

## REPORT ON BOILERS.

No. 1506

24 JAN 1927

Date of writing Report 22 January 1927

When handed in at Local Office 22 January 1927

Received at London Office

Port of Nantes

No. in Survey held at St. Nazaire

Date, First Survey 20 March 1925 Last Survey 19 January 1926

No. in Reg. Book 49.468 on the Steel Motor Passenger Vessel ITAPAGÉ

(Number of Visits 24

Tons { Gross  
Net

Builder Built at Rouen

By whom built Ch &amp; Atel de St. Nazaire Yard No. PS When built 1927

Engines made at Penhoet, St. Nazaire By whom made Chantiers &amp; Ateliers de St. Nazaire Engine No. PS When made 1927

Boilers made at Penhoet, St. Nazaire By whom made Chantiers &amp; Ateliers de St. Nazaire Boiler No. 1205/6 When made 1926

Nominal Horse Power 714

Owners Companhia Nacional Navegacao Costeira

Port belonging to Rio de Janeiro

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel U.M.B.P. Trignac, Longwy and Colville &amp; Co.

Total Heating Surface of Boilers 198 m<sup>2</sup> 06

Is forced draught fitted Yes

(Letter for Record S)

No. and Description of Boilers Two cylindrical multitubular

Coal or Oil fired oil

Tested by hydraulic pressure to 22 kg. 600

Date of test 19.1.26

No. of Certificate 89

Working Pressure 12 kg. 65 cm<sup>2</sup>

Area of Firegrate in each Boiler 0.5

No. and Description of safety valves to each boiler Two spring loaded by Coatham MacNicol

Area of each set of valves per boiler { per Rule 3545 cm<sup>2</sup>  
as fitted 6434 cm<sup>2</sup>

Pressure to which they are adjusted

Are they fitted with easing gear

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 boilers

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Largest internal dia. of boilers 3.200

Length 3.104

Shell plates: Material Steel

Tensile strength 49/55 x 20%

Thickness 22

Are the shell plates welded or flanged No

Description of riveting: circ. seams { end D.R.  
inter. none

g. seams D.B.S.: T.R.

Diameter of rivet holes in { circ. seams 26  
long. seams 26Pitch of rivets { 72.7  
152.5Percentage of strength of circ. end seams { plate 65.9  
rivets 48.8Percentage of strength of circ. intermediate seam { plate  
rivetsPercentage of strength of longitudinal joint { plate 82.9  
rivets 109.0  
combined 87.7Working pressure of shell by Rules 13 kg. 5 cm<sup>2</sup>Thickness of butt straps { outer 18  
inner 21

No. and Description of Furnaces in each Boiler Two Nighton corrugated, withdrawable

Tensile strength 41/47 x 27%

Smallest outside diameter 926

Length of plain part { top  
bottomThickness of plates { crown 13 mm  
bottom

Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom none

Working pressure of furnace by Rules 14 kg. 2 cm<sup>2</sup>

Plates in steam space: Material Steel

Tensile strength 41/47 x 26%

Thickness 27 Pitch of stays 495 x 360

Are stays secured screws into end plates, double nuts &amp; washers outside.

Working pressure by Rules 12 kg. 650 cm<sup>2</sup>Plates: Material { front Steel  
back SteelTensile strength { 41/47 x 26%  
41/47 x 27%Thickness { 27  
20

Pitch of stay tubes in nests 190

Pitch across wide water spaces 370

Working pressure { front 20.7  
back 23.8

Boilers to combustion chamber tops: Material Steel

Tensile strength 41/47 x 26%

Depth and thickness of girder

Centre 200 x 36

Length as per Rule 684

Distance apart 250

No. and pitch of stays

Ch 2 at 210

Working pressure by Rules 13 kg. 8 cm<sup>2</sup>

Combustion chamber plates: Material Steel

Tensile strength 41/47 x 27%

Thickness: Sides 16

Back 16

Top 17

Bottom 16

Pitch of stays to ditto: Sides 210 x 210

Back 235 x 188

Top 250 x 210

Are stays fitted with nuts or riveted over nuts.

Working pressure by Rules 13 kg. 3 cm<sup>2</sup>

Front plate at bottom: Material Steel

Tensile strength 41/47 x 26%

Thickness 27

Lower back plate: Material Steel

Tensile strength 41/47 x 26%

Thickness 27

Pitch of stays at wide water space 360 x 235

Are stays fitted with nuts or riveted over Nuts

Working Pressure 23 kg. 0 cm<sup>2</sup>

Main stays: Material Steel

Tensile strength 44/50 x 23%

At body of stay, 62.

No. of threads per inch 6.35

Area supported by each stay 1773 cm<sup>2</sup>Working pressure by Rules 13 kg. 0 cm<sup>2</sup>

Screw stays: Material Steel

Tensile strength 41/47 x 23%

At turned off part, 38.

No. of threads per inch 10

Area supported by each stay 441 cm<sup>2</sup>

Over threads ord. max. 38. marginal 46. Com. 50.



Working pressure by Rules  $12 \text{ kg. S.}$  Are the stays drilled at the outer ends *No* Margin stays: Diameter *At turned off part*  
 No. of threads per inch *10* Area supported by each stay *544 cm<sup>2</sup>* Working pressure by Rules  $13 \text{ kg. S. cm}^2$   
 Tubes: Material *Steel* External diameter *Plain 63.5 Stay 63.5* Thickness *3.25 marginal 9.0 ordinary 6.0* No. of threads per inch *10*  
 Pitch of tubes  $97 \times 93$  Working pressure by Rules  $12.6$  Manhole compensation: Size of opening in  
 shell plate *400 x 520*  $300 \times 400$  Section of compensating ring *Flanged plate*  $900 \times 894 \times 22$  No. of rivets and diameter of rivet holes *66. - 26 mm*  
 Outer row rivet pitch at ends  $155$  Depth of flange if manhole flanged  $70$  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  
 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

The foregoing is a correct description,

Dates of Survey { During progress of work in shops - - } *Included in report on engine*  
 while building { During erection on board vessel - - }

Are the approved plans of boiler and superheater forwarded herewith *Copy in/one*  
 (If not state date of approval.)  
 Total No. of visits *In Shop 24*  
*Approved 12*  
*General Rep*

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

*These auxiliary boilers have been specially surveyed during their construction. They have been built in accordance with the approved plan and the material used has been made at approved works and tested by the Surveyors to the Society.*

*They will be eligible in my opinion for notation in the Register Book of suitable date when fitted onboard as required by the Rules.*

*142 NHP.*  
 Total Survey Fee  $\pounds 14.4.0$  *Hand. 1.400.*  
 4/3 do for Mantr @ 122/50  
 Travelling Expenses (if any) *do. Included in engine report.*

When applied for *22 January 1927.*  
 When received *28. 2. 1927*

*Geo. A. Paris*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 2 DEC 1927

Assigned

*See Rou. 78 up to No 626 attached*



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