

REPORT ON BOILERS.

No. 11671
FRI. AUG. 17 1923

Received at London Office

Date of writing Report 1923 When handed in at Local Office 16.8.23 1923 Port of Middlesbrough

No. in Reg. Book. Survey held at Stockton-on-Tees Date, First Survey 25 June 1923 Last Survey 30 August 1923

on the (Number of Visits 7) Tons } Gross
Net

Master Built at South Shields By whom built Chas Renoldson & Co. Ltd. Yard No. 198 When built

Engines made at By whom made Engine No. When made

Boilers made at Stockton-on-Tees By whom made Messrs Riley Bros Ltd. Boiler No. 5474 When made 1923

Nominal Horse Power Owners Messrs Chas. Renoldson & Co. Ltd. Port belonging to South Shields

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs J. Spencer & Sons Ltd. (Letter for Record S.V.)

Total Heating Surface of Boilers 979 ϕ Is forced draught fitted Coal or Oil fired

No. and Description of Boilers One single ended. Working Pressure 180

Tested by hydraulic pressure to 320 Date of test 3/8/23 No. of Certificate 6330 Can each boiler be worked separately

Area of Firegrate in each Boiler 34.4 ϕ No. and Description of safety valves to each boiler

Area of each set of valves per boiler { per Rule as fitted 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 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

Largest internal dia. of boilers 10'-6" Length 10'-3" Shell plates: Material Steel Tensile strength 28/32

Thickness 7/8" Are the shell plates welded or flanged no Description of riveting: circ. seams { end Double Riv. Lap. inter. }
long. seams 2B-3 Riv (5 Rivets) Diameter of rivet holes in { circ. seams 1 1/16" Pitch of rivets { 3/4" }
long. seams 15/16" { rivets 6 7/8" }

Percentage of strength of circ. end seams { plate 67.38 rivets 51.1 Percentage of strength of circ. intermediate seam { plate rivets }

Percentage of strength of longitudinal joint { plate 86.37 rivets 88.7 combined 90.4 Working pressure of shell by Rules 181

Thickness of butt straps { outer 2 1/32 inner 25/32 No. and Description of Furnaces in each Boiler 2 Morrison

Material Steel Tensile strength 26/30 Smallest outside diameter 37 3/4"

Length of plain part { top bottom } Thickness of plates { crown 1/2" bottom 1/2" Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 180

End plates in steam space: Material Steel Tensile strength 26/30 Thickness 27/32" Pitch of stays 14 1/2" x 13 1/2"

How are stays secured Nuts & Washers 8 1/2" x 5/8" Working pressure by Rules 184

Tube plates: Material { front Steel back Steel Tensile strength { 26/30 Thickness { 27/32" }
back 26/30 } 3/4" }

Mean pitch of stay tubes in nests 10.34" Pitch across wide water spaces 14" x 8 1/2" Working pressure { front 182 back 194 }

Girders to combustion chamber tops: Material Steel Tensile strength 28/32 Depth and thickness of girder at centre 7 3/4" x 1 1/2" Length as per Rule 28 Distance apart 7 1/4" No. and pitch of stays in each 2 @ 8 1/2" Working pressure by Rules 270 Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 5/8" Back 2 1/32" Top 5/8" Bottom 1"

Pitch of stays to ditto: Sides 8" x 8 1/2" Back 9" x 8 1/2" Top 7 1/4" x 8 1/2" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 196 Front plate at bottom: Material Steel Tensile strength 26/30

Thickness 27/32" Lower back plate: Material Steel Tensile strength 26/30 Thickness 27/32"

Pitch of stays at wide water space 14" x 8 1/2" Are stays fitted with nuts or riveted over Nuts

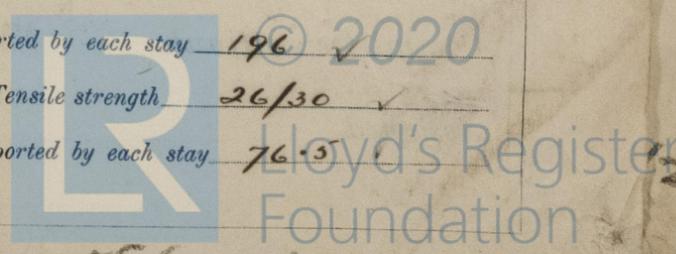
Working Pressure 217 Main stays: Material Steel Tensile strength 28/32

Diameter { At body of stay, or Over threads } 2 3/8" No. of threads per inch 6 Area supported by each stay 196

Working pressure by Rules 200 Screw stays: Material Steel Tensile strength 26/30

Diameter { At turned off part, or Over threads } 1 5/8" No. of threads per inch 9 Area supported by each stay 76.5

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Working pressure by Rules 200 Are the stays drilled at the outer ends no Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part, } \checkmark \\ \text{or} \\ \text{Over threads } 1\frac{3}{4}'' \checkmark \end{array} \right.$

No. of threads per inch 9 Area supported by each stay 93.5 Working pressure by Rules 193

Tubes: Material Iron External diameter $\left\{ \begin{array}{l} \text{Plain } 3\frac{1}{4}'' \\ \text{Stay } 3\frac{1}{4}'' \checkmark \end{array} \right.$ Thickness $\left\{ \begin{array}{l} 9 \text{ WG} \\ 5/16'' \checkmark \end{array} \right.$ No. of threads per inch 9

Pitch of tubes 4 1/16" x 4 1/4" Working pressure by Rules 180 & 218 Manhole compensation: Size of opening in shell plate 16" x 20" Section of compensating ring 7" x 1" McNeil No. of rivets and diameter of rivet holes 36 @ 1 1/16"

Outer row rivet pitch at ends about 7/8" Depth of flange if manhole flanged ✓ Steam Dome: Material None

Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____

Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$

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 $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$

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 FOR

RILEY BROS. (BOILERMAKERS) LIMITED,
The foregoing is a correct description,
J. H. Shields **SECRETARY**, Manufacturer.

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - - -} \end{array} \right. \end{array} \right. \left. \begin{array}{l} 1923, \text{ June 21, 25, July 4, 12, 27} \\ \text{Aug. 1, 3.} \end{array} \right.$ Are the approved plans of boiler and superheater forwarded herewith yes
(If not state date of approval.)

Total No. of visits 7

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

Survey Fee £ 6 : 10 : 6 When applied for, monthly etc.
Travelling Expenses (if any) £ : : When received, 192

Wm Morrison & P. D. Leng
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 26 OCT. 1923
Assigned _____

