

## REPORT ON BOILERS.

No. 91945

13 NOV 1934

Received at London Office

Date of writing Report

19

When handed in at Local Office

12 NOV 1934

Port of

NEWCASTLE-ON-TYNE

No. in  
Reg. Book.

Survey held at

South Shields

Date, First Survey Apr 5<sup>th</sup> (1933)

Last Survey

Nov 8<sup>th</sup>

1934

(Number of Visits 24)

Tons

Gross 4650.79

Net 2731.62

91453 on the

S.S. TYNEBANK

Master

Built at

S. Shields

By whom built

J. Readhead &amp; Sons Ltd

Boiler No. 506

When built 1934

Engines made at

S. Shields

By whom made

J. Readhead &amp; Sons Ltd

Engine No. 506

When made 1934

Boilers made at

"

"

By whom made

"

"

Boiler No. 506

When made 1934

Nominal Horse Power

Owners

Bank Line Ltd

Port belonging to

Glasgow

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

Manufacturers of Steel

Steel Company of Scotland

(Letter for Record S)

Total Heating Surface of Boilers

5486 sq

Is forced draught fitted

Yes

Coal or Oil fired

Coal

No. and Description of Boilers

2 Single ended multitubular

Working Pressure 220 lbs

Tested by hydraulic pressure to

380 lbs

Date of test

5-25-8-33

No. of Certificate

S-N 602

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

60 sq

No. and Description of safety valves to each boiler

2 Double spring loaded (Gault)

Area of each set of valves per boiler

per Rule 11.7 sq

as fitted 11.88 sq

Pressure to which they are adjusted

220 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 uptakes and bunkers or woodwork

1-10"

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

2'-2"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

15'-6"

Length

11'-9"

Shell plates: Material

Steel

Tensile strength 29-33 lbs

Thickness

1 1/2"

Are the shell plates welded or flanged

Yes

Description of riveting: circ. seams

end D.R.L.J.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams 1 1/2"

long. seams 1 1/2"

Pitch of rivets

4 1/4"

Percentage of strength of circ. end seams

plate 64.8

rivets 44.0

Percentage of strength of circ. intermediate seam

plate 85.0

rivets 87.6

Percentage of strength of longitudinal joint

plate 85.0

rivets 87.6

Working pressure of shell by Rules

221.7 lbs

Thickness of butt straps

outer 1 3/16"

inner 1 5/16"

No. and Description of Furnaces in each Boiler

3 Deighton Type

Material

Steel

Tensile strength

26-30 lbs

Smallest outside diameter

3-9 1/8"

Length of plain part

top 1'

bottom 1'

Thickness of plates

crown 1 1/16"

bottom 1 1/16"

Description of longitudinal joint

Yes

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

Working pressure of furnace by Rules

223 lbs

End plates in steam space: Material

Steel

Tensile strength

26-30 lbs

Thickness

1 5/16"

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

How are stays secured

Double nut &amp; washer outside (12 1/2" dia x 1")

Working pressure by Rules

220.9 lbs

Tube plates: Material

front Steel

back Steel

Tensile strength

26-30 lbs

Thickness

1 3/16"

Mean pitch of stay tubes in nests

9 13/16"

Pitch across wide water spaces

14"

Working pressure

front 224 lbs

back 244 lbs

Girders to combustion chamber tops: Material

Steel

Tensile strength

29-33 lbs

Depth and thickness of girder

at centre

8 1/2" x 1 3/4"

Length as per Rule

2'-7 1/2"

Distance apart

9 7/8"

No. and pitch of stays

in each

229"

Working pressure by Rules

222 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26-30 lbs

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Bottom

7/8"

Pitch of stays to ditto: Sides

9 1/2" x 9 3/8"

Back

9 15/16" x 9"

Top

9" x 9 7/8"

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

220.5 lbs

Front plate at bottom: Material

Steel

Tensile strength

26-30 lbs

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26-30 lbs

Thickness

7/8"

Pitch of stays at wide water space

14" x 9"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

226 lbs

Main stays: Material

Steel

Tensile strength

28-32 lbs

Diameter

At body of stay, 3 1/2" dia

Over threads

No. of threads per inch

6

Area supported by each stay

416 sq

Working pressure by Rules

227 lbs

Screw stays: Material

Steel

Tensile strength

26-30 lbs

Diameter

At turned off part, 1 7/8" dia

Over threads

No. of threads per inch

9

Area supported by each stay

89.2 sq



Working pressure by Rules 239 lbs. Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part, 2" dia / Over threads }  
No. of threads per inch 9 Area supported by each stay 108 sq. Working pressure by Rules 229 lbs.  
Tubes: Material Steel External diameter { Plain 3" dia / Stay 3" dia } Thickness { 5/16" & 3/8" } No. of threads per inch 9  
Pitch of tubes 11 1/2" x 8 1/2" Working pressure by Rules 238 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 20 - 1 1/2" dia  
Outer row rivet pitch at ends 10 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 ☒ 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 The Superheater Co. Ltd. Manufacturers of Tubes See approved plans & certificates  
Number of elements Material of tubes S.F. Steel Internal diameter and thickness of tubes 16 1/4" 3 3/4"  
Material of headers Steel Forging Tensile strength ☒ Thickness ☒ Can the superheater be shut off and  
the boiler be worked separately Yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes  
Area of each safety valve 3.54 sq. Are the safety valves fitted with easing gear Yes Working pressure as per  
Rules 220 lbs. Pressure to which the safety valves are adjusted 225 lbs. Hydraulic test pressure:  
tubes 1000 lbs., castings 660 lbs. and after assembly in place 440 lbs. Are drain cocks or valves fitted  
to free the superheater from water where necessary Yes  
Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes  
The foregoing is a correct description,  
J. H. Matthews  
CHAIRMAN & MANAGING DIRECTOR

He 5-6-27-28 Aug 2-4-10-17-22-31 June 8-29  
Dates of Survey { During progress of work in shops - Aug 1-4-11-15-23-25 Oct 11. Are the approved plans of boiler and superheater forwarded herewith Yes  
while building { During erection on board vessel - Aug 24 Oct 1-9-20 Nov 8- Total No. of visits 24  
(If not state date of approval.)

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 boilers have been built under special survey in accordance with rule requirements & approved plan. Materials & workmanship are good. Hydraulic test satisfactory. They have been efficiently installed & fixed in vessel examined under steam & the safety valves adjusted to the approved pressure

Survey Fee ... £ : When applied for, 19  
Travelling Expenses (if any) £ See under ref : When received, 19

J. H. Matthews  
Engineer Surveyor to Lloyd's Register of Shipping, Wor.

Committee's Minute TUE. 20 NOV 1934  
Assigned See other hwc. J.E Rpt