

REPORT ON BOILERS.

Std. No. 31608

Mch No. 15300

Received at London Office

JAN 1935

5 APR 1935

Date of writing Report

4. 1. 1935

When handed in at Local Office

8. 1. 1935

Port of MIDDLESBROUGH

No. in Survey held at

STOCKTON.

Date, First Survey

11 Oct/34

Last Survey

4. 1. 1935

Reg. Book.

on the M.V. "KINROSS"

(Number of Visits 13)

Gross

4956

Tons

Net 3043

Master

Built at

Sunderland.

By whom built

Wm. Bayford & Sons Ltd.

Yard No.

613.

When built

1935

Engines made at

Sunderland.

By whom made

W. Doreford & Sons Ltd.

Engine No.

613.

When made

1935

Boiler made at

Stockton

By whom made

Stockton Chemical Eng'g & Shipbuilding Co. Ltd.

Boiler No.

6087

When made

1935

Nominal Horse Power

Owners

B. J. Sutherland & Co. Ltd.

Port belonging to

Newcastle

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Steel Company of Scotland Ltd.

(Letter for Record S.)

Total Heating Surface of Boilers

1390 sq. ft.

Is forced draught fitted

No.

Coal or Oil fired

oil

No. and Description of Boilers

1 S.B.

Working Pressure

120 lbs.

Tested by hydraulic pressure to

230 lbs.

Date of test

4. 1. 35

No. of Certificate

6869

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler

2 Relief Spring.

Area of each set of valves per boiler

per Rule 12.88 sq. in.

as fitted 16.6 sq. in.

Pressure to which they are adjusted

120

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

Is oil fuel carried in the double bottom under boiler

No.

Smallest distance between shell of boiler and tank top plating

2'-10"

Is the bottom of the boiler insulated

Yes.

Largest internal dia. of boilers

11'-10 5/8"

Length

11'-0"

Shell plates: Material

Steel

Tensile strength

29/33.

Thickness

11/16"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

and

D.R.

long. seams T.R.D.B.S. (4 rivets)

Diameter of rivet holes in

circ. seams 1 1/8"

long. seams 1 3/8"

Pitch of rivets

5 3/8"

Percentage of strength of circ. end seams

plate 68.5%

rivets 45.6%

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 84.88%

rivets 83.7%

combined

Working pressure of shell by Rules

123 lbs.

Thickness of butt straps

outer 9/16"

inner 11/16"

No. and Description of Furnaces in each Boiler

2 e.f.

Material

Steel

Tensile strength

26/30.

Smallest outside diameter

3'-11 1/2"

3'-8 1/16"

Length of plain part

top

bottom

Thickness of plates

crown 13/32"

bottom 1/2"

Description of longitudinal joint

weld.

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

Working pressure of furnace by Rules

121 lbs.

End plates in steam space: Material

Steel

Tensile strength

26/30.

Working pressure by Rules

139 lbs.

How are stays secured

D.N.V.W. and D.N.R.W.

Tube plates: Material

front Steel

back

Tensile strength

26/30.

Thickness

3/32"

Working pressure

front 152 lbs.

back 125 lbs.

Mean pitch of stay tubes in nests

11 1/4" x 7 1/16"

Pitch across wide water spaces

13 1/2" x 7"

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32.

Depth and thickness of girder

No. and pitch of stays

at centre

7'-5 1/8" (double)

Length as per Rule

2'-6 1/2"

Distance apart

8"

in each

2. 9 1/2"

Working pressure by Rules

141 lbs.

Combustion chamber plates: Material

Steel

Tensile strength

26/30.

Thickness: Sides

3/32"

Back

9/16"

Top

19/32"

Bottom

11/16"

Pitch of stays to ditto: Sides

10" x 9" (meas)

Back

8 1/4" x 9 1/2"

Top

8" x 9 1/2"

Are stays fitted with nuts or riveted over

nuts.

Working pressure by Rules

129 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30

Thickness

3/32"

Thickness

27/32"

Lower back plate: Material

Steel

Are stays fitted with nuts or riveted over

nuts.

Pitch of stays at wide water space

13 1/2" x 9 1/2"

Tensile strength

28/32.

Working Pressure

213 lbs.

Main stays: Material

Steel

Diameter

At body of stay, 2 1/4"

Over threads

133 lbs.

No. of threads per inch

6.

Area supported by each stay

259.6 sq. in.

Working pressure by Rules

At turned off part, 1 3/8"

Over threads

133 lbs.

No. of threads per inch

9.

Area supported by each stay

74.5 sq. in.

Diameter

At body of stay, 2 1/4"

Over threads

133 lbs.

No. of threads per inch

9.

Area supported by each stay

74.5 sq. in.

Diameter

At body of stay, 2 1/4"

Over threads

133 lbs.

No. of threads per inch

9.

Area supported by each stay

74.5 sq. in.

Diameter

At body of stay, 2 1/4"

Over threads

133 lbs.

No. of threads per inch

9.

Area supported by each stay

74.5 sq. in.

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Working pressure by Rules 135 lbs. Are the stays drilled at the outer ends no. Margin stays: Diameter { At turned off part, 1 7/8" or Over threads }
 No. of threads per inch 9. Area supported by each stay 100 sq Working pressure by Rules 152 lbs.
 Tubes: Material lap welded iron External diameter { Plain 2 1/2" to 2 3/4" Stay 2 1/2" to 2 3/4" Thickness { 10 W.G. } No. of threads per inch 9.
 Pitch of tubes 3 1/2" x 3 1/2" Working pressure by Rules p. 175 lbs. S. 221 lbs. Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 7 1/2" x 1" No. of rivets and diameter of rivet holes 44 - 7/8"
 Outer row rivet pitch at ends 6" 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 Are drain cocks or valves fitted to free the superheater from water where necessary.

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Ye.

For and on behalf of
 The foregoing is a correct description,
Geo. W. Riley Manufacturer.

Dates of Survey { During progress of work in shops - 1914 Oct 11, 16, 24, 31 Nov 5, 12, 19, 27 Dec 6, 11, 17 Are the approved plans of boiler and superheater forwarded herewith Ye.
 while building { During erection on board vessel - - - }
 Total No. of visits

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

This boiler is a duplicate of Messrs. Sturtevant Chem. Engrs. Riley, Boiler No. 6085, Mach. Rpt No. 15270.

The materials and workmanship are good. This boiler has been built under special survey in accordance with the Rules and approved Plan. It is being sent to Sunderland for fitting aboard.

This boiler has been securely fixed on board the vessel, examined under steam & safety valves adjusted to working pressure as above. For recommendation please see machinery report.

W. H. Fraser.

Survey Fee ... £ 9-6-0 When applied for, 8-1-1915
 Travelling Expenses (if any) £ : : When received, 14-3-1915

P. J. Macan

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 9 APR 1935

Assigned

see J. S. Machy



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