

REPORT ON MACHINERY.

Received at London Office

WED. SEP 23. 1914

Date of writing Report 15.8.1914. When handed in at Local Office 17.8.1914. Port of MIDDLESBRO'

No. in Survey held at Stockton-on-Tees Date, First Survey April 8th 1914. Last Survey August 14th 1914.
Reg. Book. on the steel screw steamer "Pacific" (S.S.N. 283) Tons Gross 4210 Net 2612

Master Ireland Built at Sunderland By whom built Sunderland M.B. & L. Co. Ltd When built 1914

Engines made at Stockton By whom made Messrs Blair & Co. Ltd (W. 1802) when made 1914

Boilers made at Stockton By whom made Messrs Blair & Co. Ltd when made 1914

Registered Horse Power Owners W.A. Bockerville & Co. Port belonging to Hull

Nom. Horse Power as per Section 28 377 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 25-42-68 Length of Stroke 48 Revs. per minute 58 Dia. of Screw shaft as per rule 14.33 as fitted 15.5 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 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 Length of stern bush 5'-4"

Dia. of Tunnel shaft as per rule 12.74 as fitted 13.5 Dia. of Crank shaft journals as per rule 13.38 as fitted 14 Dia. of Crank pin 14.5 Size of Crank webs 27 1/2 x 9 1/2 Dia. of thrust shaft under collars 14.5 Dia. of screw 17'-6" Pitch of Screw 18'-0" No. of Blades 4 State whether moveable no Total surface 94 sq ft

No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 34 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 34 Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps Ballant 10"x10"; Ford 4"x8" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 3 @ 3 1/2" + dry tank one @ 3 1/2" In Holds, &c. Two @ 3 1/2" dia in each

No. of 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"

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 suction to fore 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 23.7.14 of Stern Tube 23.7.14 Screw shaft and Propeller 29.7.14

Is the Screw Shaft Tunnel watertight yes 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 Ltd

Total Heating Surface of Boilers 6214 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 17.7.14 No. of Certificate 5344

Can each boiler be worked separately yes Area of fire grate in each boiler 70.1 sq ft No. and Description of Safety Valves to each boiler 2 direct spring Area of each valve 8.29 sq ft 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 3'-0" External Mean dia. of boilers 17'-0" Length 11'-9" Material of shell plates steel

Thickness 1 1/2" Range of tensile strength 29 1/2" x 33" 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 1/2" Pitch of rivets 9 1/2" Lap of plates or width of butt straps 20 1/2" x 1 1/2" 5-Rivts per pitch

Per centages of strength of longitudinal joint rivets 90.6 Working pressure of shell by rules 183 Size of manhole in shell 16" x 12" plate 85.47

Size of compensating ring 7 1/2" x 1 1/2" No. and Description of Furnaces in each boiler 3 Morrison Material steel Outside diameter 50.44

Length of plain part top bottom Thickness of plates crown bottom 1 1/2" Description of longitudinal joint welded No. of strengthening rings 1

Working pressure of furnace by the rules 187 Combustion chamber plates: Material steel Thickness: Sides 1/2" Back 1/2" Top 1/2" Bottom 1/2"

Pitch of stays to ditto: Sides 9 1/2" x 9" Back 9 1/2" x 8 1/2" Top 9 1/2" x 9" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 185

Material of stays steel Diameter at smallest part 1.99 Area supported by each stay 87.75 Working pressure by rules 205 End plates in steam space: Material steel Thickness 1 1/2" Pitch of stays 20 x 19 1/2 How are stays secured nuts + 9 x 1 washers Working pressure by rules 189

Material steel Thickness 1 1/2" Pitch of stays 20 x 19 1/2 How are stays secured nuts + 9 x 1 washers Working pressure by rules 189 Material of stays steel

Diameter at smallest part 8.48 Area supported by each stay 450 Working pressure by rules 196 Material of Front plates at bottom steel Thickness 1" Material of Lower back plate steel Thickness 1 1/2" Greatest pitch of stays 17 1/2" x 8 1/2 Working pressure of plate by rules 222

Diameter of tubes 3 1/2" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates steel Thickness: Front 1 1/2" Back 1 1/2" Mean pitch of stays 10 1/2"

Pitch across wide water spaces 14 1/2" Working pressures by rules 193 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 8 1/2" x 2" Length as per rule 35 Distance apart 9 1/2" Number and pitch of stays in each 3 @ 9"

Working pressure by rules 183 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

Water Capacity. Tons. 82 131
16.23
1.5.6.7
23.24
131

W335-0246

VERTICAL DONKEY BOILER— Manufacturers of Steel

pt. 5a.

No. one Description Single ended multitubular
 Made at ✓ By whom made ✓ When made W.B Where fixed Stokehold
 Working pressure 100 tested by hydraulic pressure to 200 Date of test 21.7.14 No. of Certificate 3235 Fire grate area W.B Description of Stokehold
 Valves Direct spring No. of Safety Valves 2 Area of each 5.94 Pressure to which they are adjusted W.B Date of adjustment W.B
 If fitted with easing gear ✓ If steam from main boilers can enter the donkey boiler ✓ Dia. of donkey boiler W.B Length W.B
 Material of shell plates W.B Thickness W.B Range of tensile strength W.B Descrip. of riveting long. seams W.B
 Dia. of rivet holes W.B Whether punched or drilled W.B Pitch of rivets W.B Lap of plating W.B Per centage of strength of joint W.B
 Working pressure of shell by rules W.B Thickness of shell crown plates W.B Radius of do. W.B No. of stays to do. W.B Dia. of stays W.B
 Diameter of furnace Top W.B Bottom W.B Length of furnace W.B Thickness of furnace plates W.B Description of joint W.B
 Working pressure of furnace by rules W.B Thickness of furnace crown plates W.B Stayed by W.B
 Diameter of uptake W.B Thickness of uptake plates W.B Thickness of water tubes W.B Dates of survey W.B

SPARE GEAR. State the articles supplied:— Two each bolts nuts for top & bottom ends and main bearings. One set coupling bolts. One set feed sledge pump valve one propeller. One tail shaft. Assorted bolts nuts & iron.

The foregoing is a correct description,
 For **BLAIR & CO., LIMITED.**
Geo. Stettinshypp Manufacturer.

Dates of Survey while building
 During progress of work in shops - SECRETARY. 1914. Apr. 8. 9. May. 7. 8. 11. 14. 19. 21. 25. 26. 27. 28. Jun. 3. 4. 5. 8. 9. 11. 15. 16. 17. 18. 19. 22. 24. 26. 29. Jul.
 During erection on board vessel - 6. 7. 10. 13. 15. 17. 20. 29. Aug. 1. 4. 7. 14. 11. 23. Aug. 26. 28. Sep. 10. 21.
 Total No. of visits 46 Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts—Cylinders 8.6.14 Slides 28.5.14 Covers 28.5.14 Pistons 11.6.14 Rods 11.6.14
 Connecting rods 9.6.14 Crank shaft 17.6.14 Thrust shaft 26.5.14 Tunnel shafts 3. 5. 14 Screw shaft 3.7.14 Propeller 1.7.14
 Stern tube 10.7.14 Steam pipes tested 1.8.14 Engine and boiler seatings 23.4.14 Engines holding down bolts 4.8.14
 Completion of pumping arrangements 21.4.14 Boilers fixed 7.8.14 Engines tried under steam 7.8.14
 Main boiler safety valves adjusted 7.8.14 Thickness of adjusting washers P 1 1/2 5-7/16 S 1 1/2 5-7/8 P 7/8 B 5-7/8 B
 Material of Crank shaft Eng Steel Identification Mark on Do. 6908 Material of Thrust shaft Eng Steel Identification Mark on Do. 453
 Material of Tunnel shafts Eng Steel Identification Marks on Do. 453. N Material of Screw shafts iron Identification Marks on Do. 6908
 Material of Steam Pipes Solid drawn copper (7x5/8 & 5x5/8) Test pressure 400 lb.

General Remarks (State quality of workmanship, opinions as to class, &c. To complete the survey the following requires to be done:— Donkey Boiler secured in place, mountings fitted, boiler examined under steam and safety valves adjusted: Suctions to fit in holds & tunnel: W.T door to fit at tunnel and open gear to examine: It is proposed to complete the survey at Sunderland; The Surveyors advised 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 main boilers and engines examined under steam and found satisfactory

In my opinion the vessel will be eligible to have the notation of **L.M.C.** (with a date) in the Register Book when the survey has been completed

All the above recommendations & requirements have been carried out, the same being now complete. It is submitted that the vessel is eligible for **L.M.C. 9.14.**

The amount of Entry Fee..	£ 3 - 0 - 0	When applied for, 17.8.14
Special	£ 38 - 17 - 0	When received, 29.8.14
Donkey Boiler Fee	£ - : -	
Travelling Expenses (if any) £	- : -	

It is submitted that this vessel is eligible for **THE RECORD, + L.M.C. 9.14.**
Wm Morrison Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute FRI. SEP. 25. 1914
 Assigned + L.M.C. 9.14.
MACHINERY CERTIFICATE
 WRITTEN.

Certificate (if required) to be sent to the Registrar of Shipping

