

REPORT ON MACHINERY.

Date of writing Report 5.6.14 When handed in at Local Office 5.6.14 Port of MIDDLESBRO' Received at London Office SAT. JUN. 6-1914
 No. in Survey held at Stockton-on-Tees Date, First Survey Feb. 10. Last Survey June 2nd 1914.
 Reg. Book. on the Steel Screw Steamer "Pontwen" (Number of Visits 42) (S.S. No. 639) Tons { Gross / Net }
 Master Built at Stockton By whom built Richardson Duck & Co When built
 Engines made at Stockton By whom made Messrs Blair & Co Lim (No 1791) when made 1914
 Boilers made at Stockton By whom made Messrs Blair & Co Lim. when made 1914
 Registered Horse Power Owners Port belonging to
 Nom. Horse Power as per Section 28 385 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 26-42-70 Length of Stroke 48 Revs. per minute 63 Dia. of Screw shaft 14.48 Material of Eng steel
 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
 in the propeller boss yes If the liner is in more than one length are the joints burned in one 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 light fil If two
 liners are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 5'-4"
 Dia. of Tunnel shaft 12.98 Dia. of Crank shaft journals 13.63 Dia. of Crank pin 14.7 Size of Crank webs 28.5 x 9.5 Dia. of thrust shaft under
 collars 14.7 Dia. of screw 17'-6" Pitch of Screw 17'-6" No. of Blades 4 State whether moveable no Total surface 96 sq
 No. of Feed pumps 2 Diameter of ditto 3.5 Stroke 34 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 5 Stroke 34 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 3 Sizes of Pumps 9x10, 9x6, 4x8 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 3 @ 3.5" In Holds, &c. 2 @ 3.5" in each hold
Tunnel with one @ 2.5"
 No. of Bilge Injections 1 sizes 6.75 Connected to condenser or to circulating pump yes 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 no
 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 suctions to forward holds How are they protected wood ceiling
 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 22.4.14 of Stern Tube 22.4.14 Screw shaft and Propeller 4.5.14
 Is the Screw Shaft Tunnel watertight see hull Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel Messrs John Spencer & Sons
 Total Heating Surface of Boilers 6169 Is Forced Draft fitted no No. and Description of Boilers 3 single ended
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 7.5.14 No. of Certificate 5289
 Can each boiler be worked separately yes Area of fire grate in each boiler 57.7 sq No. and Description of Safety Valves to
 each boiler 2 direct spring Area of each valve 7.07 Pressure to which they are adjusted 185 Are they fitted with easing gear yes
 Smallest distance between boilers 3'-0" Mean dia. of boilers 15'-0" Length 11'-0" Material of shell plates steel
 Thickness 1.52 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 1.5 Pitch of rivets 8.5 Lap of plates or width of butt straps 10.5 x 1.75
 Per centages of strength of longitudinal joint rivets 88.2 Working pressure of shell by rules 184 Size of manhole in shell 16" x 12"
 Size of compensating ring 7.5 x 1.52 No. and Description of Furnaces in each boiler 3 Brighton Material steel Outside diameter 45.5
 Length of plain part 9 Thickness of plates 9 Description of longitudinal joint Weld No. of strengthening rings 1
 Working pressure of furnace by the rules 191 Combustion chamber plates: Material steel Thickness: Sides 1/16 Back 1/16 Top 1/16 Bottom 1/16
 Pitch of stays to ditto: Sides 8.5 x 10 Back 9.5 x 9 Top 9.5 x 9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181
 Material of stays steel Diameter at smallest part 1.99 Area supported by each stay 87.8 Working pressure by rules 204 End plates in steam space:
 Material steel Thickness 1.5 Pitch of stays 20 x 17 How are stays secured nuts & washers Working pressure by rules 204 Material of stays steel
 Diameter at smallest part 7.24 Area supported by each stay 349 Working pressure by rules 216 Material of Front plates at bottom steel
 Thickness 1.52 Material of Lower back plate steel Thickness 1.52 Greatest pitch of stays 14 x 9 Working pressure of plate by rules 229
 Diameter of tubes 3.5 Pitch of tubes 4.5 x 4.5 Material of tube plates steel Thickness: Front 1.52 Back 1.75 Mean pitch of stays 11
 Pitch across wide water spaces 14.5 Working pressures by rules 181 Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 7.5 x 13.5 Length as per rule 29 Distance apart 9.5 Number and pitch of stays in each 2 @ 9
 Working pressure by rules 185 Superheater or Steam chest; how connected to boiler no 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

31.0 ft. to be given as
 16.2 area
 15.0
 31. Apr. 3.9.15.

421-0202
 124M

VERTICAL DONKEY BOILER

Manufacturers of Steel

See Middlesbrough Report No. 836

| | | | | | |
|--------------------------------------|--|---------------------------|-------------------------------------|----------------------------------|---------------|
| 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 |
| 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 con. rod top end and bottom end bolts & nuts main bearing bolts and nuts: one set of coupling bolts and nuts: one set of feed & bilge pump valves: assorted bolts and nuts; iron of various sizes; one propeller and one tail end shaft

The foregoing is a correct description,
FOR BLAIR & Co., LIMITED.
 520 Nettlethorpe Manufacturer.

| | | |
|--------------------------------|----------------------------------|--|
| Dates of Survey while building | During progress of work in shops | SECRETARY. 1914 Feb. 10. Mar. 2. 4. 6. 9. 11. 12. 13. 16. 17. 19. 23. 26. 30. Apr. 1. 2. 6. 7. 8. 9. 11. 15. 17. 20. 21. 22. 23. 24. |
| | During erection on board vessel | May 1. 4. 6. 7. 8. 12. 18. 20. 22. 25. June 2. |
| | Total No. of visits | 42. |

Is the approved plan of main boiler forwarded herewith Yes

Is the approved plan of donkey boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 26. 3. 14 Slides 30. 3. 14 Covers 26. 3. 14 Pistons 30. 3. 14 Rods 26. 3. 14

Connecting rods 30. 3. 14 Crank shaft 7. 4. 14 Thrust shaft 11. 3. 14 Tunnel shafts 4. 3. 14 Screw shaft 23. 4. 14 Propeller 7. 4. 14

Stern tube 1. 4. 14 Steam pipes tested 14. 5. 14 Engine and boiler seatings 22. 4. 14 Engines holding down bolts 8. 5. 14

Completion of pumping arrangements 22. 5. 14 Boilers fixed 22. 5. 14 Engines tried under steam 22. 5. 14

Main boiler safety valves adjusted 22. 5. 14 Thickness of adjusting washers PB 5-3/8 P-17/8 B 6-B 5-13/16 S-B 5-13/16

Material of Crank shaft *Ing Steel* Identification Mark on Do. 6887 Material of Thrust shaft *Ing Steel* Identification Mark on Do. 271

Material of Tunnel shafts *Ing Steel* Identification Marks on Do. 271-N Material of Screw shafts *Ing Steel* Identification Marks on Do. 68

Material of Steam Pipes *solid drawn copper* (4 1/2 x 9 = 5. w.g) 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 material 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 and all found satisfactory.

The machinery of this vessel is now in a good and safe working condition and renders the vessel eligible in my opinion to have the notation of **L.M.C-6.14** in the Register Book.

It is submitted that this vessel is eligible for **THE RECORD. + L.M.C. 6.14.**

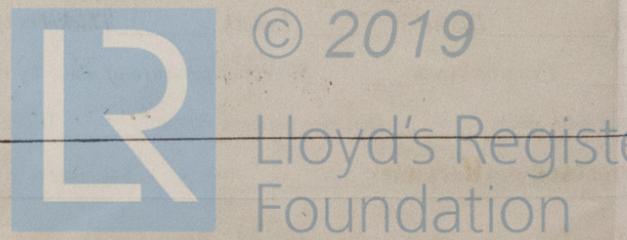
J.W.D.
 8/6/14
J.P.R.

| | | | |
|--------------------------------|----------|-------------------|----------|
| The amount of Entry Fee.. | £ 3-0-0 | When applied for. | 5.6.1914 |
| Special | £ 39-5-0 | When received. | 8/6/14 |
| Donkey Boiler Fee | £ : | | |
| Travelling Expenses (if any) £ | : | | |

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

Committee's Minute
 Assigned
 + L.M.C. 6.14

MACHINERY CERTIFICATE WRITTEN



Middlesbrough.

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