, or to circulating pump To circulating
 How are the pumps worked By Levers
 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 near load line
 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 Bilge pipes to the hold How are they protected By wood casing
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times yes
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges yes
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock On ship before launching
 Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Upper platform

BOILERS, &c.
 No. of Boilers Two Description Round Horizontal Material Steel Letter (for record)
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test April 8th 1890
 Description of superheating apparatus or steam chest none
 Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately yes
 No. of square feet of fire grate surface in each boiler 44 sq ft Description of safety valves Direct Spring No. to each boiler Two
 Area of each valve 4.91" Are they fitted with easing gear yes No. of safety valves to superheater 4 area of each valve "
 Are they fitted with easing gear " Smallest distance between boilers and bunkers or woodwork About 8" Diameter of boilers 12'-11 3/4"
 Length of boilers 10'-4 1/2" description of riveting of shell long. seams Double riveted short seams Double riveted Thickness of shell plates 1 9/16"
 Diameter of rivet holes 1 9/16" x 1 7/16" whether punched or drilled Drilled pitch of rivets 8" Lap of plating 18 3/4" Staps
 Per centage of strength of longitudinal joint 83 1/2% working pressure of shell by rules 183 lbs size of manholes in shell 14" x 13"
 Size of compensating rings Doubling plates No. of Furnaces in each boiler Three Description of Furnaces Corrugated
 Outside diameter 3'-4 7/8" length 5'-8 3/4" thickness of plates 1 9/32" description of joint welded if rings are fitted "
 Greatest length between rings " working pressure of furnace by the rules 184 lbs combustion chamber plating, thickness, sides 9/16" back 9/16" top 9/16"
 Pitch of stays to ditto, sides 4" x 4" back 4" x 6 7/8" top 4" x 4 1/4" stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 198 lbs
 Diameter of stays at smallest part 1 3/8" x 1 3/4" working pressure of ditto by rules 241 lbs plates in steam space, thickness 18"
 Pitch of stays to ditto 14" x 16 1/4" how stays are secured By double nuts working pressure by rules " diameter of stays at smallest part 2 7/8" x 2 3/4" = 5.94" working pressure by rules 235 lbs Front plates at bottom, thickness 1 3/16" Back plates, thickness 1 1/16"
 Greatest pitch of stays " working pressure by rules " Diameter of tubes 3" pitch of tubes 4 1/4" x 1 1/2" thickness of tube plates, front 1 3/16" back 1 1/16" how stayed By tubes pitch of stays 4 1/4" x 8 1/2" width of water spaces about 6"
 Diameter of Superheater or Steam chest none length " thickness of plates " description of longitudinal joint " diam. of rivet holes "
 Pitch of rivets " working pressure of shell by rules " diameter of flue " thickness of plates " If stiffened with rings "
 Distance between rings " working pressure by rules " end plates of superheater, or steam chest; thickness " how stayed "
 Superheater or steam chest; how connected to boiler "

State of Report is also sent on the Hull of the Ship

GLS159-0382

DONKEY BOILER— Description *Round Vertical*
 Made at *Ambarston* by whom made *Jenny & Co* when made *1890* where fixed *In St. Michael's*
 Working pressure *80 lb* tested by hydraulic pressure to *160 lb* No. of Certificate *2635* fire grate area *26 ft²* description of safety
 valves *Direct Spring* No. of safety valves *Two* area of each *5.94* if fitted with easing gear *Yes* if steam from main boilers or
 enter the donkey boiler *No* diameter of donkey boiler *6.6* length *13 ft* description of riveting *Double riveted*
 Thickness of shell plates *3/16* diameter of rivet holes *7/8* whether punched or drilled *Drilled* pitch of rivets *3.5* lap of plating *1.5*
 per centage of strength of joint *42.70* thickness of crown plates *3/16* stayed by *4 Stays 2 3/8 dia + 1/2 stay*
 Diameter of furnace, top *5.3* bottom *5.9* length of furnace *6.6* thickness of plates *3/16* description of joint *Lap*
 Thickness of furnace crown plates *3/16* stayed by *As above* working pressure of shell by rules *80 lb*
 Working pressure of furnace by rules *✓* diameter of uptake *18* thickness of plate *3/16* iron thickness of water tubes *3/16* iron

SPARE GEAR. State the articles supplied:— *2 Connecting rod bolts top & bottom, 2*
bearing bolts, set coupling bolts, one piece of crank shaft
Propeller shaft & 4 blades with studs & nuts, 1 pair crank
pin brasses, one set of valves for all the pumps, assortment
The foregoing is a correct description, bolts, nuts, springs, tubes, & other
Jenny & Co. Manufacturers

General Remarks (State quality of workmanship, opinions as to class, &c. *These Engines and Boilers*
are of good workmanship and materials and are now
in good order and safe working condition and they
in my opinion to be noted in the Register Book + Log
M.C. 5790

It is submitted that this vessel is eligible
to have + L.M.C. 5-90 recorded.
M.A.
21-5-90

The amount of Entry Fee .. £ *2* : - : - received by me,
 Special .. £ *20* : *5* : -
 Donkey Boiler Fee .. £ - : - : -
 Certificate (if required) .. £ - : - : - *19/5* 1890
 To be sent as per margin.

Committee's Minute **FRI 23 MAY 1890**
+ d m b 5790

James Morrison
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping
 Clyde District
 Lloyd's Register
 Foundation