

REPORT ON BOILERS.

JAN 21 1939

No. 12.223

Received at London Office

OCT 10 1938

Date of writing Report

19

When handed in at Local Office

8. 10. 1938

Port of Belfast

No. in Survey held at Belfast

Date, First Survey 29-11-37 Last Survey 23-9-1938

Reg. Book.

on the

M.V. British Trust

(Number of Visits 19) Gross 8466 Tons Net 4913

* Master

Built at

Govan

By whom built

Harland & Wolff Ltd

Yard No. 1011 G

When built 1939

Engines made at

Govan

By whom made

Harland & Wolff Ltd

Engine No. 1011 G When made 1938

Boilers made at

Belfast

By whom made

Harland & Wolff Ltd

Boiler No. 1011 G 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

2602

Is forced draught fitted

Coal or Oil fired & Gas

No. and Description of Boilers

One cylindrical with gas flue in centre

Working Pressure 150 lbs

Tested by hydraulic pressure to

275 lbs

Date of test 23-9-38

No. of Certificate 1051

Can each boiler be worked separately Yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler One 2 3/4" double opening HL app

Area of each set of valves per boiler

(per Rule 9.85"

as fitted 11.88"

Pressure to which they are adjusted

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

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Largest internal dia. of boilers

13'-4 3/4"

Length 11'-6"

Shell plates: Material S

Tensile strength 29/32 ton

Thickness

29/32

Are the shell plates welded or flanged No

Description of riveting: circ. seams end DR.

Long. seams

T.R. 085.

Diameter of rivet holes in

circ. seams 1 1/32"

long. seams 3 1/32"

Pitch of rivets

3.012"

Percentage of strength of circ. end seams

plate 65.7

rivets 48.75

Percentage of strength of circ. intermediate seams

plate

Percentage of strength of longitudinal joint

plate 86.14

rivets 84.6

combined 89.6

Working pressure of shell by Rules 158.3 lbs

Thickness of butt straps

outer 1 1/16"

inner 1 3/16"

No. and Description of Furnaces in each Boiler Two Dighton

Material

S

Tensile strength

26/30 ton

Smallest outside diameter 35 1/8"

Length of plain part

top

bottom

Thickness of plates

woven 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 lbs

End plates in steam space: Material

S

Tensile strength

26/30 ton

Thickness 1 1/32"

Pitch of stays 20 1/2" x 16 1/2"

How are stays secured

D.N.

Working pressure by Rules 165

Tube plates: Material

front S

back

Tensile strength

26/30 ton

Thickness

29/32"

13/16"

Mean pitch of stay tubes in nests

9.8"

Pitch across wide water spaces 13 3/4"

Working pressure

front 163.6 lbs

back 247 lbs

Girders to combustion chamber tops: Material

S

Tensile strength

25/32 ton

Depth and thickness of girder

at centre 8" x 1 3/4"

Length as per Rule 30 5/32"

Distance apart 11 3/4"

No. and pitch of stays

in each 3 @ 7 1/4"

Working pressure by Rules 159 lbs

Combustion chamber plates: Material S

Tensile strength

26/30

Thickness: Sides 1 1/16"

Back 23/32"

Top 1 1/16"

Bottom 3/4"

Pitch of stays to ditto: Sides 7 1/4" x 10 1/2"

Back 9 x 8

Top 11 3/4" x 7 1/4"

Are stays fitted with nuts or riveted over others "backs only."

Working pressure by Rules

167 lbs

Front plate at bottom: Material S

Tensile strength

26/30 ton

Thickness

29/32"

Lower back plate: Material S

Tensile strength

26/30 ton

Thickness

15/16"

Pitch of stays at wide water space

13" x 9"

Are stays fitted with nuts or riveted over Nuts

Working Pressure

259 lbs

Main stays: Material S

Tensile strength

25/32 ton

Diameter

At body of stay, 2 5/8"

Over threads

No. of threads per inch 6

Area supported by each stay 316"

Working pressure by Rules

160 lbs

Screw stays: Material S

Tensile strength

26/30 ton

Diameter

At turned off part, 1 1/2"

Over threads 1 5/8" 2"

No. of threads per inch 9

Area supported by each stay 76" 55.25"

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Working pressure by Rules 165 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 94" Working pressure by Rules 160 lb

Tubes: Material W.I. External diameter ^{Plain} 2 3/4" C. ^{2 1/2" wire} Thickness ^{10 LSG} 1/4" 5/16" 3/8" 1/2" No. of threads per inch 9

Pitch of tubes 3 3/4" x 3 5/8" W. 4" x 3 7/8" C. Working pressure by Rules 178 lb Manhole compensation: Size of opening

shell plate 16 1/2" x 12 1/2" Section of compensating ring 2' 8" x 3' 0" x 1 3/4" No. of rivets and diameter of rivet holes 28 - 1 7/32"

Outer row rivet pitch at ends 9" Depth of flange if manhole flanged McNeil 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

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

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

FOR HARLAND AND WOLFF, LIMITED,
The foregoing is a correct description,
As Marshall Secretary

1937
Dates of Survey ^{During progress of work in shops - -} Nov. 29 Dec 14 Mar 11 Apr 7 15
^{while building} ^{During erection on board vessel - -} May 6 17 20 June 7 14 23 July 7 19 28 29 Aug 8 16 31 Sept 23

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) Yes.

Total No. of visits 19

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. Belfast op No 12209

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

This boiler has been constructed under special survey & to an approved design. The material and workmanship are good. It has been satisfactorily tested by hydraulic pressure in accordance with the Rules. It is intended for a vessel building at Govan. This boiler has been satisfactorily fitted on board. Safety valves afterwards adjusted under steam to 150 lbs per sq. inch and found sound and tight. Safety valve washers P. 25/64" S. 21/64" Position Starboard Boiler

G. E. Murdoch.

Survey Fee ... £ 17 : 6 : 0 When applied for, 8 - 10 - 19 38

Travelling Expenses (if any) £ : : When received, 16. 11. 19 38 (per L. L. L.)

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

Committee's Minute
Assigned
TUE 24 JAN 1939
See fls. J.E. 60600