

REPORT ON MACHINERY.

No. 7500

Received at London Office

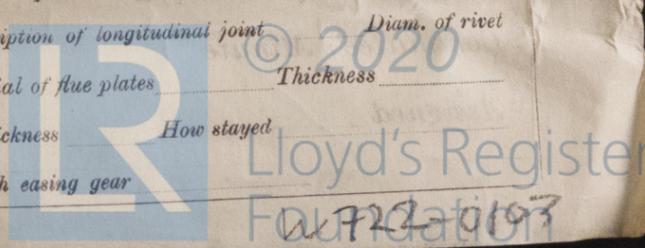
SAT. AUG 17 1912

Date of writing Report 14.8.12 When handed in at Local Office 15.8.12 Port of Middlesbrough
 No. in Survey held at Stockton-on-Tees Date, First Survey 12th Aug. 1911 Last Survey 12th Aug. 1911
 Reg. Book. on the Steel screw steamer "Warley Pickering" (Number of Visits 49) Tons { Gross 4196.29
 Master J. P. Hullock Built at Middlesbrough By whom built Sir Raylton Dixon & Co. When built 1912
 Engines made at Stockton By whom made Messrs Blair & Co Ltd (No. 1740) when made 1912
 Boilers made at Stockton By whom made Messrs Blair & Co Ltd when made 1912
 Registered Horse Power _____ Owners Warley Pickering Steamship Co. Ltd port belonging to Middlesbrough
 Nom. Horse Power as per Section 28 371 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 57 Dia. of Screw shaft 14.13 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
 in the propeller boss yes If the liner is in more than one length are the joints burned in one 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 5-4"
 Dia. of Tunnel shaft 12.72 as per rule 13.36 Dia. of Crank shaft journals 14 as per rule 14 Dia. of Crank pin 14½ Size of Crank webs 27½ x 9½ Dia. of thrust shaft under
 collars 14½ Dia. of screw 17-0" Pitch of Screw 17-0" No. of Blades 4 State whether moveable no Total surface 90 sq ft
 No. of Feed pumps 2 Diameter of ditto 3½ Stroke 33 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4¾ Stroke 33 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps Ballast 9 x 10 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 @ 3½; Boiler Room 2 @ 3½ In Holds, &c. 2 @ 3½ in each hold
Tunnel well 1 @ 2½

No. of Bilge Injections 1 sizes 6¾ 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 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 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 20.6.12 of Stern Tube 20.6.12 Screw shaft and Propeller 8.7.12
 Is the Screw Shaft Tunnel watertight see hull rpt Is it fitted with a watertight door yes worked from Top platform

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel Messrs John Meecher & Sons
 Total Heating Surface of Boilers 5983 Is Forced Draft fitted no No. and Description of Boilers 2 single ended
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 26.5.12 No. of Certificate 4878
 Can each boiler be worked separately yes Area of fire grate in each boiler 67.15 sq ft 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 Are they fitted with easing gear yes
 Smallest distance between boilers 2'-0" External dia. of boilers 16'-9" 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 Riv lap
 long. seams 2 Riv Diameter of rivet holes in long. seams 1½" Pitch of rivets 9¼" Lap of plates or width of butt straps 20½ x 1¼"
 Per centages of strength of longitudinal joint rivets 89.0 Working pressure of shell by rules 183 Size of manhole in shell 16" x 12"
 Size of compensating ring 7½ x 1½" No. and Description of Furnaces in each boiler 3 Morrison Material steel Outside diameter 48 13/16"
 Length of plain part top ✓ Thickness of plates crown 37 Description of longitudinal joint Weld No. of strengthening rings ✓
 bottom ✓ bottom 24 Working pressure of furnace by the rules 189 Combustion chamber plates: Material steel Thickness: Sides ¼" Back ¼" Top ¼" Bottom 29/32"
 Pitch of stays to ditto: Sides 9½ x 8¾ Back 9¾ x 9¾ Top 10½ x 8¾ If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181
 Material of stays steel Diameter at smallest part 1.71 Area supported by each stay 90.2 Working pressure by rules 230 End plates in steam space:
 Material steel Thickness 1½" Pitch of stays 22½" How are stays secured nuts Working pressure by rules 185 Material of stays steel
 Diameter at smallest part 8.48 Area supported by each stay 473 Working pressure by rules 186 Material of Front plates at bottom steel
 Thickness 1" Material of Lower back plate steel Thickness 1½" Greatest pitch of stays 14½" x 9½" Working pressure of plate by rules 200
 Diameter of tubes 3½" Pitch of tubes 4¾ x 4¾ Material of tube plates steel Thickness: Front 1½" Back 1½" Mean pitch of stays 9½"
 Pitch across wide water spaces 14½" Working pressures by rules 192 Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 8½ x 2" Length as per rule 2'-9" Distance apart 10½" Number and pitch of stays in each 3 @ 8½"
 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
 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



VERTICAL DONKEY BOILER— Manufacturers of Steel *See Middlesbrough Report No. 7438*

No.	Description			When made	Where fixed
Made at	By whom made				
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety 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		Radius of do.	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, bottom end, and main bearing bolts and nuts; one set of coupling bolts and nuts; one set of feed & bilge pump valves, assorted bolts & nuts, iron of various sizes; one set each of HP & MP piston rings, one propeller and minor gear*

The foregoing is a correct description,
FOR BLAIR & CO., LIMITED.

Geo. Nettleship Manufacturer.

Dates of Survey while building	During progress of work in shops	SECRETARY. 1912. 2. 14. 16. 19. 21. 23. 25. 27. 29. 31. Mar. 4. 8. 12. 14. 18. 20. 22. 30. Apr. 1. 19. 23. 25. 27. 29. 30. May 1. 3. 6. 7.
	During erection on board vessel	8. 9. 10. 12. 14. 16. 20. 21. 22. 24. June 14. 20. July 8. 9. 11. 14. 16. 17. 19. 26. Aug. 7. 12.
	Total No. of visits	49

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

Dates of Examination of principal parts—Cylinders	20. 3. 12	Slides	2. 4. 12	Covers	19. 2. 12	Pistons	29. 4. 12	Rods	25. 4. 12
Connecting rods	25. 4. 12	Crank shaft	30. 4. 12	Thrust shaft	3. 5. 12	Tunnel shafts	1. 5. 12	Screw shaft	24. 5. 12
Propeller	21. 5. 12	Stern tube	14. 6. 12	Steam pipes tested	11. 7. 12	Engine and boiler seatings	20. 6. 12	Engines holding down bolts	11. 7. 12
Completion of pumping arrangements	17. 7. 12	Boilers fixed	17. 7. 12	Engines tried under steam	17. 7. 12				
Main boiler safety valves adjusted	17. 7. 12	Thickness of adjusting washers	PRL P - 11/32 S - 11/32; Star B P - 5/16 S - 13/32						
Material of Crank shaft	<i>dry steel</i> Identification Mark on Do. 6735		Material of Thrust shaft	<i>dry steel</i> Identification Mark on Do. 8669-N					
Material of Tunnel shafts	<i>dry steel</i> Identification Marks on Do. 8669-N		Material of Screw shafts	<i>iron</i> Identification Marks on Do. 6735					
Material of Steam Pipes	<i>solid drawn copper (7 x 5/16 + 5 x 1/4)</i>		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 and all found satisfactory. The machinery is now in a good and safe working condition and eligible in my opinion to have the notation of LMC - 8.12 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. LMC 8.12

Wm Morrison
 17. 8. 12

The amount of Entry Fee	£ 3 - 0 - 0	When applied for,	15. 8. 12
Special	£ 38 - 11 - 0	When received,	20. 8. 12
Donkey Boiler Fee	£ -		
Travelling Expenses (if any)	£ -		

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

Committee's Minute
 Assigned
 TUE. AUG. 20. 1912
Home 8.12



Certificate (if required) to be sent to Middlesbrough

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