

# REPORT ON BOILERS.

No. 27570

Received at London Office WED. 23 JUL. 1919

Date of writing Report 1919 When handed in at Local Office 22.7.1919 Port of Sunderland  
 No. in Survey held at Sunderland Date, First Survey 15 Aug 1918 Last Survey 17 Feb. 1919  
 Reg. Book. on the S/S 'HARESFIELD' (Number of Visits 17) Gross 5298.89 Tons Net  
 Master Built at Sunderland By whom built Wm Doxford Sons Ltd (532) When built 1919  
 Engines made at Sunderland By whom made W. Doxford Sons Ltd (529) When made 1919  
 Boilers made at Sunderland By whom made W. Doxford Sons Ltd (532) When made 1919  
 Registered Horse Power N.H.P. 517. Owners British India Steam Nav. Co. Ltd Port belonging to Glasgow.

## MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel Spencer & Sons

(Letter for record 5) Total Heating Surface of Boilers 7668 sq ft Is forced draft fitted 410 No. and Description of Boilers Three single ended Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 5.5.19 12.5.19 17.5.19  
 No. of Certificate 3557 Can each boiler be worked separately 410 Area of fire grate in each boiler 63 sq ft No. and Description of safety valves to each boiler Three spring valves Area of each valve 9.6 sq in Pressure to which they are adjusted ✓  
 Are they fitted with easing gear ✓ 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 ✓ Mean dia. of boilers 15.6 in Length 11.6 in  
 Material of shell plates S Thickness 1 1/4 in Range of tensile strength 28-32 Are the shell plates welded or flanged No  
 Descrip. of riveting: cir. seams Lap rivet long. seams A. 1/2 in riv. Diameter of rivet holes in long. seams 1 5/16 in Pitch of rivets 9 1/8 in  
 Lap of plates or width of butt straps 19 1/2 in Per centages of strength of longitudinal joint rivets 88-3 plate 85-6 Working pressure of shell by rules 182 Size of manhole in shell 16 x 12 in Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Diaphragms Material S Outside diameter 4-2 3/4 in Length of plain part top - bottom - Thickness of plates crown 1/2 in bottom 3/32 in  
 Description of longitudinal joint welded No. of strengthening rings - Working pressure of furnace by the rules 187 Combustion chamber plates: Material S Thickness: Sides 23/32 in Back 1/16 in Top 23/32 in Bottom 23/32 in Pitch of stays to ditto: Sides 10 5/8 x 9 1/4 in Back 8 3/4 x 10 1/4 in  
 Top 10 5/8 x 9 1/4 in If stays are fitted with nuts or riveted heads No Working pressure by rules 150 Material of stays S Area at smallest part 2.36 sq in Area supported by each stay 98.2 sq in Working pressure by rules 2/6 End plates in steam space: Material S Thickness 1 1/32 in  
 Pitch of stays 2 3/4 x 10 1/2 in How are stays secured A.N.P.W. Working pressure by rules 190 Material of stays S Area at smallest part 8.29 sq in  
 Area supported by each stay 432 sq in Working pressure by rules 186 Material of Front plates at bottom S Thickness 3/32 in Material of Lower back plate S Thickness 27/32 in Greatest pitch of stays 13 5/8 x 8 3/4 in Working pressure of plate by rules 183 Diameter of tubes 2 3/4 in  
 Pitch of tubes 4 x 3 7/8 in Material of tube plates S Thickness: Front 31/32 in Back 3/4 in Mean pitch of stays 9 13/16 in Pitch across wide water spaces 13 5/8 in Working pressures by rules 181 Girders to Chamber tops: Material S Depth and thickness of girder at centre 10 7/8 x 1 3/4 in Length as per rule 2-11 9/16 in Distance apart 10 5/8 in Number and pitch of Stays in each 3, 9 1/4 in  
 Working pressure by rules 187 Steam dome: description of joint to shell None % of strength of joint ✓  
 Diameter - Thickness of shell plates - Material - Description of longitudinal joint - Diam. of rivet holes -  
 Pitch of rivets - Working pressure of shell by rules - Crown plates - Thickness - How stayed -

UPERHEATER. Type - Date of Approval of Plan - Tested by Hydraulic Pressure to -  
 Date of Test - Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler -  
 Diameter of Safety Valve - Pressure to which each is adjusted - Is Easing Gear fitted -  
 WILLIAM DOXFORD & SONS, Limited  
 The foregoing is a correct description,  
 A. Aspinwall Secretary, Manufacturer.

Dates of Survey During progress of work in shops - 1918 Aug. 15. 16. 21. Jan. 29. Mar. 11. 19. 1919 Is the approved plan of boiler forwarded herewith 410  
 while building During erection on board vessel - 1. 2. 8. 24. 30 May. 5. 12. 16. Jul. 10. 11. 17 Total No. of visits 17

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The Boilers for this vessel have been built under special survey. The materials and workmanship are sound and good. They have been fitted in the vessel with engines built under B.C. Survey. The diameters of cylinders are 27", 44", 73" & length of stroke 48" N.H.P. 517

Survey Fee £ 29:8:9 When applied for, 22 JUL 1919  
 Travelling Expenses (if any) £ : : When received, 12.8. 1919

Committee's Minute TUE. 29. JUL. 1919  
 Assigned L.M.B. 7. 19  
 F.D.  
 W. H. H. K. Engineer Surveyor to Lloyd's Register of Shipping.  
 Lloyd's Register Foundation  
 W173-0111