

REPORT ON MACHINERY.

No. 13645.

Port of Greenock.

Received at London Office

JUN 16 1903

No. in Survey held at Port GlasgowDate, first Survey 20th Jan 1903 Last Survey 6th June 1903Reg. Book. Supply(Number of Visits #2)76 on the Screw Steamer HermiaTons { Gross 2050
Net 1305Master J. Pettes Built at Port Glasgow. By whom built Glyde Shipbuilding & Eng'rs Ltd. When built 1903Engines made at Port Glasgow. By whom made Glyde Shipbuilding & Eng'rs Ltd. when made 1903Boilers made at Port Glasgow. By whom made Glyde Shipbuilding & Eng'rs Ltd. when made 1903Registered Horse Power 202 Owners Hermia S. S. Co. Ltd. Port belonging to GlasgowNom. Horse Power as per Section 28 202 Is Refrigerating Machinery fitted No Is Electric Light fitted NoENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders Three No. of Cranks ThreeDia. of Cylinders 21"-33"-54" Length of Stroke 36" Revs. per minute 40 Dia. of Screw shaft 11 1/2" Material of screw shaft IronIs 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 9 1/2" Dia. of Crank shaft journals 10 1/2" Dia. of Crank pin 10 1/2" Size of Crank webs 20" x 4" Dia. of thrust shaft undercollars 10 1/2" Dia. of screw 14'0" Pitch of screw 15'0" No. of blades 4 State whether moveable No Total surface 60 sq. ft.No. of Feed pumps 2 Diameter of ditto 3" Stroke 18" Can one be overhauled while the other is at work YesNo. of Bilge pumps 2 Diameter of ditto 4" Stroke 18" Can one be overhauled while the other is at work YesNo. of Donkey Engines Three Sizes of Pumps General 5 1/2" x 6" Bilge 4 1/2" x 4" Ballast 8 1/2" x 12" No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room Four: 3" dia. In Holds, &c. Fore Hold: Two 3" dia. Main Hold: Two 3" dia.No. of bilge injections 1 sizes 5" Connected to condenser, or to circulating pump C. P. Is a separate donkey suction fitted in Engine room & size Yes: 5"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 YesAre all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks BothAre 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 lineAre 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 YesWhat pipes are carried through the bunkers None How are they protected YesAre all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times YesAre the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges YesWhen were stern tube, propeller, screw shaft, and all connections examined in dry dock New Vessel Is the screw shaft tunnel watertight YesIs it fitted with a watertight door Yes worked from Upper platformBOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 3150 sq. ft. Is forced draft fitted NoNo. and Description of Boilers Two: Cylindrical Multi-Engine End Working Pressure 160 lbs. Tested by hydraulic pressure to 320 lbs.Date of test 20/4/03 Can each boiler be worked separately Yes Area of fire grate in each boiler 54 sq. ft. No. and Description of safety valves toeach boiler Two: Direct Spring Area of each valve 7.06" Pressure to which they are adjusted 165 lbs. Are they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork Work 9" Mean dia. of boilers 13'9" Length 10'0" Material of shell plates SteelThickness 1 1/2" Range of tensile strength 28-32 tons Are they welded or flanged No Descrip. of riveting: cir. seams Lap Double long. seams Double ButtsDiameter of rivet holes in long. seams 1 1/2" Pitch of rivets 7/8" 3 1/2" Lap of plates or width of butt straps 1'6"Per centages of strength of longitudinal joint 84.9 Working pressure of shell by rules 160 lbs. Size of manhole in shell 21 1/2" x 12"Size of compensating ring Plate flanged No. and Description of Furnaces in each boiler 3: Deighton's Material Steel Outside diameter 43"Length of plain part 6'6" Thickness of plates 15" Description of longitudinal joint Welded No. of strengthening rings YesWorking pressure of furnace by the rules 161 lbs. Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 3/2" Top 9/16" Bottom 5/8"Pitch of stays to ditto: Sides 8' x 7/8" Back 8 1/2' x 8 1/2" Top 7 1/2' x 8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 168 lbs.Material of stays Steel Diameter at smallest part 1 3/8" Area supported by each stay 7/2" Working pressure by rules 163 lbs. End plates in steam space:Material Steel Thickness 1 1/2" Pitch of stays 16" x 15" How are stays secured Double Nuts Working pressure by rules 161 lbs. Material of stays SteelDiameter at smallest part 2 5/16" Area supported by each stay 240" Working pressure by rules 149 lbs. Material of Front plates at bottom SteelThickness 1 1/2" Material of Lower back plate Steel Thickness 1 1/2" Greatest pitch of stays 13 1/4" Working pressure of plate by rules 181 lbs.Diameter of tubes 3 1/2" Pitch of tubes 4 1/2' x 4 1/2" Material of tube plates Steel Thickness: Front 1 1/2" Back 2 1/2" Mean pitch of stays 9 1/2"Pitch across wide water spaces 14" Working pressures by rules 194 lbs. Girders to Chamber tops: Material Steel Depth andthickness of girder at centre 7 3/4' x 14" Length as per rule 28 1/2" Distance apart 7 1/2" Number and pitch of Stays in each 2: 8"Working pressure by rules 142 lbs. Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler workedseparately Yes Diameter 14" Length 14" Thickness of shell plates 1 1/2" Material Steel Description of longitudinal joint Welded Diam. of rivetholes 1 1/2" Pitch of rivets 7/8" Working pressure of shell by rules 160 lbs. Diameter of flue 14" Material of flue plates Steel Thickness 1 1/2"If stiffened with rings Yes Distance between rings 14" Working pressure by rules 161 lbs. End plates: Thickness 1 1/2" How stayed Double NutsWorking pressure of end plates 161 lbs. Area of safety valves to superheater 14" Are they fitted with easing gear Yes

002094-002100-0204

DONKEY BOILER— No. *ONE* Description *Cylindrical shell with 2 plain furnaces.*
 Made at *Port Glasgow.* By whom made *Glyde Shipbuilding & Engineering Co. Ltd.* When made *1903.* Where fixed on *Deck.*
 Working pressure *90 lb* tested by hydraulic pressure to *180 lb.* No. of Certificate *606.* Fire grate area *22 sq. ft.* Description of safety valves *Direct Spring.*
 No. of safety valves *2.* Area of each *4.9 sq. in.* Pressure to which they are adjusted *92 lb.* If fitted with easing gear *Yes.* If steam from main boilers can enter the donkey boiler *No.* Dia. of donkey boiler *9' 0".* Length *8' 0".* Material of shell plates *Steel.* Thickness *3/8".* Range of tensile strength *28-32 tons.* Descrip. of riveting long. seams *Lap Double riveted.* Dia. of rivet holes *1 1/2".* Whether punched or drilled *Drilled.* Pitch of rivets *3 1/2".*
 Lap of plating *5 3/4".* Per centage of strength of joint *75-85.* Rivets *7/8" x 5 1/2".* Thickness of shell plates *3/8".* Radius of do. *15".* No. of Stays to do. *13 1/2" x 1 1/4".*
 Dia. of stays. *1 3/32".* Diameter of furnace *Top 2' 10". Bottom 2' 10".* Length of furnace *5' 7".* Thickness of furnace plates *3/8".* Description of joint *Single Butt Joints.* Thickness of furnace crown plates *7/8".* Stayed by *1 1/2" stays.* Working pressure of shell by rules *92 lb.*
 Working pressure of furnace by rules *106 lb.* Diameter of uptake *3".* Thickness of uptake plates *7/8".* Thickness of water tubes *5/8".* Girders *5' x 8".*

SPARE GEAR. State the articles supplied:— *Rams bottom Rings for H.P. & L.P. pistons, 2 main Bearing Bolt nuts, 2 crosshead Bolt nuts, 2 crank pin Bolt nuts, 1 set Coupling Bolt nuts, 1 set Feed & Selp pump valves, 1 Propeller.*

The foregoing is a correct description,

Manufacturer.

John Inoir
Director.

Dates { During progress of work in shops— 1903. January 20. 23. 26. 29. 30 February 3. 5. 6. 11. 16. 17. 20. 24. 26. March 2. 5. 13. 17. 20. 24
 of Survey { During erection on board vessel— 27. April 1. 4. 9. 13. 14. 15. 20. 23. 24. 30 May 1. 7. 8. 13. 20. 21. 26. 29. June 1. 5. 6.
 while building { Total No. of visits. *42* Is the approved plan of main boiler forwarded herewith *Yes.*
 " " " donkey " " " *Yes.*

General Remarks (State quality of workmanship, opinions as to class, &c.)

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 on a fully loaded trial 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 6,03** marked in the Society Register Book.*

It is submitted that this vessel is eligible for THE RECORD :- LMC 6:03

PSA
16.6.03

AS.
17.6.03

The amount of Entry Fee.. £ *2* : : : : When applied for,
 Special £ *30* : *2* : : : : *9.6.1903*
 Donkey Boiler Fee £ : : : : When received,
 Travelling Expenses (if any) £ : : : : *11.6.1903*

Committee's Minute

Assigned

Glasgow 15 JUN 1903

+ LMC 6.03.

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



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 Foundation

MACHINERY CERTIFICATE
 WRITTEN 18.6.03

Greenock

Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)