

REPORT ON BOILERS.

No. 33997

Received at London Office

24 JUL 1944

Date of writing Report

19

When handed in at Local Office

22 July 1944

Port of

Sunderland.

No. in Survey held at
Reg. Book.

Sunderland

Date, First Survey

Last Survey

19 July 1944

on the

"EMPIRE TUDOR"

(Number of Visits)

Gross 7087
Tons Net 4908

Built at

By whom built

Shipbuilding Corp. (Leam Branch)

Yard No. 2

When built

1944.

Engines made at

Lumberton

By whom made

Wm. Lenny Bros. Ld.

Engine No. 1116

When made

1944.

Boilers made at

Sunderland

By whom made

G. Clark (1938) Ld.

Boiler No. 1304

When made

1944.

Nominal Horse Power

509.

Owners

Ministry of War Transport

Port belonging to

Sunderland.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR—DONKEY.

Manufacturers of Steel

Steel Company of Scotland Ld.

(Letter for Record)

S.

Total Heating Surface of Boilers

4248 sq. ft.

Is forced draught fitted

Yes.

Coal or Oil fired

Coal.

No. and Description of Boilers

Three Single ended multitubular return tube marine

Working Pressure

220.

Tested by hydraulic pressure to

380

Date of test

29/11/43

No. of Certificate

4525

Can each boiler be worked separately

Yes.

Area of Firegrate in each Boiler

55 sq. ft.

No. and Description of safety valves to each boiler

2 backburn Imp. High lift.

Area of each set of valves per boiler

(per Rule) 6.40"

as fitted

4.950"

Pressure to which they are adjusted

220

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

3'-9"

Is oil fuel carried in the double bottom under boilers

No.

Smallest distance between shell of boiler and tank top plating

2'-3"

Is the bottom of the boiler insulated

Yes.

Largest internal dia. of boilers

15'-0 1/16"

Length

11'-6" mean

Shell plates: Material

Steel

Tensile strength

29/33.

Thickness

1 1/32"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

and inter.
 T.R. Lap

Long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 1/2"

Pitch of rivets

4 1/8"

10 3/8"

Percentage of strength of circ. end seams

plate 63.6

rivets 46.2

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.5

rivets 86.20

Thickness of butt straps

outer 1 1/8"

inner 1 1/4"

No. and Description of Furnaces in each Boiler

Three Corrugated (Reinforced)

Material

Steel

Tensile strength

26/30

Smallest outside diameter

3'-9 3/4"

Length of plain part

top

bottom

Thickness of plates

crown 1/16"

bottom

Description of longitudinal joint

butt.

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

End plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

1 1/32"

Pitch of stays

19 3/4" x 19 5/8"

How are stays secured

Leads to nuts.

Side plates: Material

front Steel

back

Tensile strength

26/30

Thickness

1 1/16"

25/32"

Mean pitch of stay tubes in nests

9 13/16"

Pitch across wide water spaces

14" x 8 1/4"

Orders to combustion chamber tops: Material

Steel

Tensile strength

28/32

Depth and thickness of girder

Centre

10 1/2" x 1 3/8 (2)

Length as per Rule

2'-9 1/4"

Distance apart

9 1/4"

No. and pitch of stays

Each

3 @ 8"

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: Sides

1/16"

Back

1/16"

Top

1/16"

Bottom

1/8"

Pitch of stays to ditto: Sides

9 1/4" x 8"

Back

9 1/4" x 8"

Top

9 1/4" x 8"

Are stays fitted with nuts or riveted over

nuts.

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

1 5/16"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

2 1/32"

Pitch of stays at wide water space

14" x 8"

Are stays fitted with nuts or riveted over

nuts.

Main stays: Material

Steel

Tensile strength

28/32

Diameter

{ At body of stay, or Over threads

3 1/4"

No. of threads per inch

6

New stays: Material

Steel

Tensile strength

26/30

Diameter

{ At turned off part, or Over threads

1 3/4"

No. of threads per inch

9.

Are the stays drilled at the outer ends *no.* Margin stays: Diameter { At turned off part or Over threads *1 1/8" x 2"*

No. of threads per inch *9.*

Tubes: Material *S.D. Steel* External diameter { Plain *3"* Stay *3"* Thickness { *8 kg.* *5/16" x 3/8"* No. of threads per inch *9.*

Pitch of tubes *4 1/4" x 4 1/8"* Manhole compensation: Size of opening in shell plate *(See End plate.)* Section of compensating ring *-* No. of rivets and diameter of rivet holes *-*

Outer row rivet pitch at ends *-* Depth of flange if manhole flanged *4 1/4"* 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 *N.E.M. (Holland) Smoke tube.* Manufacturers of { Tubes *Appleby & Radcliff* Steel forgings *Steel Co.* Steel castings *-*

Number of elements *144.* Material of tubes *S.D. Steel* Internal diameter and thickness of tubes *15 1/4" x 2 1/2"*

Material of headers *Insid Steel* Tensile strength *26/30* Thickness *1 1/8"* Can the superheater be shut off and the boiler be worked separately *Yes.* Is a safety valve fitted to every part of the superheater which can be shut off from the boiler *Yes.*

Area of each safety valve *3.14 sq.* Are the safety valves fitted with easing gear *Yes.*

Pressure to which the safety valves are adjusted *220* Hydraulic test pressure: tubes *150 lbs.* forgings and castings *660 lbs.* and after assembly in place *440 lbs.* Are drain cocks or valves fitted to free the superheater from water where necessary *Yes.*

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 (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. *"Empire Gladstone" (Std Rpt.) No 3394Y.*

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

These boilers have been constructed under Special Survey in accordance with the approved plan, specification & the rules of the Society.

The materials & workmanship are good.

On completion the boilers have been tested by hydraulic pressure of 380 lbs. & found tight & sound at that pressure.

They have been securely fixed on board the vessel & safety valves of boilers & superheater adjusted under steam to working pressure in accordance with rule requirements.

For recommendation please see Machy. Rpt.

Survey Fee ... £ *20/-* Travelling Expenses (if any) £ *10/-*

When applied for, 19

When received, 19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

FRI. 28 JUL 1944

see minute on 36. Rpt.



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