

REPORT ON MACHINERY.

No. 13739.

Port of Glasgow

TUES. 6 OCT 1903

No. in Survey held at Port Glasgow Date, first Survey 13th March 1903 Last Survey 23rd Sept 1903

Reg. Book. 831 on the Screw Steamer "Humber" (Number of Visits 58)

Master Newlove Built at Dumbarton By whom built A. McMillan & Son Tons ^{Gross} 1120 _{Net} 860 When built 1903

Engines made at Port Glasgow By whom made Blyde Shipbuilding & Eng'g Co^{ys} Ltd when made 1903

Boilers made at Port Glasgow By whom made Blyde Shipbuilding & Eng'g Co^{ys} Ltd when made 1903

Registered Horse Power 229 Owners Goole Steam Shipping Co^{ys} Ltd Port belonging to Goole

Nom. Horse Power as per Section 28 229 Is Refrigerating Machinery fitted No. Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 21" - 35" - 58" Length of Stroke 36" Revs. per minute 95 Dia. of Screw shaft ^{as per rule} 11.9" Material of Iron _{as fitted} 12" screw shaft

Is 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 part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two

liners 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 under

collars 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 Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/4" Stroke 20" Can one be overhauled while the other is at work Yes

No. 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 pumps

In 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 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 Hold suction How are they protected By wood casing

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 New 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 S.) Total Heating Surface of Boilers 3670 Sq. ft. Is forced draft fitted No.

No. and Description of Boilers Two: Cylind^{ic} Mult^{iple} Single Ended. Working Pressure 180 lb Tested by hydraulic pressure to 360 lb

Date 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 to

each 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 Yes

Smallest 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 Steel

Thickness 1 3/8" Range of tensile strength 25-32 tons Are they welded or flanged No Descrip. of riveting: cir. seams Lap double long seams Butt Sharp

Diameter of rivet holes in long. seams 1 7/8" Pitch of rivets 9' 5" 4 1/2" 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 41 1/2"

Length of plain part ^{top} 22.6" _{bottom} 22.6" Thickness of plates ^{crown} 9" _{bottom} 9" Description of longitudinal joint Weld No. of strengthening rings partial at 15-bottom

Working pressure of furnace by the rules 193 lb Combustion chamber plates: Material Steel Thickness: Sides 1/8" Back 1/8" Top 1/8" Bottom 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 lb

Material 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 Nuts Working pressure by rules 240 lb Material of stays Steel

Diameter 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 Steel

Thickness 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 lb

Diameter 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 and thickness of girder at centre 10 1/2" x 12" 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 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



