

REPORT ON BOILERS.

No. 18281

1-MAY 1942

Received at London Office

Date of writing Report 30/4/42 When handed in at Local Office 30/4/42 Port of WEST HARTLEPOOL.

No. in Survey held at WEST HARTLEPOOL

Date, First Survey 1st October, 1941, Last Survey 18th April, 1942.

on the S.S. EMPIRE ELGAR

(Number of Visits 62)

Gross 2846.73
Tons Net 1695.26

Built at WEST HARTLEPOOL By whom built WH. GRAY & CO. LTD.

Yard No. 1130 When built 1942.

Engines made at WEST HARTLEPOOL

By whom made CENTRAL MARINE ENGINE WORKS.

Engine No. 1130 When made 1942.

Boilers made at WEST HARTLEPOOL

By whom made CENTRAL MARINE ENGINE WORKS.

Boiler No. 1130 When made 1942.

Nominal Horse Power 269

Owners MINISTRY OF WAR TRANSPORT.

Port belonging to WEST HARTLEPOOL.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Messrs. Boulton & Watt, Ltd.

(Letter for Record S.)

Total Heating Surface of Boilers

3854 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

Coal

No. and Description of Boilers

2 Single ended Multitubular

Working Pressure

200 lbs/sq in

Tested by hydraulic pressure to

350 lbs/sq in

Date of test 6-2-42

No. of Certificate 3958

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

43.25 sq ft

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 sq in

as fitted 7.95 sq in

Pressure to which they are adjusted

200 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

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 1/4"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

D.R. LAP

long. seams TR Double butt strap

Diameter of rivet holes in

circ. seams 1 5/16"

long. seams 1 1/4"

Pitch of rivets

4"

8 1/2"

Percentage of strength of circ. end seams

plate 67.2

rivets 44.6

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.9

rivets 86

combined 89

Thickness of butt straps

outer 1 5/8"

inner 1 1/4"

No. and Description of Furnaces in each Boiler

3 Corrugated Dighton 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

bottom

9/16"

Description of longitudinal joint

Welded

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

End plates in steam space: Material

Steel

Tensile strength

26/30 tons

Thickness

1 3/8"

Pitch of stays

18 1/4" x 17 1/4"

How are stays secured

Double nuts

Tube plates: Material

front

Steel

back

Steel

Tensile strength

26/30 tons

Thickness

3/8"

Mean pitch of stay tubes in nests

12 3/8" x 8 3/8"

Pitch across wide water spaces

14"

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 tons

Depth and thickness of girder

at centre 7 1/4" x 1 3/4" 2-3 plates

Length as per Rule

2-9 1/2"

Distance apart

8"

No. and pitch of stays

in each

2 @ 10 3/4"

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons

Thickness: Sides

3/8"

Back

3/8"

Top

3/8"

Bottom

3/8"

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

No

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons

Thickness

3/8"

Lower back plate: Material

Steel

Tensile strength

26/30 tons

Thickness

3/8"

Pitch of stays at wide water space

14 3/8 x 10 1/2"

Are stays fitted with nuts or riveted over

No

Main stays: Material

Steel

Tensile strength

28/32 tons

Diameter

At body of stay

or

Over threads

3"

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

26/30 tons

Diameter

At turned off part

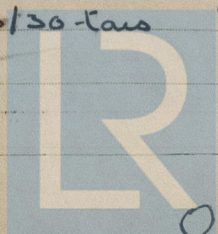
or

Over threads

1 3/4"

No. of threads per inch

9



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Are the stays drilled at the outer ends Yes ✓ Margin stays: Diameter { At turned off part, 2" ✓ or Over threads 2" ✓

No. of threads per inch 9 ✓

Tubes: Material W.S.H.R. External diameter { Plain 3" ✓ ✓ Stay 3" ✓ ✓ Thickness { 8 1/2 SWG ✓ ✓ No. of threads per inch 9 ✓

Pitch of tubes 4 3/16" x 4 1/8" ✓ ✓ Manhole compensation: Size of opening in shell plate None ✓ Section of compensating ring _____ No. of rivets and diameter of rivet holes _____

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

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 None ✓ 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,

FOR THE CENTRAL MANAGER

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.)

Total No. of visits

Is this Boiler a duplicate of a previous case Yes ✓ If so, state Vessel's name and Report No. SS EMPIRE TENNYSON RPTN° 18254

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

FRI. 8 MAY 1942

Assigned

See for mach report.



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