

Rpt. 5a.

REPORT ON BOILERS:

No. 13714

10 JUN 1929

Received at London Office

Date of writing Report

3. 6. 1929

When handed in at Local Office

3. 6. 1929

Port of MIDDLESBROUGH.

No. in Survey held at

STOCKTON

Date, First Survey

20 Nov/28

Last Survey

1. 6. 1929

Reg. Book.

Survey held at

Se. "LLANISHEN"

(Number of Visits

29

Gross

5052

Tons

Net

3014.

Master

Built at

Sunderland.

By whom built

Bartham & Sons.

Yard No. 266.

When built 1929.

Engines made at

Stockton

By whom made

Blair & Co (1926) Ltd

Engine No. 1982

When made 1929.

Boilers made at

do.

By whom made

do.

Boiler No. 1982

When made 1929

Nominal Horse Power

Owners Wynnstay Steamship Co. Ltd.

Port belonging to

London.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

James Dunlop & Co; 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

8.5.29.

No. of Certificate

6708.

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

Pair Cockburn 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 boiler uptakes and bunkers

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.D.B.S. (5 rivets)

Diameter of rivet holes in

circ. seams 1 3/8"

long. seams 1 7/16"

Pitch of rivets

4 1/4"

Percentage of strength of circ. end seams

plate 67.6.

rivets 44.7.

Percentage of strength of circ. intermediate seam

plate 85.9.

rivets 86.6.

Percentage of strength of longitudinal joint

plate 85.9.

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

30 ft

Material

Steel

Tensile strength

26/30.

Smallest outside diameter

44 1/2"

Length of plain part

top 37"

bottom 64"

Thickness of plates

crown 37"

bottom 64"

Description of longitudinal joint

weld.

Dimensions of stiffening rings in furnace or on bottom

none

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"

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" (double).

Length as per Rule

33 3/4"

Distance apart

9"

No. and pitch of stays

in each 3-8 1/2"

Working pressure by Rules

186 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30.

Thickness: Sides

11/16"

Back

11/16"

Top

11/16"

Bottom

13/16"

Pitch of stays to ditto: Sides

9" x 8 3/4"

Back

9 1/4" 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

15/16"

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, 3 1/2"

or Over threads

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, 1 3/4"

or Over threads

No. of threads per inch

8

Area supported by each stay

87 sq. in.

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Foundation

W57-0150

Working pressure by Rules 205 lbs. Are the stays drilled at the outer ends Yes Margin stays: Diameter ^{At turned off part,} 1 7/8" or ^{Over threads} 1 7/8"

No. of threads per inch 8 Area supported by each stay 106 sq. in. Working pressure by Rules 195 lbs.

Tubes: Material Iron External diameter ^{Plain} 3 1/2" Thickness ^{Stay} 3 1/2" No. of threads per inch 8

Pitch of tubes 4 1/4" x 4 7/8" Working pressure by Rules p. 215 lb. s 201 lbs. Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 8" x 1 1/2" 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 ✓ 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 ✓

How connected to shell ✓ Inner radius of crown ✓ Working pressure by Rules ✓

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} ✓ ^{Steel castings} ✓

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 ✓ Working pressure as per Rules ✓

Pressure to which the safety valves are adjusted ✓ Hydraulic test pressure: tubes ✓ 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 (If not state date of approval.) ✓

^{while building} ^{During erection on board vessel - -} ✓ Total No. of visits ✓

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

These boilers are duplicate of Messrs Blair & Co's No 1981.

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 Machy. Report. When applied for, 192

Travelling Expenses (if any) £ When received, 192

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

Committee's Minute TUE. 18 JUN 1929

Assigned See Minute on Ind. Rpt 13714 attached