

REPORT ON BOILERS.

No. 13281

Date of writing Report 2-7-1942 When handed in at Local Office 3-7-1942

Received at London Office 8 JUL 1942

No. in Reg. Book. Survey held at

Belfast.

Port of Belfast.

Visits included in F.E. survey

Date, First Survey

Last Survey

19

on the M.V. "EMPIRE CHAPMAN"

(Number of Visits)

Gross 8194
Tons Net 4777

Built at Belfast.

By whom built

Harland & Wolff Ltd

Yard No. 1080 When built 1942

Engines made at Belfast.

By whom made

Harland & Wolff Ltd

Engine No. 1079 When made 1942

Boilers made at Belfast

By whom made

Harland & Wolff Ltd

Boiler No. 1079 When made 1942.

Nominal Horse Power 502

Owners

Ministry of War Transport

Port belonging to Belfast

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

Manufacturers of Steel Colvilles Ltd.

Total Heating Surface of Boilers 3836 sq ft.

Is forced draught fitted

yes.

(Letter for Record 5

Oil fired. Gravel Gas.

No. and Description of Boilers

Two Single Ended Multitubular

Working Pressure 150 lbs/sq in.

Tested by hydraulic pressure to 275 lbs/sq in.

Date of test 29.11.41

No. of Certificate 1156

Can each boiler be worked separately yes.

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2 x 2 1/2 dia Improved High lift

Area of each set of valves per boiler

per Rule 7.26 sq in.

Pressure to which they are adjusted

150 lbs/sq in. 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

Boiler flat

Is the bottom of the boiler insulated yes.

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 DR

long. seams

TR. 225.

Diameter of rivet holes in

circ. seams 1 1/2"

long. seams 1 1/2"

Pitch of rivets

3.028"

Percentage of strength of circ. end seams

plate 64

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/sq in.

Thickness of butt straps

outer 1 1/6"

inner 1 3/16"

No. and Description of Furnaces in each Boiler

Two Corrugated "Brighton" Section

Material

Steel

Tensile strength

26-30 tons

Smallest outside diameter

42"

Length of plain part

top

bottom

Thickness of plates

crown 1/2"

bottom

Description of longitudinal joint

Fine weld.

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

End plates in steam space: Material

Steel

Tensile strength 26-30 tons

Thickness

5/16"

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

Thickness

7/8"

Mean pitch of stay tubes in nests

8.54"

9.47"

Pitch across wide water spaces

13 1/2"

Girders to combustion chamber tops: Material

Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

8 1/4" 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 1/4" x 9 3/4"

Back

8" x 9 1/2"

Top

7 1/4" x 11"

Are stays fitted with nuts or riveted over

marginal and girders stay riveted 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

5/16"

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, or Over threads

2 1/2"

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

26-30 tons

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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Are the stays drilled at the outer ends

ho

Margin stays: Diameter { At turned off part, 1 5/8" or Over threads

No. of threads per inch

9

Tubes: Material *weldless steel*

External diameter

Plain 2 1/2"
Stay 2 1/2"

Thickness { 10 LSG 1/4, 5/16, 3/8

No. of threads per inch

9

Pitch of tubes 3 1/4 x 3 5/8

Manhole compensation: Size of opening in

shell plate 16 1/2 x 12 1/2

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

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 3 3/8 in front 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,

HARLAND & WOLFE LIMITED 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 (If not state date of approval.)

22-2-40

Total No. of visits

Is this Boiler a duplicate of a previous case

yes

If so, state Vessel's name and Report No. *"DINGSDALE" Belfast Rpt No 13221.*

GENERAL REMARKS

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

These boilers have been constructed under Special Survey in accordance with the Rules and approved plans.

The materials & workmanship are good.

The boilers have been efficiently installed on board the vessel, all safety valves adjusted under steam & accumulation tests carried out with satisfactory results.

Survey Fee £ 25: 10: -

When applied for, 6. 7. 19 42

Travelling Expenses (if any) £ - : - : -

When received, 19

R. Muntin & A. Shaw

Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute

FRI. 10 JUL 1942

Assigned

See Bel 26 13281



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