

REPORT ON BOILERS.

No. 18333

Received at London Office

29 SEP 1942

Date of writing Report

28/9/1942

When handed in at Local Office

28/9/1942

Port of WEST HARTLEPOOL

Survey held at

WEST HARTLEPOOL

Date, First Survey 28 January 1942

Last Survey 23rd September 1942

on the

STEEL SCREW STEAMER "EMPIRE BOSWELL"

(Number of Visits 51)

Gross 2875.91

Net 1695.16

at

WEST HARTLEPOOL By whom built WM. GRAY & CO. LTD

Yard No. 1135 When built 1942.

Lines made at

WEST HARTLEPOOL.

By whom made

CENTRAL MARINE ENGINE WORKS

Engine No. 1135

When made 1942.

Boilers made at

WEST HARTLEPOOL.

By whom made

CENTRAL MARINE ENGINE WORKS

Boiler No. 1135

When made 1942.

Original Horse Power

269.

Owners

MINISTRY OF WAR TRANSPORT.

Port belonging to WEST HARTLE POOL.

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

Manufacturers of Steel

Messrs. Colvilles & Co. Ltd Glasgow.

(Letter for Record S.)

Heating Surface of Boilers

3.854 sq

Is forced draught fitted

Yes.

Coal or Oil fired

Coal.

Description of Boilers

2 single ended multitubular

Working Pressure 200 lbs.

Tested by hydraulic pressure to

350 lbs

Date of test

27-5-42

No. of Certificate

3969

Can each boiler be worked separately

Yes.

Area of Firegrate in each Boiler

43.25 sq

No. and Description of safety valves to each boiler

2 Bockburn's High Lift.

Area of each set of valves per boiler

per Rule 5.6

as fitted 7.95

Pressure to which they are adjusted

200 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

24"

Is oil fuel carried in the double bottom under boilers

No.

Smallest distance between shell of boiler and tank top plating

24"

Is the bottom of the boiler insulated

Yes.

Largest internal dia. of boilers

13.6"

Length

11.6"

Shell plates: Material

Steel

Tensile strength 29/33 tons

Thickness

1 13/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end DR LAP

Seams

TR Double butt straps

Diameter of rivet holes in

circ. seams 1 5/16"

long. seams 1 1/2"

Pitch of rivets

4"

8 13/16"

Percentage of strength of circ. end seams

plate 67.2.

rivets 44.6.

Percentage of strength of circ. intermediate seam

plate 85.9.

rivets 86.

Percentage of strength of longitudinal joint

plate 85.9.

rivets 86.

combined 89.

Thickness of butt straps

outer 1 5/16"

inner 1 1/16"

No. and Description of Furnaces in each Boiler

3 Corrugated Deighton Section.

Material

Steel

Tensile strength

26/30 tons

Smallest outside diameter

3'-2 1/2"

Length of plain part

top

bottom

Thickness of plates

crown 9/16"

bottom 7/16"

Description of longitudinal joint

Welded.

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

Stays in steam space: Material

Steel

Tensile strength

26/30 tons

Thickness

1 3/16"

Pitch of stays 18 1/4" x 17 3/4"

How are stays secured

Double nuts.

End plates: Material

front Steel

back Steel

Tensile strength

26/30 tons

Thickness

2 3/32"

13/16"

Minimum pitch of stay tubes in nests

12 3/8" x 8 3/8"

Pitch across wide water spaces

14"

Stays to combustion chamber tops: Material

Steel

Tensile strength

28/32 tons

Depth and thickness of girder

Centre 7 3/4" x 1 3/4", 2 3/8" plates

Length as per Rule

2'-9 15/32"

Distance apart

8"

No. and pitch of stays

Each 2 @ 10 3/4"

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons

Thickness: Sides

2 3/32"

Back

2 3/32"

Top

2 3/32"

Bottom 2 3/32"

Pitch of stays to ditto: Sides

11" x 7 3/4"

Back 10 1/2" x 8 3/8"

Top 10 3/4" x 8"

Are stays fitted with nuts or riveted over

Nuts

End plate at bottom: Material

Steel

Tensile strength

26/30 tons

Thickness

2 3/32"

Lower back plate: Material

Steel

Tensile strength

26/30 tons

Thickness

2 3/32"

Pitch of stays at wide water space

14 3/8" x 10 1/2"

Are stays fitted with nuts or riveted over

Nuts

Stays: Material

Steel

Tensile strength

28/32 tons

At body of stay,

meter

Over threads

3"

No. of threads per inch

6

New stays: Material

Steel

Tensile strength

26/30 tons

At turned off part,

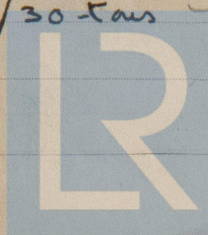
meter

Over threads

1 3/4"

No. of threads per inch

9



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59 18333

Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, or Over threads 2" ✓

No. of threads per inch 9.

Tubes: Material H.R.W.S. External diameter { Plain 3" Stay 3" Thickness { 8 SWG. 3/16" 1/4" 5/16" No. of threads per inch 9.

Pitch of tubes 4 3/16" x 4 1/8" Manhole compensation: Size of opening None

shell plate None Section of compensating ring None No. of rivets and diameter of rivet holes None

Outer row rivet pitch at ends None Depth of flange if manhole flanged None Steam Dome: Material None

Tensile strength None Thickness of shell None Description of longitudinal joint None

Diameter of rivet holes None Pitch of rivets None Percentage of strength of joint { Plate Rivets None

Internal diameter None Thickness of crown None No. and diameter of stays None

How connected to shell None Inner radius of crown None Diameter of rivet holes and of rivets in outer row in dome connection to shell None

Type of Superheater None Manufacturers of { Tubes Steel forgings Steel castings

Number of elements None Material of tubes None Internal diameter and thickness of tubes None

Material of headers None Tensile strength None Thickness None Can the superheater be shut off the boiler be worked separately None

Area of each safety valve None Is a safety valve fitted to every part of the superheater which can be shut off from the boiler None

Pressure to which the safety valves are adjusted None Are the safety valves fitted with easing gear None

tubes None forgings and castings None and after assembly in place None Hydraulic test pressure None

valves fitted to free the superheater from water where necessary None Are drain cocks None

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes.

The foregoing is a correct description, FOR THE CENTRAL MARINE ENGINE WORKS, Ltd. (Incorporated in England)

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 to the Registrar of Shipping (If not state date of approval.) Yes

Total No. of visits 1

Is this Boiler a duplicate of a previous case Yes. If so, state Vessel's name and Report No. S.S. EMPIRE GARETH " RPTN° 18308

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under special survey and in accordance with the approved plans and specification for a working pressure of 200 lbs per square inch.

The materials and workmanship have been found good upon completion the boilers were tested in the presence of the undersigned by a hydraulic pressure of 350 lbs per square inch, showed no signs of weakness and were found tight and sound in every respect at that pressure.

Survey Fee £	:	:	When applied for,	19
Travelling Expenses (if any) £	:	:	When received,	19

Arthur W. Oxford.
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute FM. 2 OCT 1942

Assigned See Hpl. J.E. 18333