

REPORT ON BOILERS.

No. 12209

SEP -2 1938.

Received at London Office

Date of writing Report

19

When handed in at Local Office

19 Sept, 1938

Port of Belfast

No. in Surrey held at
Reg. Book.

Belfast

Date, First Survey

See accompanying report

Last Survey

26th Oct. 1938

on the

Se. M.V. "BRITISH FIDELITY"

(Number of Visits)

Gross 8465

Tons

Net 4906

Master

Built at

Glasgow.

By whom built

Harland & Wolff Ltd

Yard No. 1016

When built 1938

Engines made at

Govan

By whom made

Harland & Wolff Ltd

Engine No. 10106

When made 1938

Boilers made at

Belfast

By whom made

Harland & Wolff Ltd

Boiler No. 10106

When made 1938

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

1495⁰

Is forced draught fitted

yes

Coal or Oil fired

Oil.

No. and Description of Boilers

One S.E. cylindrical

Working Pressure 150

Tested by hydraulic pressure to

275 lb.

Date of test

12 Aug '38

No. of Certificate

1048

Can each boiler be worked separately

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

One double spring 2" High lift app.

Area of each set of valves per boiler

per Rule

5.7⁰

as fitted

6.28⁰

Pressure to which they are adjusted

150 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

well clear

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

and deck 18"

Is the bottom of the boiler insulated

ash mats

Largest internal dia. of boilers

11-4³/₃₂"

Length

11'-7"

Shell plates; Material

S

Tensile strength

29/33 tons

Thickness

5¹/₆₄"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end DR.

long. seams

T.R. DBS.

Diameter of rivet holes in

circ. seams

3¹/₃₂"

long. seams

29/32"

Pitch of rivets

2.993"

Percentage of strength of circ. end seams

plate

67.6%

rivets

49.2%

Percentage of strength of circ. intermediate seam

plate

✓

Percentage of strength of longitudinal joint

plate

85.7%

rivets

94.4%

combined

90.4%

Working pressure of shell by Rules

155 lb.

Thickness of butt straps

outer 5/8"

inner 3/4"

No. and Description of Furnaces in each Boiler

2 Dighton.

Material

S.

Tensile strength

26/30 tons

Smallest outside diameter

35 7/8"

Length of plain part

top

Thickness of plates

crown 7/16"

bottom

Description of longitudinal joint

Weld.

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

Working pressure of furnace by Rules

174

End plates in steam space; Material

S

Tensile strength

26/30 tons

Thickness

31/32"

Pitch of stays

16" x 16"

How are stays secured

D.N.

Working pressure by Rules

168 lb.

Tube plates; Material

front S

back

Tensile strength

26/30 tons

Thickness

31/32"

13/16"

Mean pitch of stay tubes in nests

9.375"

Pitch across wide water spaces

13 1/2"

Working pressure

front 196 lb.

back 269 lb.

Girders to combustion chamber tops; Material

S

Tensile strength

28/32 tons

Depth and thickness of girder

at centre

8 3/4" x 1 3/4"

Length as per Rule

34 1/2"

Distance apart

11 1/2"

No. and pitch of stays

in each

3 @ 9"

Working pressure by Rules

157.3 lb.

Combustion chamber plates; Material

S.

Tensile strength

26/30 tons

Thickness: Sides

1 1/2"

Back

1 1/2"

Top

1 1/6"

Bottom

3/4"

Pitch of stays to ditto: Sides

9" x 9"

Back

8 3/8" x 8 3/8"

Top

9" x 11 1/2"

Are stays fitted with nuts or riveted over

Sides nuts both ends.

Margin " " "

Others " backends only.

Working pressure by Rules

155 lb.

Front plate at bottom: Material

S.

Tensile strength

26/30 tons

Thickness

31/32"

Lower back plate: Material

S.

Tensile strength

26/30 tons

Thickness

31/32"

Pitch of stays at wide water space

13" x 8 3/8"

Are stays fitted with nuts or riveted over

Nuts:

Working Pressure

208 lb.

Main stays: Material

S.

Tensile strength

28/32 tons

Diameter

At body of stay,

2 1/2"

Over threads

No. of threads per inch

Area supported by each stay

240⁰

Working pressure by Rules

184.6 lb.

Screw stays: Material

S.

Tensile strength

26/30 tons

Diameter

At turned off part,

1 1/2"

Over threads

1 5/8"

1 3/4"

No. of threads per inch

Area supported by each stay

81⁰70.4⁰108.5⁰

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 1 5/8"
No. of threads per inch 9 Area supported by each stay 89.4" Working pressure by Rules 1704
Tubes: Material W.I. External diameter { Plain 2 1/2" Thickness { 10454 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 12 1/2" x 16 1/2" Section of compensating ring 2'-8" x 3' x 3/4" No. of rivets and diameter of rivet holes 28 - 1 5/32"
Outer row rivet pitch at ends 9" Depth of flange if manhole flanged Mr. Rule down 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 22 inclusive for boilers been complied with

The foregoing is a correct description,
For HARLAND AND WOLFF, LIMITED.
A. J. Marshall Manufacturer.

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

Are the approved plans of boiler and superheater forwarded herewith 4th May 1938
(If not state date of approval.)
Total No. of visits

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. Belfast N° 11987

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been constructed under Special survey & to an approved design. The workmanship and materials 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 satisfactorily fitted on board, tried under full working conditions, and found sound and tight. The safety valves have been adjusted under steam to 150 lbs. per sq. inch, and is eligible in my opinion for the record + D.B.
W.P. 150 lbs.

Survey Fee ... £ 10 : 0 :
Travelling Expenses (if any) £ : :
When applied for, 1st Sept 1938
When received, 3/12 1938
mmk 5/12

G. E. Murdoch
Check of Hunter.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 25 OCT 1938

Assigned See No 60320



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Foundation