

Rpt. 5a.

REPORT ON BOILERS.

Lpool F.E. No. 120973

No. 120747

Date of writing Report

25/1

19

When handed in at Local Office

8 MAR 1944

Received at London Office

Port of

Liverpool

No. in
Reg. Book.

Survey held at

Birkenhead

Date, First Survey

10/9/43

Last Survey

31/1

1944

on the

5/5" C 625

(Number of Visits

15

Gross

351

Tons

Net

142

Master

Built at

Northwich

By whom built

W. J. Yarwood & Sons Ltd

Yard No.

726

When built

Engines made at

Northwich

By whom made

W. J. Yarwood & Sons Ltd

Engine No.

213

When made

Boilers made at

Birkenhead

By whom made

Cammell Laird & Co Ltd

Boiler No.

2305

When made

1944

Nominal Horse Power

43.6

Owners

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Colvilles Ltd.

(Letter for Record

(5)

Total Heating Surface of Boilers

1105 sq. ft.

Is forced draught fitted

No

Coal or Oil fired

Coal

No. and Description of Boilers

1. SE.

Working Pressure

200 lbs.

Tested by hydraulic pressure to

350 lbs.

Date of test

26/1/44

No. of Certificate

2634

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

35 sq. ft.

No. and Description of safety valves to each boiler

2-13/4" Improved High Lift

Area of each set of valves per boiler

per Rule

3.218

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

Yes

Smallest distance between boilers or plates and bunkers or woodwork

11 1/2"

Is oil fuel carried in the double bottom under boilers

none

Smallest distance between shell of boiler and tank top plating

Open floors

Is the bottom of the boiler insulated

No

Largest internal dia. of boilers

10'-6"

Length

11'-0"

Shell plates: Material

Steel

Tensile strength

29/33 Tons

Thickness

31/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

D.R.

long. seams

T.R.-D.B.S.

Diameter of rivet holes in

circ. seams

1"

Pitch of rivets

2-19"

inter.

6 15/16"

Percentage of strength of circ. end seams

plate

63

rivets

48

Percentage of strength of circ. intermediate seam

plate

85

rivets

89

Percentage of strength of longitudinal joint

plate

85

rivets

89

Working pressure of shell by Rules

204 lbs.

Thickness of butt straps

outer

3/4"

No. and Description of Furnaces in each Boiler

Two Brighton Section: 2 cf.

Material

Steel

Tensile strength

26/30 Tons

Smallest outside diameter

3'-1 5/16"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

1 1/32"

Description of longitudinal joint

weld.

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

Yes

Working pressure of furnace by Rules

206 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30 Tons

Thickness

29/32"

Pitch of stays

14 3/4" x 14 1/4"

How are stays secured

D.N. & W.

Working pressure by Rules

206 lbs.

Tube plates: Material

front

back

Steel

Tensile strength

26/30 Tons

Thickness

27/32"

Mean pitch of stay tubes in nests

10 5/16"

Pitch across wide water spaces

14"

Working pressure

front

214 lbs.

back

216 lbs.

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 Tons

Depth and thickness of girder

at centre

7 1/4" x 3 1/4" dble.

Length as per Rule

2'-6"

Distance apart

4 3/8"

No. and pitch of stays

in each

2 @ 9 1/2"

Working pressure by Rules

206 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30 Tons

Thickness: Sides

1 1/16"

Back

2 1/32"

Top

1 1/16"

Bottom

7/8"

Pitch of stays to ditto: Sides

8 x 9 1/2"

Back

8 1/8 x 8 5/8"

Top

9 1/2 x 4 3/8"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

214 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30 Tons

Thickness

29/32"

Lower back plate: Material

Steel

Tensile strength

26/30 Tons

Thickness

29/32"

Pitch of stays at wide water space

14 1/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

250 lbs.

Main stays: Material

Steel

Tensile strength

28/32 Tons

Diameter

At body of stay,
or
Over threads

2 1/2"

No. of threads per inch

6

Area supported by each stay

14 3/4" x 14 1/4"

Working pressure by Rules

Screw stays: Material

Steel

Tensile strength

26/30 Tons

Diameter

At turned off part,
or
Over threads

1 3/4" - 1 5/8"

No. of threads per inch

9

Area supported by each stay

7 6" (sides)

Working pressure by Rules 216 lb Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part 1 3/4 or 1 7/8 Over threads }
No. of threads per inch 9 Area supported by each stay 89 3/8 sq. in. Working pressure by Rules 203 lb
Tubes: Material Iron External diameter { Plain 3" Thickness { 3/8" No. of threads per inch 9 }
Pitch of tubes 4 1/8" x 4 1/8" Working pressure by Rules 250 lb Manhole compensation: Size of opening in
shell plate 21 1/4" x 14 1/4" Section of compensating ring 2-11' x 2-4 1/2' x 1' No. of rivets and diameter of rivet holes 54 @ 1"
Outer row rivet pitch at ends 6 15/16" Depth of flange if manhole flanged 3 1/2" 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 Working pressure by Rules Thickness of crown No. and diameter of
stays Inner radius of crown Working pressure by Rules
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
Number of elements Material of tubes Steel forgings
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 Working pressure as per
Rules 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

The foregoing is a correct description,

W. W. J. Yarwood Manufacturer.

DIRECTOR & ENGINEERING MANAGER,

Dates of Survey { During progress of work in shops - - } Sept 10. 29 Oct 19. 27 Nov 11. 18 Dec 10. 29. 30. Are the approved plans of boiler and superheater forwarded herewith
while building { During erection on board vessel - - } Jan 15. 24. 26. 29. 31. (If not state date of approval.)
Total No. of visits 15.

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. Yarwood N° 713. Blk N° 2242.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under Special Survey, to approved plans in accordance with the Society's Rules. Materials and workmanship are good. It is intended for W. W. J. Yarwood Sons Ltd Yard N° 726.

Fitted on board.

C. Reed

Survey Fee NB ... £ 7 : 7 : 0 When applied for, - 8 MAR 1914
Travelling Expenses (if any) £ : : When received, 19

H. Sutherland

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

LIVERPOOL 14 MAR 1914

LIVERPOOL - 2 MAY 1914

Assigned

Transmit to London.

See Minute on Liverpool I.E. Report