

Rpt. 4. REPORT ON MACHINERY. No. 15283 TUES. 17 DEC 1907

Port of Greenock. Received at London Office 19

No. in Survey held at Port Glasgow Date; first Survey 11th Dec 1906 Last Survey 7th Dec 1907

Reg. Book. (Number of Visits 59.)

on the TWIN SCREW STEAMER LORD DESBOROUGH. Tons Gross 296 1/2 Net 184 7/8

Master R. Williams. Built at Port Glasgow. By whom built Ferguson Bros. When built 1904.

Engines made at Port Glasgow. By whom made Ferguson Bros. when made 1904.

Boilers made at Port Glasgow. By whom made Clyde S.B. & Eng. Co. Ltd. when made 1904.

Registered Horse Power Owners Conservators of the River Thames. Port belonging to London.

Nom. Horse Power as per Section 28 331. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

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

Dia. of Cylinders 19" 20" 49" Length of Stroke 30" Revs. per minute 92. Dia. of Screw shaft as per rule 10 1/2" Material of screw shaft Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No. 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 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 If two

liners are fitted, is the shaft lapped or protected between the liners No. Shaft work in oil. Length of stern bush 5' 6"

Dia. of Tunnel shaft as per rule 8 9/8" Dia. of Crank shaft journals as per rule 9 1/4" Dia. of Crank pin 9 1/2" Size of Crank webs 13 1/2 x 6 1/2" Dia. of thrust shaft under

collars 9 1/2" Dia. of screw 13' 0" Pitch of Screw 13' 0" No. of Blades 4 State whether moveable No. Total surface 56 sq. ft.

No. of Feed pumps 2 Diameter of ditto 3 1/4" Stroke 15" Can one be overhauled while the other is at work Yes. Main feed pumps 2 9 1/2 x 7 x 21"

No. of Bilge pumps 2 Diameter of ditto 3 1/4" Stroke 15" Can one be overhauled while the other is at work Yes.

No. of Donkey Engines Three Sizes of Pumps Ballast 6 1/2 x 8 1/2" General 4 1/2 x 6 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three: one 3 1/2" dia. + two 3" dia. In Holds, &c. 2 3" dia. 2 3" dia. 2 3" dia. 2 3" dia.

No. of Bilge Injections 2 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"

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 Pumping Engine Steam pipes Steering Engine Steam pipes Auxiliary Engine Steam pipes How are they protected Secured to main Deck beams & Cased in.

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.

Dates of examination of completion of fitting of Sea Connections 9/11/07. of Stern Tube 1/11/07. Screw shaft and Propeller 1/11/07.

Is the Screw Shaft Tunnel watertight No tunnels Is it fitted with a watertight door Yes on after worked from Upper platform.

BOILERS, &c.—(Letter for record \$ ) Manufacturers of Steel Steel Coy of Scotland.

Total Heating Surface of Boilers 5730 Is Forced Draft fitted No. No. and Description of Boilers 3: Cylindrical: Single Ended.

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 6th 19th 25th April 07 No. of Certificate 821-823-824.

Can each boiler be worked separately Yes. Area of fire grate in each boiler 60 sq. ft. No. and Description of Safety Valves to

each boiler 2: Direct Spring loaded 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 6 feet. Mean dia. of boilers 14' 6" Length 10' 6" Material of shell plates Steel.

Thickness 1 5/16" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams Lap Double.

long. seams B.B. Straps Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 9 1/2" 4 1/4" 3 1/6" Lap of plates or width of butt straps 20 3/4"

Per centages of strength of longitudinal joint rivets 96.5 Working pressure of shell by rules 204 lbs: Size of manhole in shell 16" x 12"

Size of compensating ring 33 x 24 x 1 5/16 No. and Description of Furnaces in each boiler 3: Deighton's Material Steel Outside diameter 46 1/2"

Length of plain part top 6' 6" Thickness of plates crown 9" Description of longitudinal joint Weld. No. of strengthening rings none

bottom 6' 6" Thickness of plates bottom 7 1/8" Working pressure of furnace by the rules 190 lbs Combustion chamber plates: Material Steel Thickness: Sides 9 1/16" Back 3 1/2" Top 9 1/16" Bottom 7 1/8"

Pitch of stays to ditto: Sides 7 1/4 x 7 1/4" Back 8 x 9 1/4" Top 7 1/4 x 7 1/4" If stays are fitted with nuts or riveted heads Nuts. Working pressure by rules 182 lbs.

Material of stays Steel Diameter at smallest part 1 1/2 x 1 3/8 Area supported by each stay 36 sq. in Working pressure by rules 184 lbs End plates in steam space:

Material Steel Thickness 1 5/16" Pitch of stays 20 1/2 x 19 1/2 How are stays secured Bolted Nuts. Working pressure by rules 192 lbs Material of stays Steel

Diameter at smallest part 2 7/8" Area supported by each stay 402 sq. in Working pressure by rules 218 lbs Material of Front plates at bottom Steel.

Thickness 3 1/4" Material of Lower back plate Steel Thickness 1 3/8" Greatest pitch of stays 13 3/4" Working pressure of plate by rules 180 lbs:

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates Steel Thickness: Front 3 1/4" Back 3 1/4" Mean pitch of stays 9"

Pitch across wide water spaces 14 1/2" Working pressures by rules 216 lbs 248 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 9 1/4" x 1 1/2" Length as per rule 34' 6" Distance apart 4 1/2" Number and pitch of stays in each 3: 4 1/4"

Working pressure by rules 183 lbs 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

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