

REPORT ON BOILERS.

No. 13354

26 OCT 1942

Date of writing Report

19

When handed in at Local Office

19

Port of

Belfast

No. in Survey held at
Reg. Book.

Belfast

Date, First Survey

Last Survey

28th Oct

1943.

(Number of Visits)

Gross

Tons

Net

on the

M.V. "Empire Traveller" 608459

Built at

Belfast

By whom built

Harland & Wolff Ltd

Yard No.

1189

When built

1943

Engines made at

Glasgow

By whom made

do

Engine No.

1189

When made

1943

Boilers made at

Belfast

By whom made

Harland & Wolff Ltd

Boiler No.

60

8459

When made

1942

Nominal Horse Power

Owners

Port belonging to

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

Manufacturers of Steel

Colville & Co

(Letter for Record)

S

Total Heating Surface of Boilers

1918 sq ft

Is forced draught fitted

yes

Fuel or Oil fired

EXHS GAS

No. and Description of Boilers

1 Single ended multitubular

Working Pressure

150 lbs

Tested by hydraulic pressure to

275 lbs

Date of test

19.8.42

No. of Certificate

1197

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2 1/4" Double Spring Improved H.L.

Area of each set of valves per boiler

per Rule

3.63 sq in

Pressure to which they are adjusted

150 lbs

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

3' 0"

Is the bottom of the boiler insulated

yes. Mats

Largest internal dia. of boilers

12' 6"

Length

11' 0"

Shell plates: Material

Steel

Tensile strength

29.33 tons

Thickness

7/8"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

inter.

long. seams

TR. DBS.

Diameter of rivet holes in

circ. seams

1 3/32"

long. seams

1 1/32"

Pitch of rivets

3.038"

6 1/6"

Percentage of strength of circ. end seams

plate

6.4

rivets

56.1

Percentage of strength of circ. intermediate seam

plate

84.6

rivets

106.7

Percentage of strength of longitudinal joint

plate

84.6

rivets

106.7

combined

90.5

Working pressure of Shell by Rules 154.6 lbs

Thickness of butt straps

outer

11/16"

inner

13/16"

No. and Description of Furnaces in each Boiler

Two Corrugated 'Deighton' Section

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

42"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

1/2"

Description of longitudinal joint

Fire weld

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

End plates in steam space: Material

Steel

Tensile strength

26-30 tons

Thickness

15/16"

Pitch of stays

various

How are stays secured

nuts and washers inside and outside

Tube plates: Material

front

Steel

back

Steel

Tensile strength

26-30 tons

26-30 tons

Thickness

7/8"

13/16"

Mean pitch of stay tubes in nests

8.54"

Pitch across wide water spaces

13 1/2"

Girders to combustion chamber tops: Material

Steel

Tensile strength

29-32 tons

Depth and thickness of girder

at centre

8 1/2" x 2" x 3/4"

Length as per Rule

29.94"

Distance apart

11"

No. and pitch of stays

in each

3 @ 7 1/4"

Combustion chamber plates: Material

Steel

Tensile strength

26-30 tons

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Bottom

3/4"

Pitch of stays to ditto: Sides

8 1/2" x 9 3/4"

Back

8" x 9 1/4"

Top

7 1/4" x 11"

Are stays fitted with nuts or riveted over

all others riveted over

Front plate at bottom: Material

Steel

Tensile strength

26-30 tons

Thickness

7/8"

Lower back plate: 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

riveted over

Main stays: Material

Steel

Tensile strength

28-32 tons

Diameter

At body of stay

2 1/2"

or

Over threads

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

Diameter

At turned off part

or

Over threads

1 1/2", 1 5/8", 2"

No. of threads per inch

9



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Foundation

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Are the stays drilled at the outer ends

Margin stays: Diameter { At turned off part, or Over threads

No. of threads per inch

Tubes: Material *Weldless Steel*

External diameter { Plain Stay

Thickness { *10 L 5 G*

No. of threads per inch

Pitch of tubes *3 3/4 x 3 5/8*

Manhole compensation: Size of opening in

shell plate *16 1/2 x 17 1/2*

Section of compensating ring *2 [10 x 3/4 + 1 x 1]*

No. of rivets and diameter of rivet holes *28 @ 1 1/2*

Outer row rivet pitch at ends

Depth of flange if manhole flanged *3 3/8 in. port and plate*

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

Inner radius of crown

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

yes.

The foregoing is a correct description,

Manufacturer.

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

Are the approved plans of boiler and superheater forwarded herewith *no. 26.5.4* (If not state date of approval.)

Total No. of visits

Is this Boiler a duplicate of a previous case

If so, state Vessel's name and Report No. *1160 G. Belfast Rpt No 13272*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This boiler has been constructed*

under special Survey in accordance with the rules and approved plans.

The materials and workmanship are good, and the boiler has been satisfactorily subjected to hydraulic test.

This boiler has been satisfactorily fitted on board, examined under full working conditions and found satisfactory. Safety valves adjusted under steam to 150 lbs per sq inch (Port Boiler) Safety valve compression washers P & S valves 7/16" G. E. Murdoch.

Survey Fee ... £ *12 : 15 : -*

When applied for, *24. 10. 19 42*

Travelling Expenses (if any) £ : :

When received, 19

R. Shaw.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 2 NOV 1943*

Assigned *See G. E. Murdoch report No 67705*



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