

## REPORT ON BOILERS.

Mdb. No. 13859

No. 16810.

Received at London Office

19 SEP 1929

Date of writing Report

192

When handed in at Local Office

18.9.

1929. Port of

No. in Survey held at

Hartlepool

Date, First Survey

14<sup>th</sup> June

Last Survey

11<sup>th</sup> Sept.

1929.

Reg. Book.

249 Sep

No. "APPLEDORE"

(Number of Visits

2)

Tons

Gross 5217

Net 3149

Master

Built at

Middlesbrough

By whom built

Furness S B Co Ltd

Yard No. 148

When built 1929.

Engines made at

Middlesbrough

By whom made

Richardsons Westgarth &amp; Co Ltd

Engine No. 2403

When made 1929

Boilers made at

Hartlepool

By whom made

ditto

Boiler No. 2403

When made 1929

Nominal Horse Power

Owners

Maritime Shipping &amp; Trading Co Ltd

Port belonging to

Bideford

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

D Colville &amp; Sons Ltd

(Letter for Record

S

Total Heating Surface of Boilers

7569 sq. ft.

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

Three. Single ended 3SB

Working Pressure

200 lbs.

Tested by hydraulic pressure to

350 lb

Date of test

29.7.29

No. of Certificate

3764

Can each boiler be worked separately

Area of Firegrate in each Boiler

59.84

No. and Description of safety valves to each boiler

2 Cockburns improved high lift

Area of each set of valves per boiler

per Rule 7.33

as fitted 9.8

Pressure to which they are adjusted

200 lb

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 boiler uptakes and bunkers or woodwork

9'0"

Is oil fuel carried in the double bottom under boilers

no.

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 3/8"

Length

12'-0"

Shell plates: Material

Steel

Tensile strength

29/33

Thickness

1 5/16"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end D.R. lap

long. seams

J.R. &amp; B.S.

Diameter of rivet holes in

circ. seams 1 1/4"

long. seams 1 5/16"

Pitch of rivets

3 1/2"

8 15/16"

Percentage of strength of circ. end seams

plate 64.3

rivets 42.3

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.33

rivets 85.8

combined 87.7

Working pressure of shell by Rules

203 lbs

Thickness of butt straps

outer 1"

inner 1 1/8"

No. and Description of Furnaces in each Boiler

3 Deightons

Material

Steel

Tensile strength

26/30

Smallest outside diameter

44 3/4"

Length of plain part

top

bottom

Thickness of plates

crown 5"

bottom 5"

Description of longitudinal joint

welded

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

✓

Working pressure of furnace by Rules

204 lbs

End plates in steam space

Material

Steel

Tensile strength

26/30

Thickness

1 3/16"

Pitch of stays

16 1/2" x 19 1/2"

How are stays secured

Double nuts

Working pressure by Rules

201 lbs

Tube plates: Material

front Steel

back Steel

Tensile strength

26/30

Thickness

27/32"

3/4"

Mean pitch of stay tubes in nests

11 1/4" x 7 3/8"

Pitch across wide water spaces

13 1/2"

Working pressure

front 205 lbs

back 231 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32

Depth and thickness of girder

at centre

8" x 1 3/4"

Length as per Rule

31 3/8"

Distance apart

8 1/2"

No. and pitch of stays

in each

3

7 1/4"

Working pressure by Rules

204 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26/30

Thickness: Sides

3/4"

Back

5"

Top

5"

Bottom

3/4"

Pitch of stays to ditto: Sides

7 1/4" x 8 1/2"

Back

7 1/4" x 8"

Top

7 1/4" x 8 1/2"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

217 lb

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

27/32"

Lower back plate: Material

Steel

Tensile strength

26/30

Thickness

13/16"

Pitch of stays at wide water space

13 1/2" x 8"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

218 lb

Main stays: Material

Steel

Tensile strength

28/32

Diameter

At body of stay, or Over threads 3" x 2 7/8"

No. of threads per inch

6

Area supported by each stay

16 1/2" x 20 1/2"

17" x 17 3/4"

Working pressure by Rules

201 &amp; 202 lb

Screw stays: Material

Steel

Tensile strength

26/30

Diameter

At turned off part, or Over threads 1 1/2"

No. of threads per inch

9

Area supported by each stay

8 1/2" x 7 1/4"



Working pressure by Rules 204 lbs Are the stays drilled at the outer ends no Margin stays: Diameter At turned off part, 1 3/4"  
 No. of threads per inch 9 Area supported by each stay 10 5/8" x 8" Working pressure by Rules 214 lbs  
 Tubes: Material Iron External diameter 2 1/2" Thickness 8 W.G. 5/16" No. of threads per inch 9  
 Pitch of tubes 3 1/16" x 3 3/4" Working pressure by Rules 300 Manhole compensation: Size of opening  
 shell plate 13" x 16 1/2" Section of compensating ring 13 3/8" x 1 5/16" No. of rivets and diameter of rivet holes 30 1 5/16"  
 Outer row rivet pitch at ends 8 1/16" Depth of flange if manhole flanged ✓ Steam Dome: Material none  
 Tensile strength / Thickness of shell / Description of longitudinal joint /  
 Diameter of rivet holes / Pitch of rivets / Percentage of strength of joint /  
 Internal diameter / Working pressure by Rules / Thickness of crown / No. and diameter /  
 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 /  
 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 / 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 RICHARDSONS, WESTGARTH & CO. LIMITED

Dates of Survey 1429.  
 During progress of work in shops - June 14, 17, 20, 24, July 1, 4, 5, 9, 12, 16, 23, 29.  
 while building Aug. 12, 13, 29, Sep. 2, 4, 5, 9, 10, 11  
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) ✓  
 Total No. of visits 21

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
These boilers have been built under Special Survey.  
The materials and workmanship are good.  
On completion they satisfactorily withstood the hydraulic test.  
The mountings have been examined and tested to twice the working pressure.  
The boilers have been despatched to Middlesbrough for fitting on board.  
These boilers have been securely fitted aboard and their safety valves have been adjusted and tested under steam with satisfactory results.

Survey Fee £ 20 When applied for, 192  
 Travelling Expenses (if any) £ 10 When received, 192  
M. Man  
18. 10. 29  
R.D. Shilston. & R. Julaekintosh  
 Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute TUE. 5 NOV '929  
 Assigned See Add. I. Exp. No 13859