

Rpt. 5a.

## REPORT ON BOILERS

No. 11808

-8 SEP 1936

Received at London Office

Date of writing Report

19

When handed in at Local Office

1<sup>st</sup> Sept 1936

Port of Belfast

No. in  
Reg. Book.

Survey held at

Belfast

Date, First Survey

12<sup>th</sup> Feb, 1936

Last Survey

21 Aug 1936

on the

M.V. "BRITISH POWER"

(Number of Visits 21)

Gross 8334

Tons Net 4973

Master

Built at

Gouan

By whom built

Harland &amp; Wolff Ltd

Yard No. 9686

When built 1936

Engines made at

Glasgow

By whom made

Harland &amp; Wolff Ltd.

Engine No. 9684

When made 1936

Boilers made at

Belfast

By whom made

Harland &amp; Wolff Ltd.

Boiler No. 9686

When made 1936

Nominal Horse Power

Owners

British Tanker Co. Ltd.

Port belonging to

London

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR~~ DONKEY.

Manufacturers of Steel

Colvilles Ltd

Total Heating Surface of Boilers

2602 sq

Is forced draught fitted

Yes

(Letter for Record S)

No. and Description of Boilers

One S.E. cylindrical with exhaust gas flue

Coal or Oil fired or exh gas

Tested by hydraulic pressure to

275 lbs

Date of test

31.7.36

No. of Certificate 1021

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

19.71 sq

No. and Description of safety valves to each boiler

1.2 3/4" double opening High lift (app.)

Area of each set of valves per boiler

as fitted 11.88 sq

Pressure to which they are adjusted

X

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

1'-6"

Is oil fuel carried in the ~~double bottom~~ under boilers

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

13'-4 3/16"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength 29/33 tons

Thickness

29/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end double

inter. 3.0/2"

Pitch of rivets

7"

long. seams

treble

Diameter of rivet holes in

circ. seams 1 1/16"

long. seams 1"

Percentage of strength of circ. intermediate seam

plate

rivets 89.92

Working pressure of shell by Rules

152 lbs

Percentage of strength of circ. end seams

plate 64.52

rivets 50.62

Percentage of strength of longitudinal joint

plate 85.72

rivets 92.62

combined 89.92

Thickness of butt straps

outer 1 1/16"

inner 1 3/16"

No. and Description of Furnaces in each Boiler

2 Dighton.

Tensile strength

26/30 tons

Smallest outside diameter

2'-11 7/8"

Description of longitudinal joint

Weld

Working pressure of furnace by Rules

159 lbs

Tensile strength

26/30 tons

Thickness

1/32"

Pitch of stays

24 1/2" x 16 1/2"

Working pressure by Rules

165 lbs

Tensile strength

26/30 tons

Thickness

29/32"

Pitch across wide water spaces

13 3/4"

Working pressure

front 163.6 lb

Tensile strength

28/32 tons

Thickness

1 1/16"

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

nuts

Working pressure by Rules

167 lbs

Thickness

29/32"

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons

Thickness

15/16"

Pitch of stays at wide water space

13"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

289 lbs

Main stays: Material

Steel

Tensile strength

28/32 tons

Diameter

At body of stay, 2 5/8"

Over threads

No. of threads per inch

6

Area supported by each stay

310 sq

Working pressure by Rules

160 lbs

Screw stays: Material

Steel

Tensile strength

26/30 tons

Diameter

At turned off part, 1 1/2" 1 5/8" 2"

Over threads

No. of threads per inch

9

Area supported by each stay

76" 15 1/2"

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Working pressure by Rules 165 lb 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" W. Thickness { 10 L.S.G. No. of threads per inch 9  
Stay 2 3/4" C. 2 1/2" W.

Pitch of tubes 4" x 3 7/8" C. 3 3/4" x 3 5/8" W. Working pressure by Rules 178 lb Manhole compensation: Size of opening in shell plate 16 x 12" Section of compensating ring 2'8" x 3'0" x 1 3/4" No. of rivets and diameter of rivet holes 28 - 1 1/4"

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

How connected to shell Inner radius of crown Working pressure by Rules

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 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.  
Assistant Secretary.

Dates of Survey { During progress of work in shops - - - 18. 22. 30 July 6. 9. 14. 21. 23. 27. 29. 30. 31 Aug 19. 21  
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 21

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.)

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

This boiler has been efficiently secured on board the M.V. "British Power." The safety valves have been adjusted under steam and tested for accumulation of pressure, and the boiler tried under working conditions and found satisfactory.

*H. Campbell.*  
Glasgow.

Survey Fee ... £ 17 : 6 : 0 When applied for, 7<sup>th</sup> Sept, 19 36  
Travelling Expenses (if any) £ : : When received, 26. 9. 19 36 (per L. L. L.)

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

Committee's Minute GLASGOW 22 DEC 1936

Assigned SEE ACCOMPANYING MACHINERY REPORT