

REPORT ON MACHINERY.

No. 8420.

Received at London Office

WED. MAY 13. 1914

Date of writing Report 5.5.14 When handed in at Local Office 6.5.14 Port of MIDDLESBRO'
 No. in Survey held at Stockton-on-Tees Date, First Survey 29th January Last Survey 4th May 1914
 Reg. Book. on the Steel Screw Steamer Buresk (S.S. No. 638) (Number of Visits 29)
 Master Richardson Duck & Co Built at Stockton By whom built Richardson Duck & Co When built 1914
 Engines made at Stockton By whom made Messrs Blair & Co Lim. (No. 1790) when made 1914
 Boilers made at Stockton By whom made Messrs Blair & Co Lim. when made 1914
 Registered Horse Power 375 Owners Messrs Burdick & Coek Managers Port belonging to London
 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Tri-compound No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 26-42½-69½ Length of Stroke 45 Revs. per minute 60 Dia. of Screw shaft 14.12 Material of screw shaft Iron
 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
 the propeller boss yes If the liner is in more than one length are the joints burned in no 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 tight fit If two
 liners are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 5'-3"

Dia. of Tunnel shaft 12.72 as per rule 13.5 Dia. of Crank shaft journals 13.35 as per rule 14 Dia. of Crank pin 14½ Size of Crank webs 27½ x 9½ Dia. of thrust shaft under
14½ Dia. of screw 16-10½ Pitch of Screw 16'-6" No. of Blades 4 State whether moceable no Total surface 97 f
 Feed pumps 2 Diameter of ditto 3¼ Stroke 33 Can one be overhauled while the other is at work yes
 Bilge pumps 2 Diameter of ditto 4¼ Stroke 33 Can one be overhauled while the other is at work yes
 Donkey Engines 2 Sizes of Pumps Ballast 9"x10"; Fuel 4"x8" No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 30 x 3½ In Holds, &c. 2 @ 3½ in No. 1, 2 & 3 holds: one @ 3½"

Aftermost hold: Funnel well one @ 2½"
 Bilge Injections 1 sizes 7" Connected to condenser or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes - 4"
 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 no
 connections with the sea direct on the skin of the ship yes Are they Valves or Cocks both
 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
 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
 pipes are carried through the bunkers suctions to fore holds How are they protected wood

All Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes
 Date of examination of completion of fitting of Sea Connections 4.3.14 of Stern Tube 4.3.14 Screw shaft and Propeller 15.4.14
 Is Screw Shaft Tunnel watertight see hull Report Is it fitted with a watertight door yes worked from top platform

MANUFACTURERS, &c.—(Letter for record (S)) Manufacturers of Steel Messrs John Spencer & Co Lim.
 Total Heating Surface of Boilers 6094 Is Forced Draft fitted no No. and Description of Boilers Two single ended
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 9.4.14 No. of Certificate 5270

Can each boiler be worked separately yes Area of fire grate in each boiler 66.2 f No. and Description of Safety Valves to
 each boiler 2 direct spring Area of each valve 8.29 Pressure to which they are adjusted 185 lb Are they fitted with easing gear yes
 smallest distance between boilers or bunkers 2'-6" dia. of boilers 16'-10½ Length 11'-6" Material of shell plates steel
 thickness 1½ Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2. R. lap
 long. seams 2 B-3 Riv Diameter of rivet holes in long. seams 1½ Pitch of rivets 9½ Lap of plates or width of butt straps 20½ x 1½
 Percentages of strength of longitudinal joint 88.3 Working pressure of shell by rules 182 Size of manhole in shell 16" x 12"
 Size of compensating ring 7½ x 1½ No. and Description of Furnaces in each boiler 3. Fox's Material steel Outside diameter 50"

Length of plain part 19 Thickness of plates 19 Description of longitudinal joint Weld No. of strengthening rings 21
 Working pressure of furnace by the rules 189 Combustion chamber plates: Material steel Thickness: Sides 21/32 Back 21/32 Top 21/32 Bottom 29/32
 Pitch of stays to ditto: Sides 9¾ x 8 Back 9¾ x 8¾ Top 9¾ x 8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 189
 Material of stays steel Diameter at smallest part 1.99 Area supported by each stay 81 Working pressure by rules 221 End plates in steam space:
 Material steel Thickness 1½ Pitch of stays 20 x 18 How are stays secured nuts + washers Working pressure by rules 189 Material of stays steel

Area at smallest part 7.87 Area supported by each stay 430 Working pressure by rules 191 Material of Front plates at bottom steel
 thickness 1" Material of Lower back plate steel Thickness 1½ Greatest pitch of stays 17½ x 8¾ Working pressure of plate by rules 203
 Diameter of tubes 3½ Pitch of tubes 4¾ x 4¾ Material of tube plates steel Thickness: Front 1½ Back 13/16 Mean pitch of stays 11"
 Pitch across wide water spaces 14½ Working pressures by rules 192 Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 8¾ x 2" Length as per rule 33 Distance apart 9¾ Number and pitch of stays in each 30 x 8"
 Working pressure by rules 185 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
 Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 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

~~VERTICAL~~ DONKEY BOILER—

Manufacturers of Steel See Middlesbrough Report No 8321

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Say _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

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 _____ Plates _____

Working pressure of shell by rules _____ 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 _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— Two each of cone-rod top-end & bottom-end bolts & nuts
 2 main bearing bolts & nuts: one set of coupling bolts and nuts: one set of feed and bilge pump valves: one set each H.P. & M.P. piston & crosshead rings: assorted bolts & nuts: iron of various sizes: one propeller and one top half eccentric strap.

The foregoing is a correct description,
FOR BLAIR & CO., LIMITED.
 No. *Wattishay* Manufacturer.

| | | |
|--------------------------------|--------------------------------------|---|
| Dates of Survey while building | During progress of work in shops - - | SECRETARY, 1914. Jan 29 Feb 2 3 5 10 17 18 19 22 24 25 27 Mar 2 3 4 6 9 10 11 12 13 16 19 23 24 26 31 |
| | During erection on board vessel - - | Apr 1 2 9 15 17 21 22 24 27 29 May 4 |
| Total No. of visits | | 39 |

Is the approved plan of main boiler forwarded herewith *yes*
 " " " donkey " " " *yes*

Dates of Examination of principal parts—Cylinders 25.2.14 Slides 4.3.14 Covers 4.3.14 Pistons 4.3.14 Rods 4.3.14
 Connecting rods 4.3.14 Crank shaft 9.3.14 Thrust shaft 2.2.14 Tunnel shafts 3.1.14 Screw shaft 26.3.14 Propeller 23.3.14
 Stern tube 3.3.14 Steam pipes tested 21.4.14 Engine and boiler seatings 4.3.14 Engines holding down bolts 15.4.14
 Completion of pumping arrangements 22.4.14 Boilers fixed 22.4.14 Engines tried under steam 24.4.14
 Main boiler safety valves adjusted 24.4.14 Thickness of adjusting washers P.B 5-7/16 : S.B 5-7/16
 Material of Crank shaft *By Steel* Identification Mark on Do. 6882 Material of Thrust shaft *By Steel* Identification Mark on Do. 216.N
 Material of Tunnel shafts *By Steel* Identification Marks on Do. 216.N Material of Screw shafts *iron* Identification Marks on Do. 6882
 Material of Steam Pipes *Solid drawn copper (7x5/8 & 5x5/8)* Test pressure 400 lbs.

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

The machinery of this vessel has been built under special survey. The materials and workmanship are sound and good. The boilers and main steam pipes were tested by hydraulic pressure and the engines and boilers examined under steam with satisfactory results.

The machinery of this vessel is now in a good and safe working condition and eligible in our opinion to have the notation of *L.M.C-5.14* in the Register Book.

It is submitted that this vessel is eligible for THE RECORD, + L.M.C.5.14.

J.W.D. J.R.S.
 13/5/14

| | | |
|--------------------------------|-----------|-------------------|
| The amount of Entry Fee.. | £ 3-0-0 | When applied for, |
| Special | £ 38-15-0 | 12.5.1914 |
| Donkey Boiler Fee | £ 5-0-0 | When received, |
| Travelling Expenses (if any) £ | 0-0-0 | 14/5/14 |

Wm Morrison
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute FRI. MAY 15 1914

Assigned + *hmc 5.14*



© 2021

Lloyd's Register Foundation

Certificate (if required) to be sent to Middlesbrough

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

MACHINERY CERTIFICATE WRITTEN