

REPORT ON BOILERS.

Mab. No. 17466

No. 18410

Received at London Office 17 MAY 1943

Date of writing Report 14/5/1943 When handed in at Local Office

14/5/1943

Port of West Hartlepool

No. in Survey held at Reg. Book.

Hartlepool

Date, First Survey

9th July, 1942

Last Survey

11th May, 1943

on the

s/s "LAFIAN"

(Number of Visits

49

Tons

Gross

7221

Net

5055

Built at Haverdon Hill

By whom built

Furness Shipbuilding Co. Ltd.

Yard No. 352

When built 1943

Engines made at Hartlepool

By whom made

R. & L. & Co. Westgarth

Engine No. 2732

When made

Boilers made at

By whom made

" "

Boiler No. 2732

When made

Nominal Horse Power 488

Owners

United Africa Co. Ltd.

Port belonging to

Liverpool.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Co. of Scotland & Colville

Total Heating Surface of Boilers

7362

Is forced draught fitted

Yes

(Letter for Record

S

No. and Description of Boilers

3 S.E. Multitubular

Coal or Oil fired

Coal

Working Pressure

220 lb/sq. in.

Tested by hydraulic pressure to

380 lb/sq. in.

Date of test

10.3.43

No. of Certificate

3996

Can each boiler be worked separately

Area of Firegrate in each Boiler

55 sq. ft.

No. and Description of safety valves to each boiler

2-2 1/2" direct spring high lift

Area of each set of valves per boiler

6.5 sq. in.

as fitted

7.96 sq. in.

Pressure to which they are adjusted

225 lb/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

1'-9"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

2'-0"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

15'-0 1/16"

Length

11'-10 1/32"

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

end

DRL

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 1/2"

long. seams

1 1/2"

Pitch of rivets

4 5/8"

10 3/8"

Percentage of strength of circ. end seams

plate

63.75

rivets

46.2

Percentage of strength of circ. intermediate seam

plate

85.5

rivets

86.4

Percentage of strength of longitudinal joint

plate

85.5

rivets

86.4

combined

88.3

Thickness of butt straps

outer

1 1/8"

inner

1 1/4"

No. and Description of Furnaces in each Boiler

3 Dighton (gourlay neck)

Material

Steel

Tensile strength

26/30

Smallest outside diameter

3'-8 5/8"

Length of plain part

top

1'-0"

bottom

Thickness of plates

crown

1 1/16"

bottom

Description of longitudinal joint

welded

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

End plates in steam space: Material

Steel

Tensile strength

26/30

Thickness

1 1/32"

Pitch of stays

2" x 20"

How are stays secured

double nuts

Tube plates: Material

front

Steel

back

Tensile strength

26/30

Thickness

3 1/32"

15 1/16"

Mean pitch of stay tubes in nests

9.4375"

Pitch across wide water spaces

14 1/2"

Girders to combustion chamber tops: Material

Steel

Tensile strength

29/33

Depth and thickness of girder

at centre

11" 2 @ 15 1/16"

Length as per Rule

3'-8"

Distance apart

8 1/2"

No. and pitch of stays

in each

3 @ 10 3/8"

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: Sides

3/4"

Back

1/2"

Top

3/4"

Bottom

2 1/32"

Pitch of stays to ditto: Sides

8 1/2" + 10 3/8"

Back

9" + 8"

Top

8 1/2" + 10 3/8"

Are stays fitted with nuts or riveted over

nuts

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

3 1/32"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

15 1/16"

Pitch of stays at wide water space

14 1/2"

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 1/2"

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

26/30

Diameter

At turned off part, or over threads

1 3/4"

No. of threads per inch

9



© 2020

Lloyd's Register Foundation

003385-003390-0030

Are the stays drilled at the outer ends NO Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{or} \\ \text{Over threads} \end{array} \right. \frac{17}{8}"$

No. of threads per inch 9

Tubes: Material Steel External diameter $\left\{ \begin{array}{l} \text{Plain} \\ \text{Stay} \end{array} \right. \frac{3}{4}"$ Thickness $\left\{ \begin{array}{l} \frac{89}{16}" \\ \frac{3}{8}" \end{array} \right.$ No. of threads per inch 9

Pitch of tubes $4\frac{1}{4}" \times 4\frac{1}{8}"$ Manhole compensation: Size of opening in shell plate $17" \times 21"$ Section of compensating ring $3'2" \times 2'10" + \frac{15}{32}"$ No. of rivets and diameter of rivet holes $34 - \frac{1}{2}"$

Outer row rivet pitch at ends $10\frac{3}{8}"$ Depth of flange if manhole flanged MAINTAINED Steam Dome: Material —

Tensile strength ✓ Thickness of shell ✓ Description of longitudinal joint ✓

Diameter of rivet holes ✓ Pitch of rivets ✓ Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right. \frac{1}{2}"$

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 $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel forgings} \\ \text{Steel castings} \end{array} \right. \frac{1}{2}"$

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: 380 lb./sq. in.

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 ✓

28 MAR 1943

The foregoing is a correct description,

for RICHARDSON, WELSH & CO. LTD. Manufacturer.

W. E. D. Morgan

DIRECTOR

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of} \\ \text{work in shops} - - \end{array} \right.$

while building $\left\{ \begin{array}{l} \text{During erection on} \\ \text{board vessel} - - - \end{array} \right.$

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. RW 2731

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

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

The materials & workmanship have been found good.

Upon completion the boilers were tested under hydraulic pressure of 380 lb./sq. in. & found sound & tight.

These boilers have been forwarded to Haverton Hill.

The Boilers securely fitted on board & examined under working conditions & found satisfactory.

The Safety valves adjusted under steam to 225 lb./sq. in. on completion.

Survey Fee ... £ See Rpt 4

When applied for, 19

Travelling Expenses (if any) £ :

When received, 19

Norman Stuart & Clive Bell

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

WED. 23 JUN 1943

Assigned

See p. 4, marks off



© 2020

Lloyd's Register Foundation