

REPORT ON BOILERS.

No. 97322

APR 4 1939

Received at London Office

Date of writing Report

19

When handed in at Local Office

31/3/1939

Port of

NEWCASTLE-ON-TYNE

No. in
Reg. Book.

Survey held at South Shields

Date, First Survey

2 May 1938

Last Survey

Mar 21

1939

(Number of Visits

90254 on the

S. S. THORNIEBANK

Tons

Gross 5568.54

Net 3249.39

Master

Built at

S. Shields

By whom built

J. Readhead & Sons Ltd

Vard No.

515

When built

1939

Engines made at

South Shields

By whom made

J. Readhead & Sons Ltd

Engine No.

515

When made

1939

Boilers made at

South Shields

By whom made

J. Readhead & Sons Ltd

Boiler No.

515

When made

1939

Nominal Horse Power

Owners

Bank Line Ltd

Port belonging to

Glasgow

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The 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

3800 lbs

Date of test

20-1-39

No. of Certificate

812

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

H.L.

Area of each set of valves per boiler

per Rule

6.94 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'-7"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

2'-4"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

13'-6 3/8"

Length

11'-9"

Shell plates: Material

S.M. Steel

Tensile strength

29-33 Tons

Thickness

1 5/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end

D.R.L.S.

long. seams

T.R.D.B.S.

Diameter of rivet holes in

circ. seams

1 3/8"

long. seams

Pitch of rivets

4 1/4"

Percentage of strength of circ. end seams

plate

67.7

rivets

42.2

Percentage of strength of circ. intermediate seam

plate

85.13

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 1/8"

No. and Description of Furnaces in each Boiler

3 Dighton Type

Material

S.M. Steel

Tensile strength

26-30 Tons

Smallest outside diameter

3'-2 1/16"

Length of plain part

top

bottom

Thickness of plates

crown

1 1/8"

bottom

Description of longitudinal joint

bottom

Description of longitudinal joint

Description of longitudinal joint

Description of longitudinal joint

Description of longitudinal joint

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

S.M. Steel

Tensile strength

26-30 Tons

Thickness

1 3/16"

Pitch of stays

17x19"

How are stays secured

Double nuts, washers outside (11 dia x 1 1/4)

Working pressure by Rules

233 lbs

Tube plates: Material

front

S.M. Steel

back

S.M. Steel

Tensile strength

26-30 Tons

Thickness

25/32"

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

S.M. Steel

Tensile strength

29-33 Tons

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

S.M. Steel

Tensile strength

26-30 Tons

Thickness: Sides

3/4"

Back

3/4"

Top

3/4"

Pitch of stays to ditto:

Sides

9 1/4 x 9"

Back

10 x 8 3/4"

Top

9 x 9 1/8"

Are stays fitted with nuts or riveted over

Nuts

Working pressure by Rules

222 lbs

Front plate at bottom: Material

S.M. Steel

Tensile strength

26-30 Tons

Thickness

1 5/16"

Lower back plate: Material

S.M. Steel

Tensile strength

26-30 Tons

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

S.M. Steel

Tensile strength

28-32 Tons

Diameter

At body of stay,

3 1/8"

Over threads

No. of threads per inch

6

Area supported by each stay

332 sq

Working pressure by Rules

221 lbs

Screw stays: Material

S.M. Steel

Tensile strength

26-30 Tons

Diameter

At turned off part,

1 1/8"

Over threads

No. of threads per inch

9

Area supported by each stay

88.95 sq

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W130-0068

Working pressure by Rules **240 lb** Are the stays drilled at the outer ends **No** Margin stays: Diameter { At turned off part, or Over threads } **2"**

No. of threads per inch **9** Area supported by each stay **105"** Working pressure by Rules **237 lb**

Tubes: Material **Iron** External diameter { Plain Stay } **3"** Thickness { **5/16 - 3/8** } No. of threads per inch **9**

Pitch of tubes **11 1/2" x 8 1/4"** Working pressure by Rules **246 lb** Manhole compensation: Size of opening in shell plate **16" x 12"** Section of compensating ring **8" x 15/16"** No. of rivets and diameter of rivet holes **28 2 1/8"**

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 forgings
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 forgings and 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

J. H. Matthews
The foregoing is a correct description,

Manufacturer.

Dates of Survey { During progress of work in shops - - }
while building { During erection on board vessel - - }
See Inquiry Report

Are the approved plans of boiler and superheater forwarded herewith **2-12-37**
(If not state date of approval.)

Total No. of visits

Is this Boiler a duplicate of a previous case **Yes** If so, state Vessel's name and Report No. **SUTHERLAND. 96205.**

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 fixed in vessel examined under steam & the safety valves adjusted to the approved pressure.

Survey Fee ...

Travelling Expenses (if any) £

When applied for,

When received,

19

19

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

REC 12 APR 1939

Committee's Minute

Assigned

See Invc. JE 97322



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