

Rpt. 5a.

# REPORT ON BOILERS.

No. 8495.

Date of writing Report 19.6.14 191 When handed in at Local Office 19.6.14 Port of Middlesbrough  
No. in Survey held at Stockton-on-Tees Date, First Survey April. 21st Last Survey June 8th 191 14.  
Reg. Book. 11 on the S.S. "Brock" (Number of Visits 11) Gross Tons 11 Net Tons 11  
Master Smith's Dock & Eng'g Built at South Bank By whom built Smith's Dock & Eng'g When built 1914  
Engines made at Stockton By whom made Thos. Blair & Co. Ltd (No. J. 245) When made 1914  
Boilers made at Stockton By whom made Thos. Blair & Co. Ltd (No. J. 245) When made 1914  
Registered Horse Power 11 Owners Thos. Blair & Co. Ltd Port belonging to Thos. Blair & Co. Ltd

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY. Manufacturers of Steel John Spencer Stans  
Letter for record (5) Total Heating Surface of Boilers 1820  $\text{sq. ft.}$  Is forced draft fitted no No. and Description of Boilers One single ended Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 8.6.14  
No. of Certificate 5319 Can each boiler be worked separately ✓ Area of fire grate in each boiler 53  $\text{sq. ft.}$  No. and Description of safety valves to each boiler Two direct spring Area of each valve 5.9  $\text{sq. in.}$  Pressure to which they are adjusted 185  $\text{lb.}$   
Are they fitted with easing gear yes In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓  
Smallest distance between boilers or uptakes and bunkers or woodwork 9" Inside diam. of boilers 13'-9" Length 11'-1 1/2"  
Material of shell plates steel Thickness 1 1/2" 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 3/8" Pitch of rivets 8 3/8"  
Pitch of plates or width of butt straps 17 3/4" x 1 1/2" Per centages of strength of longitudinal joint 88.6 Working pressure of shell by rules 183 Size of manhole in shell 16" x 12" Size of compensating ring 7 1/2" x 1 1/2" No. and Description of Furnaces in each boiler 3 plain Material steel Outside diameter 42" Length of plain part 80" Thickness of plates 3 1/4" crown 3 1/4" bottom 2 3/4" mean 3 1/4"  
Description of longitudinal joint Weld No. of strengthening rings none Working pressure of furnace by the rules 185 Combustion chamber no  
Material steel Thickness: Sides 1 1/2" Back 1 1/2" Top 1 1/2" Bottom 1 3/4" Pitch of stays to ditto: Sides 9 1/4" x 8 1/2" Back 9 1/4" x 8 1/2"  
Top 9 1/4" x 9 1/4" stays are fitted with nuts or riveted heads multi Working pressure by rules 197 Material of stays steel Diameter at smallest part 1.99 Area supported by each stay 81.6 Working pressure by rules 220 End plates in steam space: Material steel Thickness 1 1/2"  
Pitch of stays 19 1/2" x 1 1/2" How are stays secured multi Working pressure by rules 195 Material of stays steel Diameter at smallest part 6.1  
Area supported by each stay 333 Working pressure by rules 191 Material of Front plates at bottom steel Thickness 1 1/2" Material of lower back plate steel Thickness 1 1/2" Greatest pitch of stays 14 1/4" x 8 3/8" Working pressure of plate by rules 222 Diameter of tubes 3 1/2"  
Pitch of tubes 4 3/4" x 4 3/4" Material of tube plates steel Thickness: Front 1 1/2" Back 1 1/2" Mean pitch of stays 11" Pitch across wide water spaces 14 1/2" Working pressures by rules 192 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 8 1/4" x 1 3/8" Length as per rule 33 Distance apart 9 1/4" Number and pitch of Stays in each 3 @ 9"  
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 no  
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  
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

SURVEY REQUEST NO. 563 ATTACHED.

The foregoing is a correct description, For BLAIR & Co., Limited, Geo. W. Hushy, Manufacturer.

Dates of Survey: During progress of work in shops - - - 1914. Apr. 21. May. 7. 11. 13. 19. 21. 25. 28. Jun. 3. 5. 8 Is the approved plan of boiler forwarded herewith yes  
while building: During erection on board vessel - - - no Total No. of visits 11

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under Special Survey: is of good material and workmanship and on completion was tested by hydraulic pressure with satisfactory results. The boiler is to be fitted on board at this port. This boiler has now been satisfactorily fitted & secured on board the vessel.

Survey Fee ... £ 6.1-0 When applied for, 191  
Travelling Expenses (if any) £ : When received, 191

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

Committee's Minute TUE. AUG. 11. 1914  
Assigned See minute on 78 attached  
Send Mot Rpt Mtd. 27.6.14

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