

## REPORT ON BOILERS.

No. 11987

Received at London Office

AUG 4 1937

Date of writing Report

1937

When handed in at Local Office

3. 8.

1937

Port of Belfast

Please see accompanying report

Date, First Survey

Last Survey 3-8-37

1932

No. in Survey held at

Belfast

No. in Book

on the

M.V.

BRITISH SECURITY

(Number of Visits)

Tons

Gross 8470-35

Net 4978-70

Master

Built at Govan

By whom built Harland &amp; Wolff Ltd

Yard No. 9746

When built 1937

Engines made at

Glasgow

By whom made

Harland &amp; Wolff Ltd

Engine No. 974

When made 1937

Boilers made at

Belfast

By whom made

Harland &amp; Wolff Ltd

Boiler No. 9746

When made 1937

Nominal Horse Power

Owners

British Tanker Co. Ltd

Port belonging to

London.

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Colvilles Ltd

(Letter for Record S)

Total Heating Surface of Boilers

1495<sup>sq</sup> ft

Is forced draught fitted

Yes

Coal or Oil fired

Oil

No. and Description of Boilers

One S.E. cylindrical

Working Pressure 150 lbs

Tested by hydraulic pressure to

275 lbs

Date of test 20-7-37

No. of Certificate 1033

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

One 2" double spring High lift (app.)

Area of each set of valves per boiler

per Rule 5.7<sup>sq</sup> ft

Pressure to which they are adjusted

150

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

dup tank

Yes

Smallest distance between shell of boiler and tank top plating

1'-6"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

11'-4<sup>13</sup>/<sub>32</sub>"

Length

11'-7"

Shell plates: Material

S

Tensile strength

29/30 tons

Thickness

5<sup>1</sup>/<sub>4</sub>"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

inter.

end

Double

long. seams

J.R.D.B.

Diameter of rivet holes in

circ. seams 1"

long. seams 1<sup>1</sup>/<sub>4</sub>"

Pitch of rivets

2.993"

6.375"

Percentage of strength of circ. end seams

plate

66.7

rivets

48.4

52.3

Percentage of strength of circ. intermediate seam

plate

-

rivets

Percentage of strength of longitudinal joint

plate

85.2

rivets

100.1

combined

90.6

Working pressure of shell by Rules

155 lbs

Thickness of butt straps

outer

5/8"

inner

3/4"

No. and Description of Furnaces in each Boiler

Two Dighton

Material

S

Tensile strength

26/30 tons

Smallest outside diameter

35<sup>7</sup>/<sub>8</sub>"

Length of plain part

top

bottom

Thickness of plates

crown

7/16"

Description of longitudinal joint

Weld

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

Yes

Working pressure of furnace by Rules

174 lbs

End plates in steam space: Material

S

Tensile strength

26/30

Thickness

3/32"

Pitch of stays 16" x 16"

How are stays secured

Double nuts

Working pressure by Rules

168 lbs

Tube plates: Material

front

S

back

Tensile strength

26/30 tons

Thickness

3<sup>1</sup>/<sub>32</sub>"

13/16"

Mean pitch of stay tubes in nests

9.375"

Pitch across wide water spaces

13<sup>1</sup>/<sub>2</sub>"

Working pressure

front 167.5"

back 269.

Girders to combustion chamber tops: Material

S

Tensile strength

25/32 tons

Depth and thickness of girder

at centre

8<sup>3</sup>/<sub>4</sub> x 13<sup>1</sup>/<sub>4</sub>"

Length as per Rule

34<sup>1</sup>/<sub>2</sub>"

Distance apart

11<sup>1</sup>/<sub>2</sub>"

No. and pitch of stays

in each

3 at 9"

Working pressure by Rules

157.3 lbs

Combustion chamber plates: Material

S

Tensile strength

26/30 tons

Thickness: Sides

1<sup>1</sup>/<sub>4</sub>"

Back

1<sup>1</sup>/<sub>4</sub>"

Top

1<sup>1</sup>/<sub>4</sub>"

Bottom

3/4"

Pitch of stays to ditto: Sides

9 x 9"

Back

8<sup>3</sup>/<sub>8</sub> x 8<sup>3</sup>/<sub>8</sub>"

Top

9 x 11<sup>1</sup>/<sub>2</sub>"

Are stays fitted with nuts or riveted over

other nutted

Working pressure by Rules

155 lbs

Front plate at bottom: Material

S

Tensile strength

26/30 tons

Thickness

3<sup>1</sup>/<sub>32</sub>"

Lower back plate: Material

S

Tensile strength

26/30 tons

Thickness

3/32"

Pitch of stays at wide water space

13 x 8<sup>3</sup>/<sub>8</sub>"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

208 lbs

Main stays: Material

S

Tensile strength

25/32 tons

Diameter

At body of stay,

2<sup>1</sup>/<sub>2</sub>"

Over threads

No. of threads per inch

6

Area supported by each stay

240<sup>sq</sup> in

Working pressure by Rules

184.6 lbs

Screw stays: Material

S

Tensile strength

26/30 tons

Diameter

At turned off part,

1<sup>1</sup>/<sub>2</sub>"15<sup>1</sup>/<sub>8</sub>"13<sup>1</sup>/<sub>4</sub>"

No. of threads per inch

9

Area supported by each stay

81<sup>sq</sup> in70.4<sup>sq</sup> in108.5<sup>sq</sup> in

W1140-0194

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Working pressure by Rules 154.64 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 89.4" Working pressure by Rules 1704  
Tubes: Material W.L. External diameter { Plain 2 1/2" Thickness 10159 No. of threads per inch 9  
Pitch of tubes 3 3/4" x 3 3/4" Working pressure by Rules 166.54 Manhole compensation: Size of opening in  
shell plate 16 1/2" x 12 1/2" Section of compensating ring 2'8" x 3'0" x 3/4" No. of rivets and diameter of rivet holes 28 - 1 3/16"  
Outer row rivet pitch at ends 9" Depth of flange if manhole flanged  
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

Number of elements Material of tubes Manufacturers of { Tubes Steel castings  
Material of headers Tensile strength Internal diameter and thickness of tubes  
the boiler be worked separately Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Can the superheater be shut off and  
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 Yes

FOR HURLAND AND WOLFE LIMITED

The foregoing is a correct description,

W. J. Marshall Manufacturer.

Assistant Secretary.

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

Are the approved plans of boiler and superheater forwarded herewith Yes  
(If not state date of approval.)  
Total No. of visits

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

This boiler has been constructed under special survey & to an approved design. The materials & workmanship are good. It has been tested by hydraulic pressure in accordance with the Rules & is eligible in my opinion for use on a vessel classed with the Society. It is intended for use on a vessel building at Govan.

This boiler has been efficiently installed on the M.V. "British Samity" the safety valves adjusted under steam & tested for accumulation. The boiler has been examined under working conditions & found satisfactory.  
T. O'Meara

Survey Fee ... £ 10 : 0 : 0 When applied for, 3. 8. 1937  
Travelling Expenses (if any) £ : : When received, 2. 8. 1937

Committee's Minute TUE 11 JAN 1938

Assigned See No 59141

Charles J. Hunter  
Engineer Surveyor to Lloyd's Register of Shipping.



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