

# REPORT ON BOILERS.

No. 4859

Received at London Office THU SEP 27 1917

Date of writing Report 25<sup>th</sup> Sep 1917 When handed in at Local Office 101 Port of Belfast  
 No. in Survey held at Belfast Date, First Survey 30<sup>th</sup> Sep 1914 Last Survey 15<sup>th</sup> Sep 1917  
 Reg. Book. S.S. Mullais (Number of Visits 50) Gross 7300 Tons Net 4457  
 on the Master Glasgow Built at Glasgow By whom built Harland & Wolff L<sup>d</sup> When built 1917  
 Engines made at Belfast By whom made - When made -  
 Boilers made at - By whom made - When made -  
 Registered Horse Power - Owners Lambart & Holt L<sup>d</sup> Port belonging to Liverpool

## MULTITUBULAR BOILERS - MAIN, AUXILIARY OR DONKEY. - Manufacturers of Steel D. Colville & Sons L<sup>d</sup>

(Letter for record S) Total Heating Surface of Boilers 1775 sq ft Is forced draft fitted No No. and Description of Boilers One - Single End Cylindrical Working Pressure 215 lb Tested by hydraulic pressure to 430 lb Date of test 20-6-17

No. of Certificate 501 Can each boiler be worked separately ✓ Area of fire grate in each boiler 52 1/2 sq ft No. and Description of safety valves to each boiler 2 Rocket Spring Area of each valve 5.94 sq in Pressure to which they are adjusted 215 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 Board 30 Mean dia. of boilers 14'-0" Length 10'-6"

Material of shell plates Steel Thickness 1 1/2" Range of tensile strength 29-33 tons Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams Lap long. seams Butt Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10"

Gap of plates or width of butt straps 22 1/2" Per centages of strength of longitudinal joint 87.7 Working pressure of shell by rules 253 lb Size of manhole in shell 16" x 12" Size of compensating ring No No. and Description of Furnaces in each boiler 3 Mousous Material Steel Outside diameter 44 9/16" Length of plain part 3' Thickness of plates 2 1/2"

Description of longitudinal joint Weld No. of strengthening rings ✓ Working pressure of furnace by the rules 239 lb Combustion chamber plates: Material Steel Thickness: Sides 2 1/2" Back 2 1/2" Top 2 1/2" Bottom 7/8" Pitch of stays to ditto: Sides 9 1/4" x 7" Back 9" x 7 1/2"

Top 8" x 7" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 231 lb Material of stays Steel Diameter at smallest part 1 1/4" Area supported by each stay 65 1/4 sq in Working pressure by rules 241 lb plates in steam space: Material Steel Thickness 1 1/2"

Pitch of stays 16 1/2" x 15" How are stays secured Nuts & Renewed into plate Working pressure by rules 215 lb Material of stays Steel Diameter at smallest part 5.05 sq in

Area supported by each stay 247 1/2 sq in Working pressure by rules 257 lb Material of Front plates at bottom Steel Thickness 7/8" Material of lower back plate Steel Thickness 7/8" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 226 lb Diameter of tubes 3 1/4"

Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 7/8" Back 1 3/16" Mean pitch of stays 9" x 9" Pitch across wide water spaces 14 1/2" Working pressures by rules 295 lb with 1 1/2" doublets Material Iron Depth and thickness of girder at centre 8" x (7/8" x 2) Length as per rule 27 1/2" Distance apart 8" x 7 3/4" Number and pitch of Stays in each 3-7"

Working pressure by rules 221 lb Superheater or Steam chest; how connected to boiler ✓ 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

plates ✓ 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 ✓

The foregoing is a correct description, George S. Murray Manufacturer.

Is the approved plan of boiler forwarded herewith Yes

Total No. of visits

Dates: During progress of Survey work in shops - - - while building: During erection on board vessel - - -

See other sheet

## GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

See other sheet

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

R. J. O'Brien  
 Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

TUE - 20 OCT. 1917

Assigned



Lloyd's Register Foundation

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Belfast

Continuation of Report No. 4859 dated 25<sup>th</sup> Sep<sup>r</sup> 1917 on theS.S. - Millais -List of Pumps

1 Main Circulating Pump	17" pipe	✓
1 Pavi Weirs Feed	13½" x 10" x 21"	✓
1 General Service	10½" x 8" x 21"	✓
1 Aux <sup>y</sup> Feed	8" x 5½" x 12"	✓
1 Fresh Water	4½" x 5" x 12"	✓
1 Ballast	9" x 11" x 10"	✓
1 Sanitary	8" x 9" x 10"	✓
1 Refuse <sup>y</sup> Circulating	10" x 12" x 12"	✓

Spare Gear

2 Connecting Rod top end bolts & nuts	✓
2 - - - - - bottom - - - - -	✓
2 Main bearing - - - - -	✓
Set coupling bolts	✓
Sets feed & bilge pump valves	✓
Iron bolts nuts etc.	✓

Also extra spare gear to owners Specification, A  
list of same will be forwarded later on ✓

R. J. Bewell  
25-9-17



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