

# REPORT ON BOILERS.

No. 18362

11 DEC 1942

Date of writing Report 10/12/1942 When handed in at Local Office

10/12/1942 Port of West Hartlepool

No. in Reg. Book. Survey held at

Hartlepool

Date, First Survey 7th September, 1942 Last Survey 30th November 1942

on the

M.V. "British Purpose"

(Number of Visits 25) Gross 5845 Tons Net 3164

Built at Haverton Hill

By whom built Furness Shipbuilding Co. Ltd.

Yard No. 348 When built 1942

Engines made at Sunderland

By whom made Doxford &amp; Co. Ltd.

Engine No. When made 1

Boilers made at Hartlepool

By whom made Richard Smith Westgarth &amp; Co.

Boiler No. 2728 When made "

Nominal Horse Power 235

Owners British Tanker Co. Ltd. Port belonging to London.

## MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Co. of Scotland

(Letter for Record S)

Total Heating Surface of Boilers 3530

Is forced draught fitted Yes

Coal or Oil fired

No. and Description of Boilers 2 S.E. Multitubular

Working Pressure 150 LB/SQ IN

Tested by hydraulic pressure to 275

Date of test 16/11/42

No. of Certificate 3986

Can each boiler be worked separately Yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler 2 1/2" C.I. Improved H.L. double

Area of each set of valves per boiler

per Rule 6.7 sq in

as fitted 9.8 sq in

Pressure to which they are adjusted 150 LB/SQ IN

Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Yes

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 Yes

Largest internal dia. of boilers 12'-4 3/8"

Length 11'-0"

Shell plates: Material Steel

Tensile strength 30/34

Thickness 13/16"

Are the shell plates welded or flanged NO

Description of riveting: circ. seams

end 3.08"

long. seams T.R.D.B.S.

Diameter of rivet holes in

circ. seams 15/16"

long. seams 7/8"

Pitch of rivets

6 3/16"

Percentage of strength of circ. end seams

plate 69.7

rivets 42.3

Percentage of strength of circ. intermediate seam

plate 85.9

rivets 85.9

Percentage of strength of longitudinal joint

plate 85.9

rivets 85.9

Thickness of butt straps

outer 5/8"

inner 3/4"

No. and Description of Furnaces in each Boiler 2 Dighton (gowlay neck)

Material Steel

Tensile strength 26/30

Smallest outside diameter 3'-7 1/16"

Length of plain part

top

bottom

Thickness of plates

crown 15/32"

bottom 15/32"

Description of longitudinal joint welded

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

End plates in steam space: Material Steel

Tensile strength 26/30

Thickness 15/16"

Pitch of stays 18" x 14"

How are stays secured double nuts

Tube plates: Material

front Steel

back Steel

Tensile strength 26/30

Thickness 15/16"

3/4"

Mean pitch of stay tubes in nests 9 3/8"

Pitch across wide water spaces 13 1/2"

Girders to combustion chamber tops: Material Steel

Tensile strength 28/32

Depth and thickness of girder

at centre 7 3/4" 2 @ 5/8"

Length as per Rule 2'-6 1/2"

Distance apart 9"

No. and pitch of stays

in each 2 @ 9 3/8"

Combustion chamber plates: Material Steel

Tensile strength 26/30

Thickness: Sides 5/8"

Back 3/4"

Top 5/8"

Bottom 5/8"

Pitch of stays to ditto: Sides 9" x 9 3/8"

Back 9" x 7 1/2"

Top 9" x 9 3/8"

Are stays fitted with nuts or riveted over nuts

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 1/2"

Are stays fitted with nuts or riveted over nuts

Main stays: Material Steel

Tensile strength 28/32

Diameter

At body of stay 2 3/8"

Over threads

No. of threads per inch 6

Screw stays: Material Steel

Tensile strength 26/30

Diameter

At turned off part 1 1/2"

Over threads

No. of threads per inch 9

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Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part,  $1\frac{3}{4}$ " or  $1\frac{5}{8}$ " Over threads }  
 No. of threads per inch 9  
 Tubes: Material *SD Steel* External diameter { Plain  $2\frac{1}{2}$ " Stay  $2\frac{1}{2}$ " } Thickness {  $\frac{10}{16}$ "  $\frac{5}{16}$ " } No. of threads per inch 9  
 Pitch of tubes  $3\frac{3}{4}$ " Manhole compensation: Size of opening in shell plate  $20\frac{1}{4}" \times 16\frac{1}{4}"$  Section of compensating ring  $2'3\frac{1}{2}" \times 2'7\frac{1}{2}" \times 1\frac{1}{16}"$  No. of rivets and diameter of rivet holes  $36 - 1\frac{1}{16}"$   
 Outer row rivet pitch at ends  $6\frac{3}{16}"$  Depth of flange if manhole flanged  $3\frac{1}{2}"$  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 ☒ Thickness of crown ☒ No. and diameter of stays ☒  
 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 forgings ☒ 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 ☒  
 Pressure to which the safety valves are adjusted ☒ Hydraulic test pressure: tubes ☒ forgings and 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,  
 For RICHARDSON, WESTGARTH & Co. LIMITED.  
*W. J. Hume* DIRECTOR Manufacturer.

Dates of Survey { During progress of work in shops - - 1942 Sep 7-11-15-17-18-23-25-29-30 Oct 5-12-19-20-22 } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
 while building { During erection on board vessel - - 26-30 Nov. 6-9-11-12-16-17-25-27-30. }  
 Total No. of visits 25

Is this Boiler a duplicate of a previous case ☒ If so, state Vessel's name and Report No. ☒

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

The boilers have been constructed under Special Survey & in accordance with the approved plan for a working pressure of 150 lb.  
 The material & workmanship have been found good.  
 Upon completion the boilers were tested with a hydraulic pressure of 275 lb./sq. & found sound & tight.  
 These boilers have been forwarded to Haverton Hill.  
 These boilers have now been securely fitted on board & examined under working conditions & found satisfactory.  
 The safety valves adjusted under steam to 150 lb./sq. on completion.  
 [NOTE: Steam pipes of "BESSEMER STEEL" to be submitted for examination in 4 years]

Survey Fee ... £ 23 : 10 : - When applied for, 10/12/1942  
 Travelling Expenses (if any) £ : : When received, 19

Committee's Minute

FRI. 14 MAY 1943

Assigned

*See for machine rpt*

*Sld 3382*

*Clive Bell*  
 Engineer Surveyor to Lloyd's Register of Shipping.



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