

# REPORT ON BOILERS.

Sl. No. 25646  
No. 7764

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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 15.12.12, 1912 Last Survey 31.1.13 1913  
Reg. Book. on the Steel 8" Diana.  
(Number of Visits 14) Gross 4068 Tons Net 2537  
Master Built at Sunderland By whom built Sunderland S.B. Co. When built 1913.  
Engines made at Sunderland By whom made Sunderland S.B. 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. Co. Ltd Port belonging to Newcastle

MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel J. Spencer & Son  
Letter for record (S) Total Heating Surface of Boilers 846 sq ft Is forced draft fitted 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 Yes 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 Single lap long. seams 3 Riv. lap Diameter of rivet holes in long. seams 15/16 Pitch of rivets 3 1/2  
Gap of plates or width of butt straps 6 1/2 Per centages of strength of longitudinal joint rivets 76.5 plate 74.5 Working pressure of shell by  
rules 104 Size of manhole in shell 16" x 12" Size of compensating ring 7 x 1/2 in. dia. 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 bottom 105 9/16 man  
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 1/2 Back 3/8 Top 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 Working pressure by rules 100 Material of stays steel Diameter at smallest part 2.57  
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 1/2 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 13/16 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,  
A. Lind Manufacturer.

Dates of Survey During progress of work in shops - - 1912. Sept. 21. Oct. 14. 21. Dec. 3. 6. 13. 1913. Jan. 15. 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 - 07 When applied for, 1913  
Travelling Expenses (if any) £ : : When received, 1913  
MONTHLY A/c SURVEY NO. 604 REQUEST ATTACHED.  
Wm Morrison William Butler.  
Engineer Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute FRI. APR. 11. 1913  
Assigned see Minute on Sld Rpt  
25646  
Lloyd's Register Foundation  
011280 - 011293 - 0085