

## REPORT ON BOILERS.

No. 1559

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Date of writing Report 1<sup>st</sup> February 1928 When handed in at Local Office 1<sup>st</sup> February 1928 Port of Nantes.

No. in Reg. Book. Survey held at St. Nazaire Date, First Survey 23 October 1924. Last Survey 31 January 1928.

on the Steel Twin Screw Passenger Vessel "ITAHITE" (Number of Visits ) Tons { Gross Net

Master Built at Rouen By whom built Ch. et Atel. de St. Nazaire Yard No. 175 When built 1928/ (Ch. de Normandie)

Engines made at St. Nazaire By whom made Ch. et Atel. de St. Nazaire (Penhoët) Engine No. 05 When made 1928.

Boilers made at St. Nazaire By whom made Ch. et Atel. de St. Nazaire (Penhoët) Boiler No. 1192 to 1195 When made 1925

Nominal Horse Power 625 Owners Companhia Nacional Navegacao Costeira Port belonging to Rio de Janeiro.

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Trignac, Saint Chamond and Beardmore. (Letter for Record S.)

Total Heating Surface of Boilers 903<sup>m</sup>2 Is forced draught fitted Yes Coal or Oil fired oil fired for coal (180 lbs)No. and Description of Boilers Four multitubular, single ended. Working Pressure 12 kg 65 cm<sup>2</sup>Tested by hydraulic pressure to 22 kg 5 cm<sup>2</sup>. Date of test 2. 15.10.25 No. of Certificates 85 and 86 Can each boiler be worked separately YesArea of Firegrate in each Boiler 5<sup>m</sup>2 No. and Description of safety valves to each boiler Two Spring loaded. (Lockburn MacNeill High Lift)Area of each set of valves per boiler { per Rule 8090 mm<sup>2</sup> as fitted 12.442. Pressure to which they are adjusted X 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 40 cm Is oil fuel carried in the double bottom under boilers Yes

Smallest distance between shell of boiler and tank top plating 40 cm Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 4.800 Length 3.582. Shell plates: Material Steel Tensile strength 49/55 kg/cm<sup>2</sup>

Thickness 31 mm Are the shell plates welded or flanged No Description of riveting: circ. seams { end D.R. inter. ✓

Long. seams D.B.S. T.R. Diameter of rivet holes in { circ. seams 32 long. seams 32 Pitch of rivets { 93.3 193.6

Percentage of strength of circ. end seams { plate 66.7 rivets 42.0 Percentage of strength of circ. intermediate seam { plate ✓ rivets ✓

Percentage of strength of longitudinal joint { plate 83.5 rivets 92.3 combined 85.4 Working pressure of shell by Rules 13 kg 05. cm<sup>2</sup>

Thickness of butt straps { outer 25 inner 28 No. and Description of Furnaces in each Boiler Three Morrison, Gurney necks.

Material Steel Tensile strength 41/47 kg/cm<sup>2</sup> Smallest outside diameter 1.235

Length of plain part { top bottom Thickness of plates { crown bottom 17.5 Description of longitudinal joint welded ✓

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 14.6 kg/cm<sup>2</sup>

End plates in steam space: Material Steel Tensile strength 41/47 kg Thickness 31 Pitch of stays 450 x 520

How are stays secured Screwed into end plates and fitted with double nuts. Working pressure by Rules 13.3 kg

Tube plates: Material { front Steel back Steel Tensile strength { 41/47 kg 41/47 kg Thickness { 27 22

Mean pitch of stay tubes in nests 189 and 220.5 Pitch across wide water spaces 370 Working pressure { front 20.8 kg back 20.1 kg

Girders to combustion chamber tops: Material Steel Tensile strength 44/50 Depth and thickness of girder

at centre 260 x 44 Length as per Rule 901 Distance apart 200 - 240 - 260 (max) No. and pitch of stays

in each 3 at 210 Working pressure by Rules 15.3 kg Combustion chamber plates: Material Steel

Tensile strength 41/47 Thickness: Sides 17 Back 19 Top 17 Bottom 20

Pitch of stays to ditto: Sides 210 x 260 Back 232 x 265 Top 210 x 260 (max) Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 12.7 kg Front plate at bottom: Material Steel Tensile strength 41/47

Thickness 27 Lower back plate: Material Steel Tensile strength 41/47 Thickness 27

Pitch of stays at wide water space 370 Are stays fitted with nuts or riveted over nuts

Working Pressure 20.8 kg Main stays: Material Steel Tensile strength 44/50

Diameter { At body of stay, 70 mm No. of threads per inch 6.3 Area supported by each stay 234.000 cm<sup>2</sup>

Working pressure by Rules 12.8 kg Screw stays: Material Steel Tensile strength 41/47

Diameter { At turned off part, Ordinary 44 Marginal 50 No. of threads per inch 10 Area supported by each stay 61.480 cm<sup>2</sup>



Working pressure by Rules 13.05 kg Are the stays drilled at the outer ends No Margin stays: Diameter 50 (At turned off part, or Over threads)

No. of threads per inch 10 Area supported by each stay 78.000 mm<sup>2</sup> Working pressure by Rules 13.8 kg

Tubes: Material Steel External diameter 63.5 Thickness 3.25 No. of threads per inch 10

Pitch of tubes 98 x 92 Working pressure by Rules 12.6 kg Manhole compensation: Size of opening 300 x 400

Section of compensating ring 968 x 968 x 31 No. of rivets and diameter of rivet holes 56 x 32 dia

Outer row rivet pitch at ends 193 Depth of flange if manhole flanged 100 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

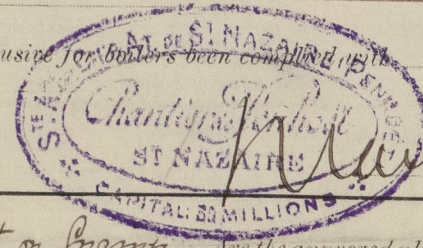
Is a safety valve fitted to every part of the superheater which can be shut off from the boiler

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 Yes



The foregoing is a correct description, Manufacturer

Dates of Survey Included in Report on Progress attached hereto Are the approved plans of boiler and superheater forwarded herewith 19.11.24 (If not state date of approval.)

while building 1926. Feb 24. April 9. June 19. 1927 Nov 21 Total No. of visits 15

1928. March 6. April 5. May 7. 22. 23. July 3. 20. 23. 24. Aug 30. 30

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

These four main boilers have been specially surveyed during their construction. They have been built in accordance with the approved plan and the material used has been tested by the surveyors to this Society as required by the Rules.

They have been dispatched to Rouen for fitting onboard I will be eligible in my opinion to be included in the notation + h.m.c. of suitable date. and 4.S.B. 180 lbs. F.P. Fitted for oil fuel. F.P. above 150°F when fitted onboard as required by the Rules. Safety valves adjusted under steam & found satisfactory under working conditions.

Survey Fee ... £ 192 When applied for, 192

Travelling Expenses (if any) £ 192 When received, 192

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

Committee's Minute FRI. 14 SEP 1928

Assigned See Rou. Report No. 100 attached