

REPORT ON BOILERS.

No. 13338

21 JUN 1928

Received at London Office

Writing Report 15.6.1928 When handed in at Local Office 15.6.1928 Port of MIDDLESBROUGH.

Survey held at MIDDLESBROUGH. Date, First Survey See Machinery Report. Last Survey 11.6.1928.

On the donkey boilers of m.v. "GULFBIRD" (Number of Visits) Gross 10848 Tons Net 6370.

Built at Haverton Hill m.Tees By whom built Furness S.B. Co Ltd. Yard No. 122. When built 1928.

Made at Sunderland By whom made Wm. Doxford & Sons Ltd Engine No. 165 When made 1928.

Installed at Middlesbrough By whom made Messrs. Richardsons, Westgarth & Co. Boiler No. 2574 When made 1928.

Horse Power 785. Owners Grief Refining Co. Port belonging to Middlesbrough

TITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel David Colville & Sons Ltd. (Letter for Record S.)

Heating Surface of Boilers 4938 sq. ft. Is forced draught fitted Yes. Coal or Oil fired oil Working Pressure 150 lbs.

Description of Boilers 2 S.B. P. 15.2.28 P. 6614. Can each boiler be worked separately Yes.

by hydraulic pressure to 275 lbs. Date of test S. 23.2.28 No. of Certificate S. 6616. Pressure to which they are adjusted 155 lbs. Are they fitted with easing gear Yes.

No. and Description of safety valves to each boiler Pair Spring loaded. No. of valves per boiler 18.9.24 Pressure to which they are adjusted 155 lbs. Are they fitted with easing gear Yes.

Distance between boilers or uptakes and bunkers or woodwork 2'-0" Is oil fuel carried in the double bottom under boilers Yes.

Distance between shell of boiler and tank top plating 14'-6 15/16" Length 11'-6" Shell plates: Material Steel Tensile strength 28 1/2/32.

Internal dia. of boilers 1 1/2" Are the shell plates welded or flanged no. Description of riveting: circ. seams end D.R. inter. Yes.

Seams T.R.D.B.S. Diameter of rivet holes in circ. seams 1 1/16" Pitch of rivets 3 1/4" 7 1/4"

Percentage of strength of circ. end seams plate 67.3. rivets 42.9. Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 83.3. rivets 89.7. combined 91.4. Working pressure of shell by Rules 156.8

Thickness of butt straps outer 13/16" inner 15/16" No. and Description of Furnaces in each Boiler 3 Corrugated

Material Steel Tensile strength 26/30. Smallest outside diameter 3'-8 1/2"

Thickness of plain part top 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 161 lbs.

Plates in steam space: Material Steel Tensile strength 26/30. Thickness 1 1/2" Pitch of stays 18 1/2" x 16"

Are stays secured D.N.s. Working pressure by Rules 164 lbs.

Plates: Material front Steel Tensile strength 26/30. Thickness 3/4" 1 1/16"

Pitch of stay tubes in nests 9 5/16" Pitch across wide water spaces 13 1/2" Working pressure front 161 lbs. back 193 "

Stays to combustion chamber tops: Material Steel Tensile strength 26/30. Distance apart 8 1/4" Depth and thickness of girder

Centre 8 5/8" x 3/4" (double) Length as per Rule 2'-9 1/4" No. and pitch of stays

Thickness 3-8" Working pressure by Rules 177 lbs. Combustion chamber plates: Material Steel

Thickness: Sides 3/4" Back 3/4" Top 2" Bottom 3/4"

Working pressure by Rules 164 lbs. Front plate at bottom: Material Steel Tensile strength 26/30. Thickness 3/4"

Lower back plate: Material Steel Tensile strength 26/30. Thickness 3/4"

Stays at wide water space 13 1/4" x 8" Are stays fitted with nuts or riveted over nuts.

Working Pressure 190 lbs. Main stays: Material Steel Tensile strength 28 1/2/32.

At body of stay, No. of threads per inch 6. Area supported by each stay 246 sq. in.

At turned off part, No. of threads per inch 9. Area supported by each stay 72 sq. in.

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Working pressure by Rules *173 lbs.* Are the stays drilled at the outer ends *Yes.* Margin stays: Diameter ^{At turned off part,} *1 1/2"* ^{or} *Over threads*

No. of threads per inch *9* Area supported by each stay *84 sq* Working pressure by Rules *150 lbs.*

Tubes: Material *Iron* External diameter ^{Plain} *2 1/2"* ^{Stay} *2 1/2"* Thickness *10WG* ^{1/4", 5/16", 3/8"} No. of threads per inch *9*

Pitch of tubes *3 3/4" x 3 1/16"* Working pressure by Rules *p. 175. s. 171 lbs.* Manhole compensation: Size of opening in shell plate *13" x 16 1/2"* Section of compensating ring *6 3/4" x 1 1/2"* No. of rivets and diameter of rivet holes *34 - 1 1/16"*

Outer row rivet pitch at ends *7 1/4"* 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 *Yes.*

The foregoing is a correct description,
For **RICHARDSONS, WESTGARTH & CO. LIMITED,**

Henry Thomas Manufacturer.
DIRECTOR & SECRETARY

Dates of Survey ^{During progress of} ^{work in shops - -} *See Machinery* Are the approved plans of boiler and superheater forwarded herewith *Yes.* ^(If not state date of approval.)

^{while} ^{building} ^{During erection on} ^{board vessel - -} *Report* Total No. of visits *1.*

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

The materials and workmanship are good.
These boilers have been built under special survey in accordance with the Rules and approved Plan, securely fitted aboard and their safety valves adjusted and tested under steam with satisfactory results.

Survey Fee ... £ *28-19-0* When applied for, *20.6.1928*

Travelling Expenses (if any) £ : : When received, *23.6.1928*

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

Committee's Minute *TUES. 26 JUN 1929*

Assigned

See other Rpt. Indb 13338



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