

REPORT ON MACHINERY.

No. 46.035

Port of *Newcastle-on-Tyne**Glasgow**21163.*No. in Survey held at *Newcastle & Glasgow*
Reg. Book.Date, first Survey *Feb 11*Last Survey *Oct 20 1903*(Number of Visits *36*)on the *Steam Screw Steamer Princess Victoria*Gross *201.64*
Tons Net *53.57*
When built *1903*Master *N. Shields* Built at *N. Shields* By whom built *Smiths Dock Co*Engines made at *Croftbridge* By whom made *W. V. V. Lidgerwood* when made *1903*Boilers made at *Newcastle* By whom made *Walland Shipway & Co* when made *1903*Registered Horse Power *6845* Owners *The Dods Steam Towing Co Ltd* Port belonging to *Aberdeen*Nom. Horse Power as per Section 28 *6845* Is Refrigerating Machinery fitted *no* Is Electric Light fitted *no*

ENGINES, &c.—Description of Engines *Triple expansion screw* No. of Cylinders *3* No. of Cranks *3*
 Dia. of Cylinders *12" 20" 33"* Length of Stroke *23"* Revs. per minute *7.25* Dia. of Screw shaft *7.25"* Material of screw shaft *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 *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 *no* Length of stern bush *2' 6"*
 Dia. of Tunnel shaft *6.4"* Dia. of Crank shaft journals *6.4"* Dia. of Crank pin *6.75"* Size of Crank webs *4' 4"* Dia. of thrust shaft under collars *6.75"* Dia. of screw *8-6"* Pitch of screw *11-8"* No. of blades *4* State whether moveable *no* Total surface *31 ft*
 No. of Feed pumps *1* Diameter of ditto *2 1/2"* Stroke *11 1/2"* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *1* Diameter of ditto *2 1/2"* Stroke *11 1/2"* Can one be overhauled while the other is at work *yes*
 No. of Donkey Engines *1* Sizes of Pumps *5 1/4" x 3 1/2" x 5"* No. and size of Suctions connected to both Bilge and Donkey pumps *2 - 2"*
 In Engine Room *2 - 2"* In Holds, &c. *2 - 2"*

No. of bilge injections *1* sizes *3"* Connected to condenser, or to circulating pump *CR* Is a separate donkey suction fitted in Engine room & size *4 1/2" 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 *none* How are they protected *yes*
 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 *never* Is the screw shaft tunnel watertight *yes*
 Is it fitted with a watertight door *yes* worked from *yes*

BOILERS, &c.—(Letter for record *yes*) Total Heating Surface of Boilers *11205* Is forced draft fitted *no*
 No. and Description of Boilers *One single Endless* Working Pressure *180 lb* Tested by hydraulic pressure to *260 lb*
 Date of test *15/5/03* Can each boiler be worked separately *yes* Area of fire grate in each boiler *475* No. and Description of safety valves to each boiler *Two Direct Spring* Area of each valve *4.9"* 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 *18"* Mean dia. of boilers *12-0"* Length *10-3* Material of shell plates *S*
 Thickness *3/32* Range of tensile strength *29-32* Are they welded or flanged *no* Descrip. of riveting: cir. seams *lap 1 1/2"* long. seams *lap 1 1/2" 2 in.*
 Diameter of rivet holes in long. seams *1 1/32* Pitch of rivets *7 3/8* Lap of plates or width of butt straps *15 3/8"*
 Per centages of strength of longitudinal joint *87* Working pressure of shell by rules *181* Size of manhole in shell *16 x 12*
 Size of compensating ring *McWills* No. and Description of Furnaces in each boiler *3 Plain* Material *S* Outside diameter *39"*
 Length of plain part *36-6"* Thickness of plates *3 3/4"* Description of longitudinal joint *welded* No. of strengthening rings *one*
 Working pressure of furnace by the rules *182* Combustion chamber plates: Material *S* Thickness: Sides *3/32* Back *2 1/2"* Top *2 1/2"* Bottom *2 1/2"*
 Pitch of stays to ditto: Sides *9 3/4" x 8 3/8"* Back *9 3/4" x 8 3/8"* Top *9 3/4" x 8 3/8"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *180*
 Material of stays *Iron* Diameter at smallest part *1 5/8"* Area supported by each stay *82.7* Working pressure by rules *186* End plates in steam space: *S*
 Material *S* Thickness *1 3/16"* Pitch of stays *19 1/2" x 17 3/8"* How are stays secured *dr. riv.* Working pressure by rules *181* Material of stays *S*
 at smallest part *7.24"* Area supported by each stay *347* Working pressure by rules *207* Material of Front plates at bottom *S*
 Thickness *1"* Material of Lower back plate *S* Thickness *3/8"* Greatest pitch of stays *13 1/8"* Working pressure of plate by rules *195*
 Diameter of tubes *3 1/2"* Pitch of tubes *4 3/4" x 4 5/8"* Material of tube plates *S* Thickness: Front *1"* Back *3/4"* Mean pitch of stays *9 1/2"*
 Pitch across wide water spaces *14"* Working pressures by rules *183* Girders to Chamber tops: Material *S* Depth and thickness of girder at centre *8 1/2" x 1 1/2"* Length as per rule *28'* Distance apart *9 3/4"* Number and pitch of Stays in each *2, 8 3/8"*
 Working pressure by rules *181* Superheater or Steam chest; how connected to boiler *yes* Can the superheater be shut off and the boiler worked separately *yes* Diameter *yes* Length *yes* Thickness of shell plates *yes* Material *yes* Description of longitudinal joint *yes* Diam. of rivet holes *yes* Pitch of rivets *yes* Working pressure of shell by rules *yes* Diameter of flue *yes* Material of flue plates *yes* Thickness *yes*
 If stiffened with rings *yes* Distance between rings *yes* Working pressure by rules *yes* End plates: Thickness *yes* How stayed *yes*
 Working pressure of end plates *yes* Area of safety valves to superheater *yes* Are they fitted with easing gear *yes*

DONKEY BOILER— No. Description *how fitted.*

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: *Two top end bolts and nuts, two bottom end bolts and nuts, two main bearing bolts and nuts, spare coupling bolts & nuts, spare feed & Bilge pump valves, assorted iron bolts and nuts.*

The foregoing is a correct description,

Manufacturers of Boilers only

Dates of Survey while building { During progress of work in shops - - - Glasgow. 1903: Feb. 11. 23. Mar. 11. 23. 27. April 2. 15. 30. 33. May. 1. 28.
During erection on board vessel - - - June 1. 6. 19. 29. July. 3. 15. Sept. 1. 14. NWC: 27. April 28. May. 12. 15. June 6. Sept. 12.
Total No. of s 36 (H. 19. 25. 30. Oct. 2. 7. 9. 20) Is the approved plan of main boiler forwarded herewith Yes
" " " donkey " " " " ✓

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

*The Boiler built under Special Survey the workmanship and material found good and efficient - main steam pipes tested under hydraulic pressure 350 lbs and found satisfactory -
The Engines built under Special Survey the material & workmanship found good and efficient, The Engines supplied by Messrs. Ridgerwood of Coathridge, and fitted on board by Messrs. Smith Dock Co. L^d of North Shields, The machinery tried under steam and found satisfactory.
In our opinion this vessel is worthy of the notification of H.R.M.C 10.03 to be made in the Register Book -*

It is submitted that this vessel is eligible for THE RECORD

H.R.M.C 10.03

End
30.10.03

The amount of Entry Fee.. £ 1 : : :
Special .. £ 9 : 9 :
Donkey Boiler Fee .. £ : : :
Travelling Expenses (if any) £ : : :
When applied for, 29 OCT 1903
When received, 21. 11. 1903

Committee's Minute

TUES. 3 NOV 1903

Assigned

+ June 10, 03

MACHINERY CERTIFICATE
WRITTEN.

For: M. Buchanan, G. A. S. & Co
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Leonard & Haller



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Lloyd's Register
Foundation

Certificate (if required) to be sent to Newcastle-on-Tyne.