

## REPORT ON MACHINERY.

No. 14195.

Port of Greenock

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No. in Survey held at Port GlasgowDate, first Survey 5<sup>th</sup> Aug. 1904 Last Survey 27<sup>th</sup> Feb. 1905

Reg. Book.

(Number of Visits 5)on the Screw Steamer AshridgeTons <sup>Gross</sup> 1905  
<sup>Net</sup>Master H. Macdonald Built at Port Glasgow By whom built H. Hamelton & Co.Engines made at Port Glasgow By whom made Glyde Shipbuilding & Engineering Co. Ltd. When made 1905Boilers made at Port Glasgow By whom made Glyde Shipbuilding & Engineering Co. Ltd. When made 1905Registered Horse Power 284 Owners M. G. Smith, W. E. E. Smith, Proprietors, Ltd. belonging to LondonNom. Horse Power as per Section 28 284 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 ThreeDia. of Cylinders 24" - 40" - 65" Length of Stroke 42" Revs. per minute 70 Dia. of Screw shaft 1 1/4" Material of SteelIs the screw shaft fitted with a continuous liner the whole length of the stern tube Yes. Is the after end of the liner made water tightin the propeller boss Yes. If the liner is in more than one length are the joints burned Yes. If the liner does not fit tightly at the partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes. If twoliners are fitted, is the shaft lapped or protected between the liners Yes. Length of stern bush 5' 0"Dia. of Tunnel shaft 11' 8" Dia. of Crank shaft journals 12' 4" Dia. of Crank pin 13" Size of Crank webs 8' 2' 3/4" Dia. of thrust shaft undercollars 13" Dia. of screw 16' 6" Pitch of screw 14' 6" No. of blades 4 State whether moveable No. Total surface 80.6 sq. ft.No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 21" Can one be overhauled while the other is at work Yes.No. of Bilge pumps 2 Diameter of ditto 4" Stroke 21" Can one be overhauled while the other is at work Yes.No. of Donkey Engines Three Sizes of Pumps (8' 5" x 8") (8' 8" x 8") (4' 2" x 5") No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room Four - 3 1/2" dia. In Holds, &c. No. 1 Hold: Two - 3 1/2" dia. No. 2 Hold: Two - 3 1/2" dia.No. of bilge injections 1 sizes 6" Connected to condenser, or to circulating pump C. P. Is a separate donkey suction fitted in Engine room & size Yes: 3 1/2" dia.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 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.When were stern tube, propeller, screw shaft, and all connections examined in dry dock Now Vessel. Is the screw shaft tunnel watertight Yes.Is it fitted with a watertight door Yes. worked from Upper platform.BOILERS, &c.—(Letter for record R.) Total Heating Surface of Boilers 4290 sq. ft. Is forced draft fitted No.No. and Description of Boilers 2: Cylindrical Horizontal Single Ended Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs.Date of test 23/12/04 Can each boiler be worked separately Yes. Area of fire grate in each boiler 56 sq. ft. No. and Description of safety valves toeach boiler 2: Direct Spring Area of each valve 5.9 sq. in. Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes.Smallest distance between boilers or uptakes and bunkers or woodwork About 12" Mean dia. of boilers 15' 6" Length 10' 9" Material of shell plates SteelThickness 1 1/4" Range of tensile strength 28-32 tons Are they welded or flanged No. Descrip. of riveting: cir. seams Lap Double long. seams Double Butt StrapsDiameter of rivet holes in long. seams 1 5/8" Pitch of rivets 9' 8" 4' 1/2" Lap of plates or width of butt straps 1' 7 1/2"Per centages of strength of longitudinal joint 85-1 Working pressure of shell by rules 179 lbs. Size of manhole in shell 16' x 12"Size of compensating ring 24' x 33' x 1 1/4" No. and Description of Furnaces in each boiler 3: Dighton's Material Steel Outside diameter 49 3/4"Length of plain part 6' 9" Thickness of plates 3 1/2" Description of longitudinal joint Weld. No. of strengthening rings None.Working pressure of furnace by the rules 189 lbs. Combustion chamber plates: Material Steel Thickness: Sides 19' 2" Back 5' 8" Top 19' 2" Bottom 17' 6"Pitch of stays to ditto: Sides 8' x 8' 8" Back 8' 2' x 8' 8" Top 8' x 8" If stays are fitted with nuts or riveted heads Auto. Working pressure by rules 182 lbs.Material of stays Iron. Diameter at smallest part 1 5/8" Area supported by each stay 64 sq. in. Working pressure by rules 212 lbs. End plates in steam space:Material Steel Thickness 1 3/2" Pitch of stays 16' x 16' 1/2" How are stays secured Double nuts. Working pressure by rules 181 lbs. Material of stays SteelDiameter at smallest part 2 1/2" Area supported by each stay 264 sq. in. Working pressure by rules 239 lbs. Material of Front plates at bottom SteelThickness 3/4" Material of Lower back plate Steel Thickness 3 1/2" Greatest pitch of stays 14" Working pressure of plate by rules 182 lbs.Diameter of tubes 3 1/2" Pitch of tubes 4' 8" x 4' 8" Material of tube plates Steel Thickness: Front 3' 1/2" Back 4" Mean pitch of stays 10.8"Pitch across wide water spaces 14 1/2" Working pressures by rules 216 lbs. Girders to Chamber tops: Material Steel Depth andthickness of girder at centre 9 1/2' x 1 1/2" Length as per rule 34' 8" Distance apart 8" Number and pitch of Stays in each 3: 8"Working pressure by rules 182 lbs. Superheater or Steam chest; how connected to boiler None. Can the superheater be shut off and the boiler workedseparately Yes. Diameter 18" Length 18" Thickness of shell plates 1 1/2" Material Steel Description of longitudinal joint Weld. Diam. of rivetholes 1 1/2" Pitch of rivets 1 1/2" Working pressure of shell by rules 181 lbs. Diameter of flue 18" Material of flue plates Steel Thickness 1 1/2"If stiffened with rings Yes. Distance between rings 18" Working pressure by rules 181 lbs. End plates: Thickness 1 1/2" How stayed Yes.Working pressure of end plates 181 lbs. Area of safety valves to superheater 181 lbs. Are they fitted with easing gear Yes.



SPARE GEAR. State the articles supplied:— Propeller shaft, propeller, 1 set Crank pin bushes, 1 set Crosshead bushes, 2 main Boiler tubes, 6 Donkey Boiler tubes, 2 main Bearing Bolts, 2 Crosshead Bolts, 2 Crank pin Bolts, 1 set Coupling Bolts, 3 set piston Rings Feed & Bilge pump valves, Bolts & Iron of assorted sizes.

THE CLYDE SHIPBUILDING & ENGINEERING CO. LIMITED.

John S. Dunlop Asst. Secretary

Is the approved plan of main boiler forwarded herewith Yes.

“ ” ” *donkey* ” ” Yes

The Engines and Boilers of this vessel have been built under Special Survey and the materials and workmanship are good. When completed they were examined while running full power trials in the Firth and found to work satisfactorily.

The machinery throughout is now in good and efficient condition and eligible in my opinion to have the record of **⌘LMC 2,05** marked in the Society's Register Book.

It is submitted that  
this vessel is eligible for  
THE RECORD. I L.M.C. 2.05 ELEC: LIGHT

8.3.05

Em. S.  
7.3.05-

*Wm. R. Austin,*  
~~Engineer~~ Surveyor to Lloyd's Register of British & Foreign Shipping.

Glasgow - 6 MAR 1905

+ L.M.B. 2.05.

Answer

WRITTEN. 7-3-05

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Foundation