

REPORT ON BOILERS.

No. 13621

Received at London Office

28 MAR 1929

Date of writing Report

23. 3. 1929

When handed in at Local Office

23. 3. 1929

Port of MIDDLESBROUGH.

No. in Survey held at

STOCKTON.

Date, First Survey

Last Survey

20. 3. 1929.

1936. on the

ss. "LLANARTH"

(Number of Visits

Gross Tons
Net

Master

Built at

Sunderland

By whom built

Barham & Sons.

Yard No.

265

When built 1929.

Engines made at

Stockton

By whom made

Blair & Co (1926) Ltd.

Engine No.

1981

When made 1929

Boilers made at

do.

By whom made

do.

Boiler No.

1981

When made 1929

Nominal Horse Power

Owners

Pictou S.S. Co Ltd

Port belonging to

London.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

James Dunlop & Co Ltd & David Colville & Sons

(Letter for Record S.

Total Heating Surface of Boilers

7917 sq. ft.

Is forced draught fitted

no.

Coal or Oil fired

Coal.

No. and Description of Boilers

3 S.B.

Working Pressure 180 lbs.

Tested by hydraulic pressure to

320 lbs.

Date of test 20.2.29

No. of Certificate

6689.

Can each boiler be worked separately

Yes.

Area of Firegrate in each Boiler

65.6 sq. ft.

No. and Description of safety valves to each boiler

Four Corbourn High Lift

Area of each set of valves per boiler

(per Rule 11.27 sq. ft.)

(as fitted 11.88 sq. ft.)

Pressure to which they are adjusted

185 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

on supports and bunkers or woodwork

4'-3"

Is oil fuel carried in the double bottom under boilers

no.

Smallest distance between shell of boiler and tank top plating

3'-6"

Is the bottom of the boiler insulated

no.

Largest internal dia. of boilers

15'-9 7/16"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength

28/32.

Thickness

1 9/32"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end D.R.

long. seams

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

Diameter of rivet holes in

(circ. seams 1 7/8"

(long. seams 1 7/16"

Pitch of rivets

4 1/4"

9 5/16"

Percentage of strength of circ. end seams

(plate 67.6.

(rivets 44.7.

Percentage of strength of circ. intermediate seam

(plate 83.9

(rivets 86.6

Percentage of strength of longitudinal joint

(plate 83.9

(rivets 86.6

(combined 89.1

Working pressure of shell by Rules

180 lbs.

Thickness of butt straps

(outer 1"

(inner 1 1/8"

No. and Description of Furnaces in each Boiler

3 Corrugated

Material

Steel

Tensile strength

26/30.

Smallest outside diameter

44 7/32"

Length of plain part

(top 37"

(bottom 64"

Thickness of plates

(crown 37"

(bottom 64"

Description of longitudinal joint

weld.

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

Working pressure of furnace by Rules

190 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30.

Thickness

1 3/16"

Pitch of stays 19 1/4" x 20 1/2"

How are stays secured

D.N.W.

Working pressure by Rules

199 lbs.

Tube plates: Material

(front Steel

(back Steel

Tensile strength

26/30.

Thickness

1 1/16"

13"

Mean pitch of stay tubes in nests

11 3/32"

Pitch across wide water spaces

14 1/2" x 9 3/4"

Working pressure

(front 185 lbs.

(back 193 "

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32.

Depth and thickness of girder

at centre

8' x 15 1/16" (double)

Length as per Rule

33 3/4"

Distance apart

9"

No. and pitch of stays

in each

3 x 8 1/2"

Working pressure by Rules

186 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30.

Thickness: Sides

4 1/16"

Back

4 1/16"

Top

4 1/16"

Bottom

13 1/16"

Pitch of stays to ditto: Sides

9' x 8 3/4"

Back

9 3/4' x 9'

Top

9' x 8 1/2"

Are stays fitted with nuts or riveted over

nuts.

Working pressure by Rules

187 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30.

Thickness

15 1/16"

Lower back plate: Material

Steel

Tensile strength

26/30.

Thickness

29"

32"

Pitch of stays at wide water space

14' x 9'

Are stays fitted with nuts or riveted over

nuts

Working Pressure

244 lbs.

Main stays: Material

Steel

Tensile strength

28/32.

Diameter

(At body of stay, or Over threads

3 1/8"

No. of threads per inch

6.

Area supported by each stay

379 sq. in.

Working pressure by Rules

195 lbs.

Screw stays: Material

Steel

Tensile strength

26/30.

Diameter

(At turned off part, or Over threads

1 3/4"

No. of threads per inch

8

Area supported by each stay

87 sq. in.



Lloyd's Register
Foundation

Working pressure by Rules 205 lbs Are the stays drilled at the outer ends no. Margin stays: Diameter { At turned off part, 1 7/8" ✓
 No. of threads per inch 8 ✓ Area supported by each stay 106 sq Working pressure by Rules 195 lbs.
 Tubes: Material iron External diameter { Plain 3 1/2" Thickness 8/16 No. of threads per inch 9
 Pitch of tubes 4 3/4" x 4 7/8" Working pressure by Rules p. 215 lbs. s. 200 lbs. Manhole compensation: Size of opening in
 shell plate 16" x 12" Section of compensating ring 8" x 1 3/4" ✓ No. of rivets and diameter of rivet holes 28-1 7/16" ✓
 Outer row rivet pitch at ends 9 7/16" ✓ Depth of flange if manhole flanged _____
 Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____
 Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint { Plate _____
 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 _____ Manufacturers of { Tubes _____
 Number of elements _____ Material of tubes _____ Steel castings _____
 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 Yes.

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

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
These boilers are duplicate of the "Blair" No. 1969 - Indb. Rpt. 13290.
The materials and workmanship are good.
These boilers have been built under special survey in accordance
with the Rules and approved Plan; they have been securely fitted aboard
and their safety valves have been adjusted and tested under steam
with satisfactory results.

Survey Fee ... £ See Machinery Report. When applied for, 192
 Travelling Expenses (if any) £ _____ When received, 192

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

Committee's Minute FRI. 5 APR 1929

Assigned See minute on
Indb Rpt 13621