

REPORT ON MACHINERY.

Port of MIDDLESMOUTH-ON-TEES.21708 (Std)
No. 344 Mob

JUES 8 MAR 1904

Received at London Office

19

No. in Survey held at Stockton Date, first Survey 24th August 1903 Last Survey 24th Feb. 1904
 Reg. Book. Supplement on the Steel S.S. "Clifton" (Number of Visits 3592)
 Master H. Penyer Built at Hummerland By whom built Portman & Co Tons { Gross 3592
 Engines made at Stockton By whom made Polain & Co Ltd when made 1904 Net 2313
 Boilers made at Stockton By whom made Polain & Co Ltd when made 1904
 Registered Horse Power 319 Owners Webster & Baraclaugh Port belonging to W. Hartlepool
 Nom. Horse Power as per Section 28 319 Is Refrigerating Machinery fitted No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Direct acting Trip Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 25-41-67 Length of Stroke 45 Revs. per minute 57 Dia. of Screw shaft 14.6 Material of 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 Lapped Length of stern bush 5-3
 Dia. of Tunnel shaft 12.4 as per rule 13 Dia. of Crank shaft journals 13.2 as per rule 14 Dia. of Crank pin 14 Size of Crank webs 22.4 x 8.7 Dia. of thrust shaft under
 collars 14 Dia. of screw 17-0 Pitch of screw 16.5 No. of blades 4 State whether moveable No Total surface 85.4
 No. of Feed pumps 2 Diameter of ditto 3.4 Stroke 33 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4.5/4 Stroke 33 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Two Sizes of Pumps 12.5 x 10.5 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three 3.5 diam In Holds, &c. Two 3.5 in 9.1, 2 + 3 holds + two 2.7 in
after hold.
 No. of bilge injections 1 sizes 6.4 Connected to condenser, or to circulating pump C.P. Is a separate donkey suction fitted in Engine room & size Yes 4"
 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 ✓
 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 Top platform.

BOILERS, &c.—(Letter for record r) Total Heating Surface of Boilers 4800 Is forced draft fitted No
 No. and Description of Boilers Two Cyl. Tubular & Single ended Working Pressure 180 lb Tested by hydraulic pressure to 360 lb
 Date of test 21.12.03 Can each boiler be worked separately Yes Area of fire grate in each boiler 63 No. and Description of safety valves to
 each boiler Two spring Area of each valve 8.25 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 2-9 Dia. of boilers 16-0 Length 10-6 Material of shell plates Steel
 Thickness 5.1/32 Range of tensile strength 27/32 Are they welded or flanged No Descrip. of riveting: cir. seams 28 Riv long. seams 8 Butts Straps
 Diameter of rivet holes in long. seams 1.3/8 Pitch of rivets One row 9.1/16 Two 4.2.1/32 Lap of plates or width of butt straps 1-8
 Per centages of strength of longitudinal joint rivets 90.6 Working pressure of shell by rules 182 lb Size of manhole in shell 17 x 13
 plate 84.8
 Size of compensating ring 31 x 27 x 1.5/2 No. and Description of Furnaces in each boiler 3 Marine Sun Material S Outside diameter 4-0
 Length of plain part 6-9 Thickness of plates 9.1/16 Description of longitudinal joint Welded No. of strengthening rings ✓
 Working pressure of furnace by the rules 196 lb Combustion chamber plates: Material S Thickness: Sides 5.1/32 Back 5.1/32 Top 5.1/32 Bottom 1.3/16
 Pitch of stays to ditto: Sides 8 x 9.1/2 Back 8.3/8 x 8.3/8 Top 8 x 9.1/2 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 211 lb
 Material of stays Iron sides & back Diameter at smallest part 1.9/16 Area supported by each stay 76 Working pressure by rules 189 lb End plates in steam space:
 Material S Thickness 1.3/16 Pitch of stays 2.0 x 1.7 How are stays secured 2 x W Working pressure by rules 193 lb Material of stays Steel
 Diameter at smallest part 2.7/8 Area supported by each stay 54.0 Working pressure by rules 191 lb Material of Front plates at bottom S
 Thickness 1.1/32 Material of Lower back plate S Thickness 1.3/32 Greatest pitch of stays 14.1/2 Working pressure of plate by rules 188 lb
 Diameter of tubes 3.1/2 Pitch of tubes 4.4.3/4 Material of tube plates S Thickness: Front 1.1/32 Back 1.3/16 Mean pitch of stays 9.5/8
 Pitch across wide water spaces 14.1/2 Working pressures by rules 194 lb Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 7.1/2 x 1.1/2 Length as per rule 27.1/2 Distance apart 8 Number and pitch of Stays in each Two 9.1/2
 Working pressure by rules 197 lb Superheater or Steam chest; how connected to boiler — 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 —

W919-0118

DONKEY BOILER— No. *66* Description *Cylindrical Multitube Single ended*
 Made at *Stockton* By whom made *Niley Bros* When made *1903* Where fixed *Main Deck*
 Working pressure *90 lb* tested by hydraulic pressure to *180 lb* No. of Certificate *3108* Fire grate area *26.4* Description of safety valves *Direct spring*
 No. of safety valves *2* Area of each *7.07* Pressure to which they are adjusted *90 lb* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *10-3* Length *9-6* Material of shell plates *Steel* Thickness *19/32* Range of tensile strength *27 1/2* Descrip. of riveting long. seams *Hot riv lap* Dia. of rivet holes *15/16* Whether punched or drilled *Drilled* Pitch of rivets *3 1/8*
 Lap of plating *6 1/2* Per centage of strength of joint *76.5* Rivets *76.5* Thickness of shell *end* plates *13/16* Radius of do. *13 x 1.8* No. of Stays to do. *4*
 Dia. of stays *2 3/8* Diameter of furnace Top *36* Bottom *8-2 1/2* Length of furnace *6-1 1/2* Thickness of furnace plates *9/16* Description of joint *Welded* Thickness of furnace crown plates *1 1/2* Stayed by *1 3/8 & 1 5/8* Working pressure of shell by rules *93.2 lbs*
 Working pressure of furnace by rules *96.5 lbs* Diameter of uptake *3 1/4* Thickness of uptake plates *7 13/16* Thickness of water tubes *5/16*

SPARE GEAR. State the articles supplied:— *Propeller shaft + propeller, two top end + two bottom end bolts + nuts, two main bearing bolts, one set of coupling bolts, set of feed + bilge pump valves + a quantity of assorted bolts, nuts + iron.*

For BLAIR & CO., LIMITED

The foregoing is a correct description,

Walter Porrie
 SECRETARY.

Manufacturer.

of main engines & boilers.

Dates of Survey while building	{	During progress of work in shops—	1903 Aug 24 Oct 2. 16. 21. 23. 28 Nov 11. 13. 16. 20. 24 Dec 1. 3. 4. 8. 10. 15. 16. 21. 24. 26. 30. 31
		During erection on board vessel—	1904 Jan 6. 8. 12. 13. 15. 16. 20. 21. 25
		Total No. of visits	33

Is the approved plan of main boiler forwarded herewith *Yes*

“ “ “ donkey “ “ “ *Yes*

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

*The machinery of this vessel has been constructed under special survey. The materials and workmanship are good and efficient, and when tested under steam were found satisfactory and in our opinion now eligible for the notification **L.M.C. 2,04.** in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD

L.M.C. 2,04

Wm. S. 8.3.04

W.S. 8.3.04

The amount of Entry Fee..	£ 3 : 0 :	When applied for,	7.3.1904
Special	£ 35 : 19 :	When received,	9/3/04
Donkey Boiler Fee	£ : : :		
Travelling Expenses (if any) £	: : :		

Geo. A. Milner & Co. William
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. 11 MAR 1904

Assigned

+ L.M.C. 2,04

LLOYD'S REGISTER
 WRITTEN.



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Lloyd's Register
 Foundation

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