

REPORT ON MACHINERY.

No. 12635

Port of WEST HARTLEPOOL Received at London Office FRI. 2 JUN 1905

No. in Survey held at Hartlepool Date, first Survey 25th Nov. 04 Last Survey 22nd May 1905
 Reg. Book. 62 on the Steel S.S. Gloriana (Number of Visits 74) Tons Gross 3050.80
 Master Thos. Jones Built at Hartlepool By whom built J. Jones & Co. Ltd When built 1905
 Engines made at Hartlepool By whom made Richardsons, Westgarth & Co. Ltd when made 1905
 Boilers made at do By whom made do do when made 1905
 Registered Horse Power _____ Owners J. Jones & Co. Ltd Port belonging to West Hartlepool
 Nom. Horse Power as per Section 28 275 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c. — Description of Engines Triple expansion No. of Cylinders three No. of Cranks three
 Dia. of Cylinders 24" - 38" - 64" Length of Stroke 42" Revs. per minute 65 Dia. of Screw shaft as per rule 13.4" Material of screw shafts scrap iron
 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 Length of stern bush 4'-4"
 Dia. of Tunnel shaft as per rule 11.6" Dia. of Crank shaft journals as per rule 11.8" Dia. of Crank pin 12.5" Size of Crank webs 7.5" x 23" Dia. of thrust shaft under
 collars 12.5" Dia. of screw 16'-0" Pitch of screw 16'-6" No. of blades 4 State whether moveable no Total surface 45.25 sq. ft.
 No. of Feed pumps 2 Diameter of ditto 2.5" Stroke 27" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 3.5" Stroke 27" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps two 4x6 pumps, 8x4 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room three, 3.5" dia In Holds, &c. weight — One 2.5" dia to fore peak, one 2.5" dia to aft peak, one 2.5" dia to No. 1 hold, one 3" to No. 2 hold, one 3" dia to aft hold + one 2.5" dia to aft hold + peak.
 No. of bilge injections one size 5" Connected to condenser, or to circulating pump Yes Is a separate donkey suction fitted in Engine room & size Yes 3.5"
 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 none
 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 —
 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 B.) Total Heating Surface of Boilers 4264 sq. ft. Is forced draft fitted no
 No. and Description of Boilers two single ended, by Mull Working Pressure 160 lb Tested by hydraulic pressure to 320 lb.
 Date of test 11.4.05 Can each boiler be worked separately Yes Area of fire grate in each boiler 50 sq. ft. No. and Description of safety valves to
 each boiler one spring driven Area of each valve 7.06 sq. in. Pressure to which they are adjusted 165 lb. Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 26" Mean dia. of boilers 15'-6" Length 10'-0" Material of shell plates steel
 Thickness 1.5" Range of tensile strength 29-32 Are they welded or flanged no Descrip. of riveting: cir. seams double long. seams treble
 Diameter of rivet holes in long. seams 1.5" Pitch of rivets 1.5" Lap of plates or width of butt straps 1.5"
 Per centages of strength of longitudinal joint 85.0 Working pressure of shell by rules 161.4 lb. Size of manhole in shell 13" x 16.5"
 Size of compensating ring 29 x 30 x 1.5" No. and Description of Furnaces in each boiler 3 Monson Material steel Outside diameter 48.5"
 Length of plain part top 9" Thickness of plates crown 1.5" Description of longitudinal joint weld No. of strengthening rings —
 Working pressure of furnace by the rules 168 lb. Combustion chamber plates: Material steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 3/4"
 Pitch of stays to ditto: Sides 8' x 8.5" Back 8' x 8.5" Top 8.5" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 160 lb.
 Material of stays steel Diameter at smallest part 1.5" Area supported by each stay 680" Working pressure by rules 175 lb. End plates in steam space:
 Material steel Thickness 1" Pitch of stays 16' x 18.5" How are stays secured D.A.H. Working pressure by rules 161 lb. Material of stays steel
 Diameter at smallest part 2.5" Area supported by each stay 2960" Working pressure by rules 167 lb. Material of Front plates at bottom steel
 Thickness 4.5" Material of Lower back plate steel Thickness 3/4" Greatest pitch of stays 13" Working pressure of plate by rules 162 lb.
 Diameter of tubes 3.5" Pitch of tubes 4.5" Material of tube plates steel Thickness: Front 1.5" Back 3/4" Mean pitch of stays 9"
 Pitch across wide water spaces 14.5" Working pressures by rules 166 lb. Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 7' x 15" Length as per rule 28" Distance apart 8.5" Number and pitch of Stays in each 2 x 8.5"
 Working pressure by rules 165 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 —

[9900-504-Copyrightable Ink.]

Lloyd's Register Foundation

DONKEY BOILER— No. *one* Description *Boehraue & Co Patent*
 Made at *Annay* By whom made *Boehraue & Co* When made *1905* Where fixed *Stoke hold*
 Working pressure *100 lb* tested by hydraulic pressure to *200 lb*. No. of Certificate *4399* Fire grate area *250* Description of safety valves *Yes*
 No. of safety valves *2* Area of each *5.90* Pressure to which they are adjusted *100 lbs* If fitted with easing gear *Yes*. If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *4'-0"* Length *15'-0"* Material of shell plates *steel* Thickness *1/2"* Range of tensile strength *24-32* Descrip. of riveting long. seams *double* Dia. of rivet holes *29/32* Whether punched or drilled *pulled* Pitch of rivets *2 1/2"*
 Lap of plating *4 1/2"* Per centage of strength of joint Rivets *40* Plates *40* Thickness of shell crown plates *15/32* Radius of do. *3'-6"* No. of Stays to do. *none*
 Dia. of stays. *✓* Radius Diameter of furnace Top *3'-0"* Bottom *✓* Length of furnace *✓* Thickness of furnace plates *21/32* Description of joint *ruled* Thickness of furnace crown plates *21/32* Stayed by *✓* Working pressure of shell by rules *101 lbs*
 Working pressure of furnace by rules *109 lbs*. Diameter of uptake *✓* Thickness of uptake plates *7/16 + 23/32* Thickness of water tubes *1/2"*

SPARE GEAR. State the articles supplied:— *2 bon. rod top + 2 bon. rod bottom end bolt + nut, 2 Main bearing + one set of coupling bolts, one set of feed + belze pump valves, a quantity of assorted bolts, nuts + iron, and spare propeller.*

The foregoing is a correct description,
 For **RICHARDSONS, WESTGARTH & CO. LIMITED**
L.D. Ingalls Manufacturer.

Dates During progress of work in shops— 1904 Nov 25 Dec 2, 7, 8, 1905 Jan 9, 10, 11, 12, 13, 17, 19, 20, 23, 24, 25, 27, 31, Feb 1, 2, 3, 4, 6, 8, 9, 10, 13, 14, 16, 20, 22, 23, 24, 27, 28.
 of Survey During erection on board vessel— Max 1, 2, 3, 4, 6, 7, 9, 10, 13, 14, 15, 16, 20, 21, 22, 23, 24, 25, 28, 30, Apr 3, 4, 5, 6, 11, 12, 15, 19, 20, 26, 27, 28, 29, May 1, 2, 6, 9, 10, 22.
 building Total No. of visits *74* Is the approved plan of main boiler forwarded herewith *Yes (see return for hydraulic)*
 " " " donkey " " " *No*

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

The main steam pipes have been tested by hydraulic pressure to 320 lbs per sq. and found tight.
 The engines and boilers of this vessel have been built under special survey in accordance with the Rule requirements, the material and workmanship being good and efficient, when completed and fitted on board were tried under steam at moorings with satisfactory results, and is now eligible, in my opinion, to have record **+ L.M.C. 5.05.** marked in the Register Book.

It is submitted that this vessel is eligible for **THE RECORD H.L.M.C. 5.05.**

Ed
2.6.05
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The amount of Entry Fee.. £ 2 : :
 Special £ 33 : 15 :
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 25. 5. 1905
 When received, 30. 5. 1905

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

Committee's Minute
 Assigned
 TUES. 6 JUN 1905
 + L.M.C. 5.05

MACHINERY-CERTIFICATE WRITTEN *(Certificate 4399)*



Certificate (if required) to be sent to West Hartlepool

The Surveyors are requested not to write on or below the space for Committee's Minute.