

REPORT ON BOILERS.

 Std. No. 30483
 Mdl. No. 14169

Received at London Office

 Date of writing Report 22. 7. 1930 When handed in at Local Office 22. 7. 1930 Port of MIDDLESBROUGH.

 No. in Reg. Book. Survey held at STOCKTON. Date, First Survey 6 May Last Survey 22. 7. 1930
 on the MOTOR SHIP VIGDIS (Number of Visits 17) Gross Tons 6094 Net Tons 3624

 Master _____ Built at Sunderland By whom built J. L. Thompson & Co. Ltd Yard No. 571 When built 1920.
 Engines made at Sunderland By whom made W. D. Dore & Sons Engine No. 179 When made 1920.
 Boilers made at Stockton By whom made Riley Bros. (Boilermakers) Ltd Boiler No. 5991 When made 1930.
 Nominal Horse Power 598 Owners Bruun Van Der Lippe Port belonging to Trsberg.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Davies Colville & Sons. (Letter for Record _____)

Total Heating Surface of Boilers 1230 sq. ft. Is forced draught fitted Yes Coal or Oil fired oil.

No. and Description of Boilers 1 S.B. Working Pressure 150 lbs.

Tested by hydraulic pressure to 275 lbs. Date of test 22. 7. 30. No. of Certificate 6809. Can each boiler be worked separately _____

Area of Firegrate in each Boiler _____ No. and Description of safety valves to each boiler Two spring loaded 2 3/4 dia

Area of each set of valves per boiler { per Rule 11.18" as fitted 11.8" } Pressure to which they are adjusted 155 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 10'-0" Is oil fuel carried in the double bottom under boilers Fitted with double

Smallest distance between shell of boiler and tank top plating _____ Is the bottom of the boiler insulated Yes.

Largest internal dia. of boilers 10'-3" Length 11'-0" Shell plates: Material Steel Tensile strength 28/33.

Thickness 3/32 Are the shell plates welded or flanged No. Description of riveting: circ. seams { end D.R. inter. _____ }
 long. seams T.R.D.B.S. (snicks) Diameter of rivet holes in { circ. seams 1 1/2" long. seams 1 3/8" } Pitch of rivets { 3 1/4" plate 5 1/2" rivets _____ }

Percentage of strength of circ. end seams { plate 68.2. rivets 56.9. } Percentage of strength of circ. intermediate seam { plate 86.3. rivets _____ }
 Percentage of strength of longitudinal joint { rivets 90.6 combined 90.7. } Working pressure of shell by Rules 150 lbs.

Thickness of butt straps { outer 9/16" inner 11/16" } No. and Description of Furnaces in each Boiler 3 C.F.

Material Steel Tensile strength 26/30. Smallest outside diameter 2'-5"

Length of plain part { top _____ bottom _____ } Thickness of plates { crown 3/8" bottom 5/8" } Description of longitudinal joint weld.

Dimensions of stiffening rings on furnace or c.c. bottom _____ Working pressure of furnace by Rules 182 lbs.

End plates in steam space: Material Steel Tensile strength 26/30. Thickness 15/16" Pitch of stays 18" x 18 1/2" (mean)

How are stays secured D.N.O.W. Working pressure by Rules 153 lbs.

Tube plates: Material { front Steel back _____ } Tensile strength { 26/30. } Thickness { 15/16" front 5/8" back _____ }
 Mean pitch of stay tubes in nests 9" Pitch across wide water spaces 12" x 7" Working pressure { front 226 lbs. back 169. }

Girders to combustion chamber tops: Material Steel Tensile strength 28/32. Depth and thickness of girder _____

at centre 7 3/4" x 5" (double). Length as per Rule 2'-5" Distance apart 9" No. and pitch of stays _____

in each 2. 9" Working pressure by Rules 171 lbs. Combustion chamber plates: Material Steel

Tensile strength 26/30. Thickness: Sides 19/32 Back 11/16" Top 19/32 Bottom 19/32

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

Working pressure by Rules 155 lbs. Front plate at bottom: Material Steel Tensile strength 26/30.

Thickness 15/16" Lower back plate: Material Steel Tensile strength 26/30. Thickness 15/16"

Pitch of stays at wide water space 13" x 7 1/4" Are stays fitted with nuts or riveted over nuts.

Working Pressure 315 lbs. Main stays: Material Steel Tensile strength 28/32.

Diameter { At body of stay, or Over threads 2 3/4" } No. of threads per inch 6. Area supported by each stay 366 sq. in.

Working pressure by Rules 150 lbs. Screw stays: Material Steel Tensile strength 26/30.

Diameter { At turned off part, or Over threads 1 1/2" } No. of threads per inch 9 Area supported by each stay 79.2 sq. in.

Working pressure by Rules 158 lbs Are the stays drilled at the outer ends no. Margin stays: Diameter ^{At turned off part.} 1 5/8" ^{or} Over threads

No. of threads per inch 9. Area supported by each stay 81.3 Working pressure by Rules 187 lbs.

Tubes: Material iron External diameter ^{Plain} 2 1/2" 16 2 3/4" Thickness 8/16 No. of threads per inch 9.

Pitch of tubes 3 1/2" x 3 1/2" Working pressure by Rules p. 230 lbs. s. 203 lbs. Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 7" x 15" No. of rivets and diameter of rivet holes 44 - 15/16"

Outer row rivet pitch at ends 7" 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

How connected to shell Inner radius of crown Working pressure by Rules

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

Number of elements Material of tubes Manufacturers of ^{Tubes} ^{Steel castings} 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 calces fitted to free the superheater from water where necessary

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

RILEY BROS. (BOILERMAKERS) LIMITED.
The foregoing is a correct description,
J. L. Shields ^{SECRETARY} Manufacturer.

Dates of Survey ^{During progress of} 1930/ May 6, 9, 15, 21 June 3, 13, 16, 17, 23 Are the approved plans of boiler and superheater forwarded herewith Yes
^{work in shops - -} 26 July 1, 5, 7, 11, 16, 18, 22 (If not state date of approval.)

^{During erection on} board vessel - - - Total No. of visits 17

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 Plans. It is being sent to Sunderland.

This boiler has been satisfactorily fitted in the vessel & the safety valves adjusted up to steam. For notation see machinery report.

Survey Fee ... £ 8-4-0. When applied for, Monthly

Travelling Expenses (if any) £ : When received, 1932

P. J. McA. MacArthur
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 28 OCT 1930

Assigned See F. E. Rpt.