

REPORT ON BOILERS.

No. 12364

Received at London Office

-2 JUN 1925

Date of writing Report 28/5/1925 When handed in at Local Office 29/5/1925 Port of Middlesbrough
 No. in Survey held at Stockton-on-Tees Date, First Survey 7th April Last Survey 28/5/1925
 g. Book. S.S. 'Swazi' (Number of Visits 8) Gross 238 Tons Net 105
 on the S.S. 'Swazi'
 Built at Northwich By whom built W.T. Yarwood & Sons Ltd. Hard No. 345 When built 1927
 Engines made at Northwich By whom made W.T. Yarwood & Sons Ltd. Engine No. 176 When made 1927
 Boilers made at Stockton By whom made Messrs Riley Bros Ltd Boiler No. 5602 When made 1925
 Nominal Horse Power 43 Owners R.P. Houston & Co. Ltd Port belonging to London

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel David Colville & Sons Ltd. South Durham & Iron Coy. (Letter for Record (S))
 Total Heating Surface of Boilers 755 sq ft Is forced draught fitted no Coal or Oil fired Coal
 No. and Description of Boilers One Single End. Working Pressure 150 lbs
 Tested by hydraulic pressure to 275 lbs Date of test 28-5-25 No. of Certificate 6466 Can each boiler be worked separately ✓
 Area of Firegrate in each Boiler 28 3/4 sq ft No. and Description of safety valves to each boiler 2, spring loaded
 Area of each set of valves per boiler {per Rule 6.1 sq ft as fitted 7.96 sq ft Pressure to which they are adjusted 145 lbs 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 18" Is oil fuel carried in the double bottom under boilers ✓
 Smallest distance between shell of boiler and tank top plating ✓ Is the bottom of the boiler insulated no
 Largest internal dia. of boilers 9'-6" Length 9'-6" Shell plates: Material steel Tensile strength 28-32 tons
 Thickness 11/16" Are the shell plates welded or flanged ✓ Description of riveting: circ. seams {end DR. LAP. inter. ✓
 Long. seams {Double Butt Straps Triple Riveted 4 Rivets in Pitch Diameter of rivet holes in {circ. seams 15/16" long. seams 13/16" Pitch of rivets {3" 5 3/8"
 Percentage of strength of circ. end seams {plate 68.75 rivets 54.8 Percentage of strength of circ. intermediate seam {plate ✓ rivets ✓
 Percentage of strength of longitudinal joint {plate 84.8 rivets 86.6 combined 91.45 Working pressure of shell by Rules 151 lbs
 Thickness of butt straps {outer 13 x 17/32" inner 13 x 21/32" No. and Description of Furnaces in each Boiler Two Plain
 Material Steel Tensile strength 26-30 tons Smallest outside diameter 36"
 Length of plain part {top 65.59" bottom 75.0" Thickness of plates {crown 20/32" bottom 1/32" Description of longitudinal joint weld
 Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 147 lbs
 End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 29/32" Pitch of stays {15 1/2" 16" 14 TO TUBES
 How are stays secured Double Nuts and loose washers 9" x 29/32" Working pressure by Rules 159 lbs
 Tube plates: Material {front Steel back Steel Tensile strength {26-30 tons 26-30 tons Thickness {21/32" 21/32"
 Lean pitch of stay tubes in nests 9.81 Pitch across wide water spaces 13 1/4" x 8 1/2" Working pressure {front 164 lbs back 158"
 Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder
 At centre 6 3/4" x 13/4" Length as per Rule 28" Distance apart 8" No. and pitch of stays
 At each 2 c 8 1/2" Working pressure by Rules 154 lbs Combustion chamber plates: Material Steel
 Tensile strength 26-30 tons Thickness: Sides 19/32" Back 9/8" Top 19/32" Bottom 7/8"
 Pitch of stays to ditto: Sides 8 1/2" x 8 3/4" Back 8 1/2" x 9 3/4" Top 8 1/2" x 8" Are stays fitted with nuts or riveted over nuts
 Working pressure by Rules 161 lbs Front plate at bottom: Material Steel Tensile strength 26-30 tons
 Thickness 29/32" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 29/32"
 Pitch of stays at wide water space 13 1/4" x 8 1/2" Are stays fitted with nuts or riveted over nuts
 Working Pressure 272 lbs Main stays: Material Steel Tensile strength 28-32 tons
 Diameter {At body of stay, 2 1/2" No. of threads per inch 6 Area supported by each stay 275.6 sq in
 {Over threads ✓ Working pressure by Rules 160 lbs Screw stays: Material Steel Tensile strength 26-30 tons
 Diameter {At turned off part, 1 1/2" No. of threads per inch 9 Area supported by each stay 82.84 sq in
 {Over threads ✓

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Working pressure by Rules 151 lbs Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 7/8" or Over threads }
No. of threads per inch 9 Area supported by each stay 92.43 sq" Working pressure by Rules 164 lbs
Tubes; Material iron External diameter { Plain 3 1/4" Stay 3 1/4" Thickness { 9 wg. 5/16" No. of threads per inch 9
Pitch of tubes 4 1/4" x 4 1/4" Working pressure by Rules S210. P 180. Manhole compensation: Size of opening in
shell plate 16" x 20" Section of compensating ring 7" x 1 3/16" MC NEIL No. of rivets and diameter of rivet holes 40 - 1 5/16"
Outer row rivet pitch at ends 6 1/2" Depth of flange if manhole flanged ✓ Steam Dome: Material ✓
Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____
Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint { Plate _____ Rivets _____
Internal diameter _____ Working pressure by Rules _____ Thickness of crown _____ No. and diameter of
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 { Tubes _____ Steel castings _____
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 _____, castings _____ 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 _____

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

J. H. Shields SECRETARY, Manufacturer.

Dates of Survey { During progress of 1923 work in shops - - - Apr 7, 17, 24, 30 May 6, 15, 22, 28. Are the approved plans of boiler and superheater forwarded herewith
while building { During erection on board vessel - - - } (If not state date of approval.)
Total No. of visits 8.

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

This boiler has been constructed under Special Survey: it is of good material and workmanship. on completion was tested by hydraulic pressure with satisfactory results.

Survey Fee £ 5 : - : -

Travelling Expenses (if any) £ : : :

When applied for, MONTHLY

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When received, _____

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W. H. Roberts

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute _____

Assigned _____



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