

# REPORT ON BOILERS.

Sl. No. 25646  
No. 7764

Received at London Office FRI. FEB. 7. 1913

Date of writing Report 6.2.13 1913 When handed in at Local Office 6.2.13 1913 Port of MIDDLESBROUGH-ON-TEES  
 No. in Survey held at Stockton-on-Tees Date, First Survey 1st Dec. 1912 Last Survey 4 April 1913  
 Reg. Book. Steel 8 8" Diana (Number of Visits 14) Gross 4068  
 on the Steel 8 8" Diana Tons Net 2537  
 S.S.N<sup>o</sup> 275  
 Master Sunderland Built at Sunderland By whom built Sunderland S.S. Co When built 1913  
 Engines made at Sunderland By whom made Sunderland S.S. Co When made 1913  
 Boilers made at Stockton By whom made Messrs Riley Bros (No. 4407) When made 1913  
 Registered Horse Power \_\_\_\_\_ Owners Hall Bros S.S. Co Ltd Port belonging to Newcastle

**MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.**—Manufacturers of Steel J. Spencer & Son  
 Letter for record (5) Total Heating Surface of Boilers 846 sq ft Is forced draft fitted No No. and Description of  
 boilers One single ended Working Pressure 100 Tested by hydraulic pressure to 200 Date of test 31.1.13  
 No. of Certificate 5018 Can each boiler be worked separately ✓ Area of fire grate in each boiler 30 sq ft No. and Description of  
 safety valves to each boiler Two spring loaded Area of each valve 4.9 sq in Pressure to which they are adjusted 102 lbs.  
 Are they fitted with easing gear Yes In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No  
 Smallest distance between boilers or uptakes and bunkers or woodwork 10' on main deck Inside diam. of boilers 10'-0" Length 10'-0"  
 Material of shell plates steel Thickness 5/8" Range of tensile strength 28 1/2 - 32 Are the shell plates welded or flanged No  
 Descrip. of riveting: cir. seams Sing. lap long. seams 3 Riv. lap Diameter of rivet holes in long. seams 15/16" Pitch of rivets 3 1/4"  
 Gap of plates or width of butt straps 6 1/2" Per centages of strength of longitudinal joint rivets 76.5 Working pressure of shell by  
 rules 104 Size of manhole in shell 16" x 12" Size of compensating ring 7 x 1 1/2" No. and Description of Furnaces in each  
 boiler 2 plain Material steel Outside diameter 37" Length of plain part top 76 Thickness of plates crown 3/8  
 Description of longitudinal joint Weld No. of strengthening rings none Working pressure of furnace by the rules 108 Combustion chamber  
 plates: Material steel Thickness: Sides 1 1/2" Back 3/4" Top 1 1/2" Bottom 3/4" Pitch of stays to ditto: Sides 9 1/2 x 8 1/4 Back 10 1/4 x 9  
 Top 9 1/2 x 8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 107 Material of stays steel Diameter at  
 smallest part 1.19 Area supported by each stay 79 Working pressure by rules 120 End plates in steam space: Material steel Thickness 1/2"  
 Pitch of stays 20 x 13 How are stays secured nuts & 7 x 5/8 washers Working pressure by rules 100 Material of stays steel Diameter at smallest part 2.51  
 Area supported by each stay 260 Working pressure by rules 100 Material of Front plates at bottom steel Thickness 1/2" Material of  
 lower back plate steel Thickness 1 1/2" Greatest pitch of stays 13" x 9" Working pressure of plate by rules 183 Diameter of tubes 3 1/4"  
 Pitch of tubes 4 1/2" x 4 3/8" Material of tube plates steel Thickness: Front 1 1/8" Back 5/8" Mean pitch of stays 11 1/2" Pitch across wide  
 water spaces 13 1/2" Working pressures by rules 113 Girders to Chamber tops: Material steel Depth and thickness of  
 girder at centre 6" x 1 1/2" Length as per rule 27" Distance apart 9 1/2" Number and pitch of Stays in each 2 @ 8"  
 Working pressure by rules 113 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 \_\_\_\_\_  
 Stays \_\_\_\_\_ 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 \_\_\_\_\_

FOR RILEY BROS. (BOILERMAKERS) LIMITED. The foregoing is a correct description, Manufacturer.

Dates of Survey } During progress of work in shops - - } 1912. Sept. 21, Oct. 9, 14, 21, Dec. 3, 6, 13, 1913. Is the approved plan of boiler forwarded herewith yes  
 while building } During erection on board vessel - - - } 21, 25, 29, 31. Apr. 1, 2, 4. Total No. of visits 14

**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. It has been securely fixed on board mounted & its safety valves have been adjusted under steam.

Survey Fee ... .. £ 2-16-0 When applied for, ..... 191  
 Travelling Expenses (if any) £ :- When received, ..... 191  
 MONTHLY A/c SURVEY REQUEST NO. 604 ATTACHED.

Committee's Minute FRI. APR. 11. 1913  
 Assigned see Minute on Sld Rpt 25646  
 Wm Morrison William Butler. Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

