

REPORT ON BOILERS.

No. 91945

Received at London Office 18 NOV 1934

Date of writing Report

19

When handed in at Local Office

12 NOV 1934

Port of

NEWCASTLE-ON-TYNE

No. in Survey held at
Reg. Book.

South Shields

Date, First Survey Apr 5 (1933)

Last Survey Nov 8 1934

(Number of Visits 25)

Gross 4650.19
Tons Net 2731.62

91453 on the

S. S. TYNEBANK

Master

Built at S. Shields

By whom built J. Readhead & Sons Ltd

No. 506

When built 1934

Engines made at

South Shields

By whom made J. Readhead & 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

1958 sq

Is forced draught fitted

Yes

Coal or Oil fired Coal

No. and Description of Boilers

One single ended multitubular

Working Pressure 220 lbs

Tested by hydraulic pressure to

380 lbs

Date of test 5-9-33

No. of Certificate N° 603

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

47 sq

No. and Description of safety valves to each boiler

2 double spring loaded (flange) H.L.

Area of each set of valves per boiler

per Rule 8.34 sq

as fitted 8.86 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

✓

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'-5"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

13'-6 3/8"

Length 11'-9"

Shell plates: Material

Steel

Tensile strength 29-33 lbs

Thickness

1 5/16"

Are the shell plates welded or flanged

✓

Description of riveting: circ. seams

end D.R.L.D.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams 1 3/8"

long. seams 1 3/8"

Pitch of rivets

4 1/4"

9 1/4"

Percentage of strength of circ. end seams

plate 67.7

rivets 42.2

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 85.13

rivets 90.9

Working pressure of shell by Rules

221 lbs

Thickness of butt straps

outer 1"

inner 1 1/8"

No. and Description of Furnaces in each Boiler

3 Brighton Type C.F.

Material

Steel

Tensile strength

26-30 lbs

Smallest outside diameter

3'-2 1/16"

Length of plain part

top

bottom

Thickness of plates

crown 1 9/32"

bottom 3/32"

Description of longitudinal joint

✓

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

✓

Working pressure of furnace by Rules

221 lbs

End plates in steam space: Material

Steel

Tensile strength 26-30 lbs

Thickness 1 3/16"

Pitch of stays 17" x 19"

How are stays secured

Double nuts washers outside (11" dia x 1 1/2")

Working pressure by Rules

233 lbs

Tube plates: Material

front Steel

back

Tensile strength 26-30 lbs

Thickness

15/16"

Mean pitch of stay tubes in nests

9 5/8"

Pitch across wide water spaces

14"

Working pressure

front 224 lbs

back 235 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 20 9"

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 3/4" x 9"

Back 10" x 8 3/4"

Top 9" x 9 7/8"

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

222 lbs

Front plate at bottom: Material

Steel

Tensile strength 26-30 lbs

Thickness

15/16"

Lower back plate: Material

Steel

Tensile strength 26-30 lbs

Thickness

7/8"

Pitch of stays at wide water space

14" x 8 3/4"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

228 lbs

Main stays: Material

Steel

Tensile strength 28-32 lbs

Diameter

At body of stay, 3 1/8" dia

No. of threads per inch

6

Area supported by each stay

332 sq

Working pressure by Rules

221 lbs

Screw stays: Material

Steel

Tensile strength 26-30 lbs

Diameter

At turned off part, 1 7/8" dia

No. of threads per inch

9

Area supported by each stay

88.95 sq

Diameter

At turned off part, 1 7/8" dia

No. of threads per inch

9

Area supported by each stay

88.95 sq

Working pressure by Rules 240 lbs Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 2 dia or Over threads }
No. of threads per inch 9 Area supported by each stay 105 sq Working pressure by Rules 237 lbs
Tubes: Material Steel External diameter { Plain 8 dia Stay } Thickness { 8 L.S. 9 } No. of threads per inch 9
Pitch of tubes 11 1/2 x 8 1/4 Working pressure by Rules 246 lbs Manhole compensation: Size of opening in shell plate 16 x 12 Section of compensating ring 8 x 1 1/16 No. of rivets and diameter of rivet holes 28 - 1 3/8
Outer row rivet pitch at ends 9 1/4 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 _____ 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 _____, castings _____ and after assembly in place _____
to free the superheater from water where necessary _____
Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with _____

FOR JOHN READHEAD & SONS, LTD.
J. M. H. Readhead
The foregoing is a correct description,
CHAIRMAN & MANAGING DIRECTOR. Manufacturer.

Are the approved plans of boiler and superheater forwarded herewith Yes
(If not state date of approval.)
Dates of Survey { During progress of work in shops - - } July 4-19 Aug 1-4-11-15 Sep 5 Oct 11
while building { During erection on board vessel - - } Aug 24 Oct 1-9-30. Nov 8
Total No. of visits 25

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.)

This boiler has been built under special survey in accordance with rule requirements & approved plan. Materials & workmanship are good. Hydraulic test satisfactory. It has been efficiently installed & fired in vessel, examined under steam & the safety valves adjusted to the approved pressure.

Survey Fee £ for witness report
Travelling Expenses (if any) £ for witness report
When applied for, 19
When received, 19

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

Committee's Minute TUE. 20 NOV 1934
Assigned See Invc. J.E. Archy Rpt