

REPORT ON MACHINERY.

No. 13739.

Port of Glasgow

TUES. 6 OCT 1903

Received at London Office

No. in Survey held at Port GlasgowDate, first Survey 13 March 1903Last Survey 23 Sept 1903

Reg. Book.

831 on the Screw Steamer "Humber"(Number of Visits 58)Tons ^{Gross} 1120Net 860When built 1903Master NewloveBuilt at DumbartonBy whom built A. McMillan & SonEngines made at Port GlasgowBy whom made Glyde Shipbuilding & Engs Co Ltd when made 1903Boilers made at Port GlasgowBy whom made Glyde Shipbuilding & Engs Co Ltd when made 1903

Registered Horse Power

Owners Goole Steam Shipping Co Ltd Port belonging to GooleNom. Horse Power as per Section 28 229Is Refrigerating Machinery fitted NoIs Electric Light fitted NoENGINES, &c.—Description of Engines Triple ExpansionNo. of Cylinders ThreeNo. of Cranks ThreeDia. of Cylinders 21" - 35" - 58" Length of Stroke 36" Revs. per minute 95 Dia. of Screw shaft ^{as per rule} 11" Material of 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 tight

in 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 4' 3"Dia. of Tunnel shaft ^{as per rule} 10' 3" Dia. of Crank shaft journals ^{as per rule} 10' 8" Dia. of Crank pin 11" Size of Crank webs 21 1/2 x 7 1/2 Dia. of thrust shaft undercollars 11" Dia. of screw 12' 9" Pitch of screw 15' 6" No. of blades 4 State whether moveable No Total surface 58 Sq. ft.No. of Feed pumps 2 Diameter of ditto 3 1/4" Stroke 20" Can one be overhauled while the other is at work YesNo. of Bilge pumps 2 Diameter of ditto 3 1/4" Stroke 20" Can one be overhauled while the other is at work YesNo. of Donkey Engines Two Sizes of Pumps (6 1/2 x 1 1/2 x 6") (7 1/2 x 8 1/2 x 6") No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room Three : 2 1/2" dia.In Holds, &c. No. 1 Hold : One 2 1/2" dia. No. 2 Hold : Two 2 1/2" dia.No. 3 Hold : One 3" dia. Tunnel well : One 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 : 2 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 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 line AboveAre 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 Hold suction How are they protected By wood casingAre 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 platform

BOILERS, &c.—

(Letter for record S.) Total Heating Surface of Boilers 3670 Sq. ft. Is forced draft fitted NoNo. and Description of Boilers Two : Cylindrical Multi Single Ended Working Pressure 180 lb Tested by hydraulic pressure to 360 lbDate of test 21/8/03 Can each boiler be worked separately Yes Area of fire grate in each boiler 40.5 sq. ft. No. and Description of safety valves toeach boiler 2 : Direct Spring Area of each valve 7.06 sq. in. Pressure to which they are adjusted 185 lb Are they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork About 6 ft. Mean dia. of boilers 13' 9" Length 12' 0" Material of shell plates SteelThickness 1 3/8" Range of tensile strength 28-32 tons Are they welded or flanged No Descrip. of riveting : cir. seams Lap double long seams Butt lapDiameter of rivet holes in long. seams 1 1/8" Pitch of rivets 9' 8" 4' 1/8" Lap of plates or width of butt straps 20 1/2"Per centages of strength of longitudinal joint ^{rivets} 91.5 ^{plate} 85 Working pressure of shell by rules 227 lb Size of manhole in shell 16" x 12"Size of compensating ring 33" x 26" x 1 3/8" No. and Description of Furnaces in each boiler 3 : Ritted Material Steel Outside diameter 112"Length of plain part ^{top} 42.6" ^{bottom} 42.6" Thickness of plates ^{crown} 9" ^{bottom} 9" Description of longitudinal joint Weld No. of strengthening rings partial at 15 bottomWorking pressure of furnace by the rules 193 lb Combustion chamber plates : Material Steel Thickness : Sides 1 1/8" Back 1 1/8" Top 1 1/8" Bottom 1 1/8"Pitch of stays to ditto : Sides 9' x 8 1/2" Back 9' x 9" Top 9' x 8 1/2" If stays are fitted with nuts or riveted heads Auto Working pressure by rules 202 lbMaterial of stays Steel Diameter at smallest part 1 5/8" Area supported by each stay 81 sq. in. Working pressure by rules 229 lb End plates in steam space :Material Steel Thickness 1 3/2" Pitch of stays 18 1/2" x 1 1/2" How are stays secured Old Ruts Working pressure by rules 248 lb Material of stays SteelDiameter at smallest part 3 1/8" Area supported by each stay 353 sq. in. Working pressure by rules 226 lb Material of Front plates at bottom SteelThickness 1 5/8" Material of Lower back plate Steel Thickness 1 5/8" Greatest pitch of stays 14 1/4" Working pressure of plate by rules 214 lbDiameter of tubes 3 1/2" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness : Front 1 5/8" Back 1 5/8" Mean pitch of stays 10' 3"Pitch across wide water spaces 14 1/4" Working pressures by rules 188 lb 293 lb Girders to Chamber tops : Material Steel Depth andthickness of girder at centre 10 1/2" x 1 1/2" Length as per rule 34 1/4" Distance apart 9" Number and pitch of Stays in each 3 : 9"Working pressure by rules 205 lb 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 5/8" Material Steel Description of longitudinal joint Weld Diam. of rivetholes 1 1/8" Pitch of rivets 9" Working pressure of shell by rules 227 lb Diameter of flue 18" Material of flue plates Steel Thickness 1 5/8"If stiffened with rings Yes Distance between rings 18" Working pressure by rules 227 lb End plates : Thickness 1 5/8" How stayed By wood casingWorking pressure of end plates 205 lb Area of safety valves to superheater 18 sq. in. Are they fitted with easing gear Yes

DONKEY BOILER— No. *None* Description

Made at _____ By whom made _____ When made _____ Where fixed _____
 Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____
 No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can
 enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of tensile
 strength _____ Descrip. of riveting long. seams _____ Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____
 Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____
 Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of
 joint _____ Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____
 Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied: — *3 Crank shaft, 1 Propeller shaft, 1 set Circulating
 pump valves, 1 set Air pump valves, 3 main Bearing Bolts, 2 Crosshead Bolt
 2 Crank pin Bolt, 1 set Coupling Bolts, 1 set Feed & Bilge pump valves. Bolts &
 Iron assorted sizes.*

The foregoing is a correct description,

Manufacturer.

THE CLYDE SHIPBUILDING & ENGINEERING CO. LIMITED,

John Moir
 Director.

Dates of Survey while building { During progress of work in shops - - } *1903. March 13. 17. 20. 24. 27. April 1. 2. 4. 14. 15. 16. 20. 24. 30. May 7. 8. 13. 20. 21. 26. 29. June 1. 2*
 { During erection on board vessel - - } *10. 16. 17. 18. 19. 25. 29. July 15. 16. 17. 20. 22. 24. 27. 28. 29. Aug 4. 6. 10. 12. 14. 18. 20. 21. 25. Sep 1. 3. 8*
 Total No. of s *10. 11. 15. 16. 17. 22. 23. 58.* Is the approved plan of main boiler forwarded herewith *Yes*
 " " " donkey " " " " " " " " " " " "

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 fitted on board the vessel they were examined when running
 at full power in the Firth of Clyde 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 9.03. marked in the Society's Register Book.*

It is submitted that
 this vessel is eligible for
 THE RECORD

L.M.C. 9.03.

Emil
6.10.03.

6.10.03

The amount of Entry Fee. £ *2* : : : When applied for, *25.9.03*
 Special £ *31* : *9* : : : *29.9.03*
 Donkey Boiler Fee £ : : : :
 Travelling Expenses (if any) £ : : : :
 When received, *29.9.03*

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

Committee's Minute

Glasgow - 5 OCT 1903

Assigned

L.M.C. 9.03.

When fee is paid
 MACHINERY CERTIFICATE
 WRITTEN. *7.10.03*



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Lloyd's Register
 Foundation

Greenwood

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