

Rpt. 5a.

REPORT ON BOILERS.

No. 17045

Received at London Office

19 DEC 1927

Date of writing Report 8-12-1927 When handed in at Local Office

192

Port of Rotterdam

No. in Survey held at

Rotterdam

Date, First Survey 24.8.27

Last Survey 27-10-1927

Reg. Book.

41648 on the *Boilers No. 405-56 S/S Leticia*

(Number of Visits 11)

Gross 2580

Net 1116

Master

Built at *Aboufaleone*By whom built *Canter Naval Trust*

Yard No. 197

When built 1922

Engines made at

Rotterdam

By whom made

Rott Droogd My

Engine No. 162/53

When made 1927

Boilers made at

Rotterdam

By whom made

Rott Droogd My

Boiler No. 405/56

When made 1927

Nominal Horse Power

236

Owners *Curacaoische Scheep My*Port belonging to *Willemsstad*

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *Elmers Wethouster Berg & Co. Rotterdam* (Letter for Record *S*)

Total Heating Surface of Boilers

4168

Is forced draught fitted

Yes

Coal or Oil fired

Oil

No. and Description of Boilers

2 single ended multitubular main boilers

Working Pressure

180 lb

Tested by hydraulic pressure to

320 lb

Date of test 17-10-27

No. of Certificate

874

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

—

No. and Description of safety valves to each boiler

2 high lifting spring loaded

Area of each set of valves per boiler

per Rule

—

Pressure to which they are adjusted

Are they fitted with easing gear

Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

No donkey boiler

Smallest distance between boilers or uptakes and bunkers or woodwork

—

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

—

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

13'0"

Length

12'3"

Shell plates: Material

S.M. Steel

Tensile strength

28-32 tons

Thickness

1 1/2"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end lap ex riv

long. seams

Double butt 3 x riv

Diameter of rivet holes in

circ. seams

1 1/16"

Pitch of rivets

3 1/16"

Percentage of strength of circ. end seams

plate

62.9%

rivets

51.5%

Percentage of strength of circ. intermediate seam

plate

—

Percentage of strength of longitudinal joint

plate

88.4%

rivets

88.2%

Working pressure of shell by Rules

195 lbs

20f.

Thickness of butt straps

outer

1/8"

inner

1/8"

No. and Description of Furnaces in each Boiler

2 Morrison patent

Material

S.M. Steel

Tensile strength

26-30 tons

Smallest outside diameter

3'11 1/8"

Length of plain part

top

—

bottom

—

Thickness of plates

crown

2 1/2"

bottom

1 3/4"

Description of longitudinal joint

Welded

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

None

Working pressure of furnace by Rules

200 lbs

End plates in steam space: Material

S.M. Steel

Tensile strength

26-30 tons

Thickness

1 1/8"

Pitch of stays

17 x 16"

How are stays secured

Secured in plates and mitted outside

Working pressure by Rules

210 lbs

Tube plates: Material

front

S.M. Steel

Tensile strength

26-30 tons

Thickness

1 1/8"

Mean pitch of stay tubes in nests

8"-12"

Pitch across wide water spaces

14 3/4"

Working pressure

front 195 lbs

back 185 lbs

Girders to combustion chamber tops: Material

S.M. Steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

8 1/2" x 2 x 3/4"

Length as per Rule

2'7 1/2"

Distance apart

8 1/2"

No. and pitch of stays

in each

2 x 10"

Working pressure by Rules

290 lbs

Combustion chamber plates: Material

S.M. Steel

Tensile strength

26-30 tons

Thickness: Sides

7/8"

Back

3/4"

Top

7/8"

Bottom

7/8"

Pitch of stays to ditto: Sides

9 3/4" x 10"

Back

8" x 7 1/4"

Top

10" x 8 1/2"

Are stays fitted with nuts or riveted over

Fitted over

Working pressure by Rules

207 lbs

Front plate at bottom: Material

S.M. Steel

Tensile strength

26-30 tons

Thickness

1 1/8"

Lower back plate: Material

S.M. Steel

Tensile strength

26-30 tons

Thickness

3/4"

Pitch of stays at wide water space

15 7/8"

Are stays fitted with nuts or riveted over

Fitted with nuts

Working Pressure

312 lbs

Main stays: Material

S.M. Steel

Tensile strength

26-30 tons

Diameter

At body of stay,

2 1/2"

Over threads

2 1/4"

No. of threads per inch

9

Area supported by each stay

232 sq. in.

Working pressure by Rules

203 lbs

Screw stays: Material

S.M. Steel

Tensile strength

26-30 tons

Diameter

At turned off part,

1 3/8"

Over threads

1 1/2"

No. of threads per inch

9

Area supported by each stay

91.6 sq. in.

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Working pressure by Rules $105 \frac{lb}{sq\ in}$ Are the stays drilled at the outer ends ☒ Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part, } 1 \frac{1}{8}'' \\ \text{Over threads } 1 \frac{1}{4}'' \end{array} \right.$

No. of threads per inch 9 Area supported by each stay $84 \frac{sq\ in}{sq\ in}$ Working pressure by Rules $216 \frac{lb}{sq\ in}$

Tubes: Material Steel External diameter $\left\{ \begin{array}{l} \text{Plain } 2 \frac{1}{4}'' \\ \text{Stay } 2 \frac{1}{2}'' \end{array} \right.$ Thickness $\left\{ \begin{array}{l} \text{Plain } \frac{1}{4}'' \\ \text{Stay } \frac{3}{8}'' \end{array} \right.$ No. of threads per inch 9

Pitch of tubes $4''$ Working pressure by Rules $20 \frac{lb}{sq\ in}$ Manhole compensation: Size of opening in

shell plate $20 \frac{3}{4} \times 16 \frac{3}{4}$ Section of compensating ring $8 \frac{1}{4} \times 1 \frac{1}{8}$ No. of rivets and diameter of rivet holes $42 \times 1 \frac{1}{16}''$

Outer row rivet pitch at ends $3 \frac{1}{4}''$ Depth of flange if manhole flanged $5 \frac{1}{2}''$ Steam Dome: Material Steel

Tensile strength Steel Thickness of shell Steel Description of longitudinal joint Steel

Diameter of rivet holes Steel Pitch of rivets Steel Percentage of strength of joint Steel

Internal diameter Steel Working pressure by Rules Steel Thickness of crown Steel No. and diameter of

stays Steel Inner radius of crown Steel Working pressure by Rules Steel

How connected to shell Steel Size of doubling plate under dome Steel Diameter of rivet holes and pitch

of rivets in outer row in dome connection to shell Steel

Type of Superheater Steel Manufacturers of Steel

Number of elements Steel Material of tubes Steel Internal diameter and thickness of tubes Steel

Material of headers Steel Tensile strength Steel Thickness Steel Can the superheater be shut off and

the boiler be worked separately Steel Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Steel

Area of each safety valve Steel Are the safety valves fitted with easing gear Steel Working pressure as per

Rules Steel Pressure to which the safety valves are adjusted Steel Hydraulic test pressure: Steel

tubes Steel, castings Steel and after assembly in place Steel Are drain cocks or valves fitted

to free the superheater from water where necessary Steel

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

The foregoing is a correct description, Yes Manufacturer.

Dates of Survey white During progress of work in shops - - 14/8 29/8 9/9 13/9 15/9 21/9 26/9 3/10 5/10 14/10 17/10 Are the approved plans of boiler and superheater forwarded herewith See letter 15.7.27

building white During erection on board vessel - - 1 Total No. of visits 11

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been made in accordance with the Society's Rules, Secretary's letters and approved plans, material tested as required and workmanship good. Tested by hydraulic pressure as required by the Rules and found sound and tight.

A copy of this report has been sent to the First Surveyors.

Survey Fee ... 203.20 When applied for, 6/12 1927

Travelling Expenses (if any) £ : : When received, 15/12 1927



Committee's Minute

TUES. 21 FEB 1928

Assigned

See Tr. No. 844



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