

REPORT ON BOILERS.

No. 14258

Received at London Office

-6 NOV 1930

Date of writing Report

31. 10. 1930

When handed in at Local Office

31. 10. 1930

Port of MIDDLESBROUGH.

No. in Reg. Book

Survey held at

STOCKTON

Date, First Survey

19 March

Last Survey

23. 10. 1930

68903.

on the

boilers for ss. "DARTFORD"

(Number of Visits)

Gross

4076.

Tons

Net 2443.

Master

Built at

Stockton

By whom built

Smiths Dock Co. Ltd

Yard No. 921.

When built 1930.

Engines made at

Stockton

By whom made

Blair & Co. (1926) Ltd

Engine No. 1986

When made 1930

Boilers made at

do.

By whom made

do.

Boiler No. 1986

When made 1930

Nominal Horse Power

367.7

Owners

Britain S.S. Co. Ltd.

Port belonging to

London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

James Dunlop & Co Ltd.

(Letter for Record S.)

Total Heating Surface of Boilers

6173 ϕ .

Is forced draught fitted

no

Coal or Oil fired

coal.

No. and Description of Boilers

3 S.B.

Working Pressure

185 lbs.

Tested by hydraulic pressure to

328 lbs.

Date of test

27.8.30.

No. of Certificate

6813.

Can each boiler be worked separately

Yes.

Area of Firegrate in each Boiler

52.8 ϕ .

No. and Description of safety valves to each boiler

Pair Cockburns J.H.L.

Area of each set of valves per boiler

per Rule

6.47 ϕ .

as fitted

7.96 ϕ .

Pressure to which they are adjusted

190 lbs.

Are they fitted with easing gear

Yes.

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

Is oil fuel carried in the double bottom under boilers

no.

Smallest distance between boilers or uptakes and bunkers or ~~woodwork~~

3'-0"

Smallest distance between shell of boiler and tank top plating

2'-6"

Is the bottom of the boiler insulated

Yes.

Largest internal dia. of boilers

14'-9 $\frac{9}{16}$ "

Length

11'-0"

Shell plates: Material

steel

Tensile strength

29/33.

Thickness

1 $\frac{7}{32}$ "

Are the shell plates welded or flanged

no.

Description of riveting: circ. seams

end D.R.

long. seams

T.R.D.B.S. (5 rivets)

Diameter of rivet holes in

circ. seams

1 $\frac{9}{16}$ "

long. seams

1 $\frac{1}{4}$ "

Pitch of rivets

4 $\frac{7}{16}$ "8 $\frac{3}{4}$ "

Percentage of strength of circ. end seams

plate 67.6.

rivets 43.3.

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.7.

rivets 85.8.

combined 88.5.

Working pressure of shell by Rules

188 lbs.

Thickness of butt straps

outer 1 $\frac{5}{16}$ "inner 1 $\frac{1}{16}$ "

No. and Description of Furnaces in each Boiler

3 c.f.

Material

steel

Tensile strength

26/30.

Smallest outside diameter

3'-6 $\frac{5}{8}$ "

Length of plain part

top

Thickness of plates

crown 9 $\frac{1}{16}$ "

bottom

Description of longitudinal joint

weld.

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

Working pressure of furnace by Rules

191 lbs.

End plates in steam space: Material

steel

Tensile strength

26/30

Thickness

1 $\frac{3}{32}$ "

Pitch of stays

21" x 19"

How are stays secured

D.N's

Working pressure by Rules

191 lbs.

Tube plates: Material

front steel

back

Tensile strength

26/30

Thickness

1 $\frac{3}{16}$ "CENTRE; 1 $\frac{1}{8}$ " WINGS.

Mean pitch of stay tubes in nests

9 $\frac{1}{8}$ " CENTRE.

Pitch across wide water spaces

14 $\frac{1}{2}$ " x 9 $\frac{3}{4}$ "

Working pressure

front 198 lbs.

back 231 "

Girders to combustion chamber tops: Material

steel

Tensile strength

28/32

Depth and thickness of girder

at centre

8 $\frac{1}{4}$ " x 1 $\frac{3}{16}$ " (double)

Length as per Rule

2'-5 $\frac{1}{2}$ "

Distance apart

10 $\frac{1}{2}$ "

No. and pitch of stays

in each

2-9"

Working pressure by Rules

206 lbs.

Combustion chamber plates: Material

steel

Tensile strength

26/30.

Thickness: Sides

3 $\frac{23}{32}$ "

Back

1 $\frac{11}{16}$ "

Top

3 $\frac{23}{32}$ "

Bottom

7 $\frac{7}{8}$ "

Pitch of stays to ditto: Sides

9 $\frac{1}{2}$ " x 9 $\frac{1}{2}$ "

Back

9 $\frac{1}{2}$ " x 9"

Top

9" x 10 $\frac{1}{2}$ "

Are stays fitted with nuts or riveted over

nuts.

Working pressure by Rules

189 lbs.

Front plate at bottom: Material

steel

Tensile strength

26/30.

Thickness

1 $\frac{15}{16}$ "

Lower back plate: Material

steel

Tensile strength

26/30.

Thickness

1 $\frac{15}{16}$ "

Pitch of stays at wide water space

14 $\frac{1}{4}$ " x 9"

Are stays fitted with nuts or riveted over

nuts.

Working Pressure

254 lbs.

Main stays: Material

steel

Tensile strength

28/32.

Diameter

At body of stay,

3 $\frac{1}{4}$ "

No. of threads per inch

6.

Area supported by each stay

390.7 ϕ

Working pressure by Rules

205 lbs.

Screw stays: Material

steel

Tensile strength

26/30.

Diameter

At turned off part,

1 $\frac{3}{4}$ "

No. of threads per inch

8.

Area supported by each stay

92.1 ϕ

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Working pressure by Rules 1944s. Are the stays drilled at the outer ends no. Margin stays: Diameter ^{At turned off part.} 1 1/2 or Over threads 1 1/2.
No. of threads per inch 8. Area supported by each stay 104 1/2. Working pressure by Rules 1996s.
Tubes: Material iron External diameter ^{Plain} 3 1/2 to 3 3/8 Thickness ^{8wg.} 5/16 No. of threads per inch 9.
Pitch of tubes 4 3/4 x 4 7/8 CENTRE Working pressure by Rules p. 215 1/2 s. 20 1/2. 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 iron
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

Number of elements ✓ Material of tubes ✓ Manufacturers of ^{Tubes} ✓ ^{Steel castings} ✓ 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 ✓ Working pressure as per
Rules ✓ Pressure to which the safety valves are adjusted ✓ Hydraulic test pressure: ✓
tubes ✓ 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 Ys.

The foregoing is a correct description,
For BLAIR & CO. (1926) LIMITED.

H. J. Chambers Manufacturer.
SECRETARY

Dates of Survey ^{During progress of work in shops - -} See Machinery report. Are the approved plans of boiler and superheater forwarded herewith Ys.
^{while building} ^{During erection on board vessel - - -} (If not state date of approval.)
Total No. of visits ✓

Is this Boiler a duplicate of a previous case No If so, state Vessel's name and Report No. ✓

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

The materials and workmanship are good.
These boilers have been built under special survey in accordance with the Rules and approved Plan and have been securely fitted aboard and their safety valves have been adjusted and tested under steam with satisfactory results.

Survey Fee ... £ See Machy. Report. When applied for, 19
Travelling Expenses (if any) £ ✓ When received, 19

A. J. McA.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 14 NOV 1930

Assigned

See other
J. E. Rpt



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