

# REPORT ON BOILERS.

No. 13054.

30 SEP 1927

Date of writing Report 27. 9. 1927 When handed in at Local Office 27. 9. 1927 Port of MIDDLESBROUGH.  
 No. in Surveys held at STOCKTON. Date, First Survey 5. 8. 27 Last Survey 26. 9. 1927.  
 on the boiler for S.T. (Number of Visits 7) Gross Tons        Net         
 Built at Hong Kong. By whom built W.S. Bailey & Co. Yard No. 243. When built         
 Made at Stockton By whom made Harker & Sons Engine No. 266. When made 1927  
 Made at . do . By whom made Riley Bros. Boiler No. 5757 When made 1927.  
 Nominal Horse Power        Owners        Port belonging to       

## WATER TUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel David Colville & Sons. (Letter for Record       )  
 Heating Surface of Boilers 870 sq. ft. Is forced draught fitted        Coal or Oil fired Coal.  
 Kind and Description of Boilers One S.F. Murnie Working Pressure 180 lbs.  
 Tested by hydraulic pressure to 320 lbs. Date of test 26. 9. 27 No. of Certificate 6579 Can each boiler be worked separately         
 Area of Firegrate in each Boiler 34 sq. ft. No. and Description of safety valves to each boiler         
 No. of each set of valves per boiler per Rule Pressure to which they are adjusted        Are they fitted with easing gear         
 Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler         
 Least distance between boilers or uptakes and bunkers or woodwork        Is oil fuel carried in the double bottom under boilers         
 Least distance between shell of boiler and tank top plating        Is the bottom of the boiler insulated         
 Greatest internal dia. of boilers 10'-0" Length 9'-6" Shell plates: Material Steel Tensile strength 28/32  
 Thickness 27/32 Are the shell plates welded or flanged no. Description of riveting: circ. seams end DR.  
 Seams T.R.D.B.S. Diameter of rivet holes in circ. seams 1 1/16" Pitch of rivets 3 1/16" x 6 1/8"  
 Percentage of strength of circ. end seams plate 65.3 long. seams 15/16" 6 1/8"  
 Percentage of strength of circ. intermediate seam plate 42.5 rivets 85.8  
 Percentage of strength of longitudinal joint plate 95.1 combined 90.7. Working pressure of shell by Rules 182 lbs.  
 Thickness of butt straps outer 2 1/32" inner 25/32" No. and Description of Furnaces in each Boiler 2 Plain  
 Material Steel Tensile strength 26/30 Smallest outside diameter 3'-3"  
 Length of plain part top 5'-10 7/8" Thickness of plates crown 5 3/4" Description of longitudinal joint weld.  
 Dimensions of stiffening rings on furnace or c.c. bottom        Working pressure of furnace by Rules 196 lbs.  
 Plates in steam space: Material Steel Tensile strength 26/30 Thickness 25/32 Pitch of stays 14" x 13"  
 Are stays secured D.N. & W. Working pressure by Rules 183 lbs.  
 Tube plates: Material front Steel Tensile strength 26/30 Thickness 25/32  
back Steel 23/32 Working pressure front 180 lbs.  
 Lean pitch of stay tubes in nests 10" Pitch across wide water spaces 13" back 183  
 Orders to combustion chamber tops: Material Steel Tensile strength 28/32 Depth and thickness of girder         
 Distance between centre 6 1/4" x 7/8" (double) Length as per Rule 2'-3" Distance apart 7" No. and pitch of stays         
 Working pressure by Rules 188 lbs. Combustion chamber plates: Material Steel  
 Tensile strength 26/30 Thickness: Sides 7/8" Back 7/8" Top 5/8" Bottom 1"  
 Pitch of stays to ditto: Sides 9 x 8" Back 9 x 8 1/4" Top 8 x 7" Are stays fitted with nuts or riveted over nuts  
 Working pressure by Rules 181 lbs. Front plate at bottom: Material Steel Tensile strength 26/30  
 Thickness 25/32 Lower back plate: Material Steel Tensile strength 26/30 Thickness 25/32  
 Pitch of stays at wide water space 13" x 9" Are stays fitted with nuts or riveted over nuts  
 Working Pressure 206 lbs. Main stays: Material Steel Tensile strength 28/32  
 Diameter At body of stay, 2 1/4" No. of threads per inch 6. Area supported by each stay 178 sq. in.  
 Working pressure by Rules 182 lbs. Screw stays: Material Steel Tensile strength 26/30  
 Diameter At turned off part, 1 1/2" No. of threads per inch 9. Area supported by each stay 70 sq. in.

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Working pressure by Rules 180 lb. Are the stays drilled at the outer ends no. Margin stays: Diameter <sup>(At turned off part, or Over threads)</sup> 1 3/4"  
No. of threads per inch 9 Area supported by each stay 93.2 sq Working pressure by Rules 194 lb.  
Tubes: Material rim External diameter <sup>Plain</sup> 3" 15 3/16" Thickness <sup>Stay</sup> 3/16" No. of threads per inch 9  
Pitch of tubes 4" x 4" Working pressure by Rules p. 190 s. 277. Manhole compensation: Size of opening  
shell plate 20 x 16 Section of compensating ring 8" x 1" No. of rivets and diameter of rivet holes 40 - 1 1/2"  
Outer row rivet pitch at ends 7 1/2" Depth of flange if manhole flanged 3" Steam Dome: Material  
Tensile strength Thickness of shell Description of longitudinal joint  
Diameter of rivet holes Pitch of rivets Percentage of strength of joint <sup>Plate Rivets</sup>  
Internal diameter Working pressure by Rules Thickness of crown No. and diameter  
stays Inner radius of crown Working pressure by Rules  
How connected to shell Size of doubling plate under dome Diameter of rivet holes and pitch  
of rivets in outer row in dome connection to shell  
Type of Superheater Manufacturers of <sup>Tubes</sup> <sup>Steel castings</sup>  
Number of elements Material of tubes Internal diameter and thickness of tubes  
Material of headers Tensile strength Thickness Can the superheater be shut off and  
the boiler be worked separately Is a safety valve fitted to every part of the superheater which can be shut off from the boiler  
Area of each safety valve Are the safety valves fitted with easing gear Working pressure as per  
Rules Pressure to which the safety valves are adjusted Hydraulic test pressure  
tubes and after assembly in place Are drain cocks or valves fitted  
to free the superheater from water where necessary  
Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes.

The foregoing is a correct description. W. B. Shields SECRETARY, MANUFACTURERS

Dates of Survey <sup>During progress of work in shops - -</sup> 1924 Aug 5 11 26 Sep 6 8 16 26 Are the approved plans of boiler and superheater forwarded herewith Yes.  
<sup>while building</sup> <sup>(If not state date of approval.)</sup> Total No. of visits 4

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The materials and workmanship are good. This boiler has been built under special survey in accordance with the Rules and approved plan. It will be fitted aboard at Hong Kong.

Survey Fee ... £ 5-16-0 When applied for MONTHLY A/C. 192  
Travelling Expenses (if any) £ : : When received, 192

M. M. A.  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 25 MAY 1928  
Assigned See H. K. Report No. 6272  
TUE. 12 MAR 1929  
TUE. 16 OCT 1929  
FRI. 15 NOV 1929