

## REPORT ON BOILERS.

No. 16615

Received at London Office

24 APR 1928

Date of writing Report

192

When handed in at Local Office

B. H. 8

Port of

WEST HARTLEPOOL

No. in Survey held at

Hartlepool

Date, First Survey

26<sup>th</sup> May/28

Last Survey

4<sup>th</sup> April 1928

on the

M.V. "BRITISH RENOWN"

(Number of Visits)

Tons { Gross  
Net

Master

Built at

Dundee

By whom built

Sir J. Laing &amp; Sons

Yard No.

700

When built

1928

Engines made at

Hartlepool

By whom made

Richardsons Westgarth &amp; Co. Ltd

Engine No.

2659

When made

1928

Boilers made at

Hartlepool

By whom made

Richardsons Westgarth &amp; Co. Ltd

Boiler No.

2659

When made

1928

Nominal Horse Power

139

Owners

Port belonging to

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY. WASTE HEAT.

Manufacturers of Steel

David Colville &amp; Sons Ltd

(Letter for Record S.)

Total Heating Surface of Boilers

2086 4

Is forced draught fitted

Yes

Coal or Oil fired

Oil &amp; waste heat

No. and Description of Boilers

1 Single Endless

Working Pressure

150

Tested by hydraulic pressure to

275

Date of test

30.6.27

No. of Certificate

3404

Can each boiler be worked separately

Area of Firegrate in each Boiler

approved

No. and Description of safety valves to each boiler

2 Direct Spring

Area of each set of valves per boiler

per Rule

16.59" (See Sir letter 9/5/27)

Pressure to which they are adjusted

155 lb

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

✓

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

✓

Is the bottom of the boiler insulated

✓

Largest external dia. of boilers

12.6"

Length

11.6"

Shell plates: Material

S.

Tensile strength

28/32

Thickness

29/32"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

D.R.L.

Long. seams

D.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 1/2"

Pitch of rivets

3 1/2"

Percentage of strength of circ. end seams

plate

68.3

Percentage of strength of circ. intermediate seam

plate

✓

Percentage of strength of longitudinal joint

plate

80.9

Working pressure of shell by Rules

150

Thickness of butt straps

outer

3/4"

No. and Description of Furnaces in each Boiler

2 Morrison

Material

S

Tensile strength

26/30

Smallest outside diameter

2' 8 5/16"

Length of plain part

top

✓

Thickness of plates

crown

13/32"

Description of longitudinal joint

weld

Dimensions of stiffening rings on furnace or c.c. bottom

End plates in steam space: Material

S

Tensile strength

26/30

Thickness

1"

Pitch of stays

16 1/2" x 18"

How are stays secured

Double nuts

Working pressure by Rules

154

Tube plates: Material

front

S

back

S

Tensile strength

26/30

Thickness

1 1/16"

1 1/16"

Lean pitch of stay tubes in nests

11 1/4" x 7 1/2"

Pitch across wide water spaces

13 1/2"

Working pressure

front

165

Girders to combustion chamber tops: Material

S

Tensile strength

26/30

Depth and thickness of girder

At centre

7 1/4" x 1 5/8"

Length as per Rule

2' 5 7/16"

Distance apart

9 1/4"

No. and pitch of stays

At each

3

7"

Working pressure by Rules

154

Combustion chamber plates: Material

S

Tensile strength

26/30

Thickness: Sides

9/16"

Back

9/16"

Top

9/16"

Bottom

9/16"

Pitch of stays to ditto: Sides

8 3/4" x 8 3/4"

Back

8 3/4" x 8 3/4"

Top

7" x 9 1/4"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

150

Front plate at bottom: Material

S

Tensile strength

26/30

Thickness

13/16"

Lower back plate: Material

S

Tensile strength

26/30

Thickness

3/4"

Pitch of stays at wide water space

13" x 8 1/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

192

Main stays: Material

S

Tensile strength

28/32

Diameter

At body of stay,

or

2 1/2" x 2 3/4"

No. of threads per inch

6

Area supported by each stay

16 1/2" x 18"

Working pressure by Rules

151

Screw stays: Material

S

Tensile strength

26/30

Diameter

At turned off part,

or

1 1/2"

No. of threads per inch

9

Area supported by each stay

8 3/4" x 8 1/4"



Working pressure by Rules **173** Are the stays drilled at the outer ends **No** Margin stays: Diameter { At turned off part, **1 5/8"** or Over threads **1 5/8"**  
 No. of threads per inch **9** Area supported by each stay **8 1/4" x 10 7/8"** Working pressure by Rules **169**  
 Tubes: Material **Iron** External diameter { Plain **2 1/2"** Stay **2 1/2"** Thickness { **10 W.C.** **1/4"** **5/16"** **3/8"** No. of threads per inch **9**  
 Pitch of tubes **3 3/4" x 3 3/4" W. 3 5/8" C.** Working pressure by Rules **166** Manhole compensation: Size of opening in shell plate **12" x 16"** Section of compensating ring **10 7/8" x 29"** No. of rivets and diameter of rivet holes **28 1 1/2"**  
 Outer row rivet pitch at ends **5 3/4"** Depth of flange if manhole flanged **1 1/2"** Steam Dome: Material **Iron**  
 Tensile strength **40,000** Thickness of shell **1/2"** Description of longitudinal joint **Butt joint**  
 Diameter of rivet holes **1 1/8"** Pitch of rivets **2 1/2"** Percentage of strength of joint { Plate **100%** Rivets **100%**  
 Internal diameter **24"** Working pressure by Rules **166** Thickness of crown **1/2"** No. and diameter of stays **12 1/2"** Working pressure by Rules **166**  
 How connected to shell **By a flange** Size of doubling plate under dome **12" x 16"** Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell **28 1 1/2"**

**Type of Superheater**

Number of elements **1** Material of tubes **Iron** Manufacturers of { Tubes **W. & A. R. Co.** Steel castings **W. & A. R. Co.**  
 Material of headers **Iron** Tensile strength **40,000** Thickness **1/2"** Can the superheater be shut off and the boiler be worked separately **Yes**  
 Area of each safety valve **1 1/2"** Are the safety valves fitted with easing gear **Yes** Working pressure as per Rules **166** Hydraulic test pressure: **200 lbs.**  
 tubes **Castings** and after assembly in place **Yes** Are drain cocks or valves fitted to free the superheater from water where necessary **Yes**  
 Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with **Yes**

The foregoing is a correct description.  
**FOR RICHARDSON, WESTGARTH & CO. LIMITED**

Manufacturer.

Dates of Survey { During progress of work in shops - - **See machinery report**  
 while building { During erection on board vessel - - **See machinery report**  
 Are the approved plans of boiler and superheater forwarded herewith **Yes**  
 (If not state date of approval.)  
 Total No. of visits **2**

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

*This boiler has been built under Special Survey. The materials and workmanship are good and efficient. It has been fitted and secured in the ship, and examined under steam, and safety valves adjusted.*

Survey Fee **£ 13 : 18 : 0** When applied for **23.4.1928**  
 Travelling Expenses (if any) **£ :** When received **27.4.1928**

**R. D. Shilton Robert Rae**

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **TUES. 1 MAY 1928**

Assigned **See Ref. apt. attached**



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 Lloyd's Register  
 Foundation

RECEIVERS  
 the internal surfaces of the  
 are a drain arrangement  
 Pressure Air Receiv  
 ss, lap welded or riveted  
 ing Air Receivers, No.  
 ss, lap welded or riveted

Ballast Pumps, No.  
 Are two independent me  
 Pumps, No. and size:  
 in Holds, &c.  
 Independent Power  
 are all the Bilge Suction  
 d from easily accessible  
 are all Sea Connection  
 are they fixed sufficiently h  
 are they each fitted with a  
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 Auxiliary Air Compress  
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 reving Air Pumps,  
 liary Engines crank s

Built at **Swansea**  
 Auxiliary  
 Engines made  
 Donkey Boiler  
 Brake Horse 1  
 Nom. Horse Po  
 Trade for which  
 Auxiliary  
 OIL ENGINE  
 Maximum pressure  
 Span of bearings, ad  
 Revolutions per min  
 Crank Shaft, dia.  
 Flywheel Shaft,  
 Tube Shaft, diam  
 Bronze Liners, thi  
 propeller boss  
 If the liner does not fi  
 If two liners are fitte  
 end of the tube shaft  
 Pumps connected to t  
 Ballast Pumps, No.  
 Are two independent me  
 Pumps, No. and size:  
 in Holds, &c.  
 Independent Power  
 are all the Bilge Suction  
 d from easily accessible  
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