

REPORT ON BOILERS.

No. 19121.

Received at London Office

20 NOV 1929

Date of writing Report 15. 10. 1929 When handed in at Local Office 14. 10. 1929. Port of Greenock

No. in Survey held at Reg. Book.

Greenock

Date, First Survey 13th December 1928. Last Survey 14th November 1929.

(Number of Visits ✓)

Gross 4616.56.

Tons Net 2898.13.

on the

S/S "Bibury"

Master Built at Greenock By whom built Messrs Duncan's Yard No. 393 When built 1929

Engines made at Greenock By whom made Rankin & Blackmore C^o Ltd Engine No. 434 When made 1929Boilers made at ditto By whom made ditto Boiler No. 434 When made 1929

Nominal Horse Power 489 Owners Alexander Sutherland & Co Port belonging to London.

MULTITUBULAR BOILERS ~~MAIN~~, AUXILIARY, OR DONKEY.

Manufacturers of Steel Withowitz Bergbau- und Eisenhütten Gewerkschaft (Letter for Record S)

Total Heating Surface of Boilers 1260 ft^2 Is forced draught fitted no Coal or Oil fired coal

No. and Description of Boilers one single ended Working Pressure 200 lbs

Tested by hydraulic pressure to 350 lbs Date of test 29-8-29 No. of Certificate 1888 Can each boiler be worked separately

Area of Firegrate in each Boiler 40 ft^2 No. and Description of safety valves to each boiler one double backburn's Improved HighliftArea of each set of valves per boiler $\left\{ \begin{array}{l} \text{per Rule } 3.64 \text{ ft}^2 \\ \text{as fitted } 6.28 \text{ ft}^2 \end{array} \right.$ Pressure to which they are adjusted 205 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 25" Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating 29 1/2" Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 12'-4 3/32" Length 10'-6" Shell plates: Material S Tensile strength 28-32 Tns

Thickness 1 3/32" Are the shell plates welded or flanged no Description of riveting: circ. seams $\left\{ \begin{array}{l} \text{end } 3.8" \\ \text{inter. } 3.8" \end{array} \right.$ long. seams 7r D.B.S. Diameter of rivet holes in $\left\{ \begin{array}{l} \text{circ. seams } 1 1/4" \\ \text{long. seams } 1 3/16" \end{array} \right.$ Pitch of rivets $\left\{ \begin{array}{l} 3.8" \\ 8 1/16" \end{array} \right.$ Percentage of strength of circ. end seams $\left\{ \begin{array}{l} \text{plate } 67 \\ \text{rivets } 45.7 \end{array} \right.$ Percentage of strength of circ. intermediate seam $\left\{ \begin{array}{l} \text{plate } 86.07 \\ \text{rivets } 86.14 \end{array} \right.$ Percentage of strength of longitudinal joint $\left\{ \begin{array}{l} \text{plate } 86.07 \\ \text{rivets } 86.14 \\ \text{combined } 89.4 \end{array} \right.$ Working pressure of shell by Rules 206.1 lbsThickness of butt straps $\left\{ \begin{array}{l} \text{outer } 7/8" \\ \text{inner } 1" \end{array} \right.$ No. and Description of Furnaces in each Boiler Two Dighton Type 24

Material S Tensile strength 26-30 Tns Smallest outside diameter 3'-8 1/4"

Length of plain part $\left\{ \begin{array}{l} \text{top } 1/2" \\ \text{bottom } 1/2" \end{array} \right.$ Thickness of plates $\left\{ \begin{array}{l} \text{crown } 5/8" \\ \text{bottom } 5/8" \end{array} \right.$ Description of longitudinal joint

Dimensions of stiffening rings on furnace or e.c. bottom Working pressure of furnace by Rules 206 lbs

End plates in steam space: Material S Tensile strength 26-30 Tns Thickness 1 3/32" Pitch of stays 18 1/2" x 18"

How are stays secured nuts inside & outside Working pressure by Rules 208 lbs

Tube plates: Material $\left\{ \begin{array}{l} \text{front } S \\ \text{back } S \end{array} \right.$ Tensile strength $\left\{ \begin{array}{l} 26-30 \text{ Tns} \\ 26-30 \text{ Tns} \end{array} \right.$ Thickness $\left\{ \begin{array}{l} 1" \\ 7/8" \end{array} \right.$ Mean pitch of stay tubes in nests 8 7/8" Pitch across wide water spaces 13 3/4" dia Working pressure $\left\{ \begin{array}{l} \text{front } 215 \text{ lbs} \\ \text{back } 200 \text{ lbs} \end{array} \right.$

Girders to combustion chamber tops: Material S Tensile strength 28-32 Tns Depth and thickness of girder

at centre 9" x 1 1/2" Length as per Rule 2'-7 13/32" Distance apart 10" No. and pitch of stays

in each 3 @ 8 7/8" Working pressure by Rules 203.2 lbs Combustion chamber plates: Material S

Tensile strength 26-30 Tns Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 27/32"

Pitch of stays to ditto: Sides 10" x 8 7/8" Back 9 3/4" x 9 3/4" Top 10" x 8 7/8" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 201 lbs Front plate at bottom: Material S Tensile strength 26-30 Tns

Thickness 1" Lower back plate: Material S Tensile strength 26-30 Tns Thickness 7/8"

Pitch of stays at wide water space 13 1/4" x 9 3/4" Are stays fitted with nuts or riveted over nuts

Working Pressure 203.5 lbs Main stays: Material S Tensile strength 28-32 Tns

Diameter $\left\{ \begin{array}{l} \text{At body of stay, } 3" \\ \text{Over threads } 3" \end{array} \right.$ No. of threads per inch 6 Area supported by each stay 333 in^2

Working pressure by Rules 202 lbs Screw stays: Material S Tensile strength 26-30 Tns

Diameter $\left\{ \begin{array}{l} \text{At turned off part, } 1 3/4" \\ \text{Over threads } 1 3/4" \end{array} \right.$ No. of threads per inch 9 Area supported by each stay 90 1/16 in^2

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Working pressure by Rules 201.18 lbs Are the stays drilled at the outer ends no Margin stays: Diameter 2" ^{At turned off part.}
 No. of threads per inch 9 Area supported by each stay 109 1/16 sq" Working pressure by Rules 226 lbs ^{Over threads}
 Tubes: Material Iron External diameter 3 1/4" Thickness 3/16" No. of threads per inch 9
 Pitch of tubes 4 7/16" Working pressure by Rules 225 lbs Manhole compensation: Size of opening in
 shell plate 16" x 12" Section of compensating ring 2' 10 1/16" x 2' 5 1/16" x 1 5/16" No. of rivets and diameter of rivet holes 28 @ 1 3/16"
 Outer row rivet pitch at ends 8 1/16" 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}
 Internal diameter Working pressure by Rules Thickness of crown ^{Rivets} 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
 Number of elements Material of tubes Manufacturers of ^{Tubes}
 Material of headers Tensile strength ^{Steel castings}
 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 22 inclusive for boilers been complied with

The foregoing is a correct description,
 RANKIN & BLACKMORE, LTD.,

Manufacturer.
 Director.

Dates of Survey { During progress of work in shops - - }
 while { During erection on board vessel - - - }

SEE MACHINERY REPORT

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

Yes.

Total No. of visits

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

This Boiler has been built under Special Survey in accordance with the approved plans & the workmanship & material are of good quality. It is now securely fitted on board. This Report accords with that of the Machinery

Survey Fee ... charged on Mady Ript
 Travelling Expenses (if any) ...

When applied for. 192

When received. 192

W. Gordon-Maclean

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW 19 NOV 1929

Assigned See accompanying machinery report.



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