

REPORT ON BOILERS.

No. 18314

Received at London Office

Date of writing Report

23/7/1942

When handed in at Local Office

23/7/1942

Port of

W. Hartlepool

No. in
Reg. Book.

Surrey held at

Hartlepool & Huddersfield

Date, First Survey

29th October, 1941

Last Survey

22nd July, 1942

on the

S/S "EMPIRE LYTTON"

(Number of Visits 90)

Gross

Tons

Net

Built at

Haverdon Hill

By whom built

J. & W. Shipbuilding Co. Ltd.

Yard No.

343

When built

1942

Engines made at

Hartlepool

By whom made

Richardsons Westgarth Co.

Engine No.

27/6

When made

"

Boilers made at

"

By whom made

"

"

"

Boiler No.

"

When made

"

Nominal Horse Power

674

Owners

Ministry of Sea Transport.

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Co. of Scotland

(Letter for Record)

S

Total Heating Surface of Boilers

10020 Sq. ft.

Is forced draught fitted

Yes

Coal or Oil fired

oil

No. and Description of Boilers

3 S.E. Multitubular

Working Pressure

220 LB/SQ. IN.

Tested by hydraulic pressure to

380 LB/SQ. IN.

Date of test

27/6/42

No. of Certificate

397/1

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2-2 1/2" Spring loaded high lift

Area of each set of valves per boiler

per Rule

8.65 SQ. IN.

as fitted

9.8 SQ. IN.

Pressure to which they are adjusted

22.5

Are they fitted with easing gear

Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

3'-9"

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

2'-6"

Is the bottom of the boiler insulated

Largest internal dia. of boilers

16'-2 3/4"

Length

12'-6"

Shell plates: Material

Steel

Tensile strength

30/34

Thickness

1 3/4"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

D.R.L.

inter.

none

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 1/2"

long. seams

1 9/16"

Pitch of rivets

4"

10 1/2"

Percentage of strength of circ. end seams

plate

62.5

rivets

44.7

Percentage of strength of circ. intermediate seam

plate

85.1

rivets

86.7

Percentage of strength of longitudinal joint

plate

85.1

rivets

86.7

combined

87.5

Thickness of butt straps

outer

1 5/32"

inner

1 9/32"

No. and Description of Furnaces in each Boiler

3 Deighton (gourlay neck)

Material

Steel

Tensile strength

26/30

Smallest outside diameter

3'-11 23/32"

Length of plain part

top

bottom

Thickness of plates

crown

4 1/4"

bottom

6 1/4"

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

Thickness

1 13/32"

Pitch of stays

22 1/2" x 18 1/2"

How are stays secured

double nuts

Tube plates: Material

front

Steel

back

Tensile strength

26/30

Thickness

15/16"

1 7/8"

Mean pitch of stay tubes in nests

9 5/8"

Pitch across wide water spaces

14 1/2" x 7 1/4"

Girders to combustion chamber tops: Material

Steel

Tensile strength

29/33

Depth and thickness of girder

at centre

2-11 3/4" x 1"

Length as per Rule

3'-10 1/2"

Distance apart

9"

No. and pitch of stays

in each

3 @ 11 1/2"

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: Sides

13/16"

Back

22/32"

Top

13/16"

Bottom

29/32"

Pitch of stays to ditto: Sides

9" x 11 1/2"

Back

9" x 8"

Top

9" x 11 1/2"

Are stays fitted with nuts or riveted over

nuts

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

15/16"

Pitch of stays at wide water space

15 3/8" x 8"

Are stays fitted with nuts or riveted over

nuts

Main stays: Material

Steel

Tensile strength

28/32

Diameter

At body of stay

3 1/2"

Over threads

4

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

26/30

Diameter

At turned off part

2", 1 3/4"

Over threads

4

No. of threads per inch

9



© 2020

Lloyd's Register
Foundation

W195-0052

11581

Are the stays drilled at the outer ends *NO* Margin stays: Diameter { At turned off part, *2" 13/4"* Over threads

No. of threads per inch *9*

Tubes: Material *Steel* External diameter { Plain *2 1/2"* Stay *2 1/2"* Thickness { *8 W.G.* *3 1/2" x 1/16"* No. of threads per inch *9*

Pitch of tubes *4" x 3 5/8"* Manhole compensation: Size of opening in shell plate *16 1/2" x 20 1/2"* Section of compensating ring *18 3/8" x 1 3/32"* No. of rivets and diameter of rivet holes *34 - 1 1/8"*

Outer row rivet pitch at ends *10 1/2"* Depth of flange if manhole flanged *3 1/4"* Steam Dome: Material

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes *3/4"* Pitch of rivets Percentage of strength of joint { Plate Rivets

Internal diameter Thickness of crown No. and diameter of stays

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 *C.C. Type supplied by N.E. Marine Ltd.* Manufacturers of { Tubes *Stewart & Lloyd* Steel forgings Steel castings

Number of elements *36* Material of tubes *S.D. Steel* Internal diameter and thickness of tubes *1 1/2 x 3/16"*

Material of headers *S.D. Steel* Tensile strength *26/28* Thickness *1"* 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 *3.14/16* Are the safety valves fitted with easing gear *Yes*

Pressure to which the safety valves are adjusted *230 lb/sq* Hydraulic test pressure: tubes *1500 LB/sq* Headers *660 LB/sq* and after assembly in place *660 LB/sq* 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

For **RICHARDSONS, WESTGARTH & Co. LIMITED.**
The foregoing is a correct description,
W. J. Morgan Manufacturer.
DIRECTOR

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. *2715*

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

The boilers have been constructed under Special Survey & in accordance with the Specification & approved plan for a working pressure of 220 LB/sq.

The materials & workmanship have been found good. Upon completion the boilers were tested with an hydraulic pressure of 380 LB/sq & found sound & tight.

These boilers have been forwarded to Haverton Hall.

These boilers have now been securely fitted on board & run under working conditions & found satisfactory. The safety valves adjusted under steam to 225 lb/sq on completion.

Survey Fee ... £ *See Rpt 4*
Travelling Expenses (if any) £

When applied for, 19
When received, 19

Clive Bell.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE, 22 SEP 1942

Assigned

See Ind. No. 17323



© 2020

Lloyd's Register Foundation