

REPORT ON BOILERS.

No. 1507.

Received at London Office 14 FEB 1927

Date of writing Report 12/7/27 1927

When handed in at Local Office 12/7/27 1927

Port of Nantes

No. in Survey held at St. Nazaire
Reg. Book. Supplement.Date, First Survey 23rd Oct. 1924 Last Survey 192

89.453 on the Steel Twin Screw Passenger Vessel "ITAIMBE"

(Number of Visits) Gross 4993.
Tons Net 2941.

Master Built at St. Nazaire By whom built Ch. et Atel. de St. Naz. Penhoët Yard No. 05 When built 1927

Engines made at St. Nazaire By whom made Ch. et Atel. de St. Nazaire. Penhoët Engine No. 115 When made 1927

Boilers made at St. Nazaire By whom made Ch. et Atel. de St. Nazaire. Penhoët Boiler No. 1196 When made 1926

Nominal Horse Power 679 Owners Companhia Nacional Navegação Costeira Port belonging to Rio de Janeiro.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

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

Total Heating Surface of Boilers 903^m² (1015^m² oil fuel) Is forced draught fitted Yes Coal or Oil fired oil 9 fitted for coal.

No. and Description of Boilers Four multitubular single ended. Working Pressure 12 kg. 65 cm².

Tested by hydraulic pressure to 22 kg. 5 cm² Date of test 21. 16. 12. 25 No. of Certificates 87 and 88. Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 5^m² No. and Description of safety valves to each boiler Two. Spring loaded. (Cockburn MacNeill high lift)

Area of each set of valves per boiler {per Rule 8090 m²/m² as fitted 12.442 m²/m² Pressure to which they are adjusted 12.65 kg 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. m²/m²

Thickness 31 mm Are the shell plates welded or flanged No Description of riveting: circ. seams {end D.R. inter. 93.3 193.6

long. seams D.B.S.: T.R. Diameter of rivet holes in {circ. seams 32 long. seams 32 Pitch of rivets {plate 65.7 rivets 42.0

Percentage of strength of circ. end seams {plate 83.5 rivets 92.3 combined 85.4 Working pressure of shell by Rules 13 kg. 05 cm²

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. m²/m² 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.e. bottom Working pressure of furnace by Rules 14.6 kg. cm²

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 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 back 20.1

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 cm. 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 m²/m²

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

Diameter {At turned off part, Ordman 44.9 Marginal 50 No. of threads per inch 10 Area supported by each stay 61.480 m²/m² (max)

Working pressure by Rules 13.05 kg Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part.} 50
 No. of threads per inch 10 Area supported by each stay 78,000 mm² Working pressure by Rules 13.8 kg
 Tubes: Material Steel External diameter ^{Plain} 63.5 Thickness ^{ord. 6.0 mm} 3.25 No. of threads per inch 10
 Pitch of tubes 98 x 92 Working pressure by Rules 12 kg Manhole compensation: Size of opening in
 shell plate 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}
 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
 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
 During progress of work in shops - -
 while building During erection on board vessel - - -

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.)

Total No. of visits

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 fitted on board in accordance with the Rules and are at present fitted for burning oil fuel.

They are submitted for the favourable consideration as entering the notation in the Register Book of L.S.B. H.P. 180 thrd F.D. Fitted for oil fuel F.P. about 150°F. 9c. when full power steaming trials have been satisfactorily carried out.

Survey Fee ...
 Travelling Expenses (if any) £

When applied for, 192
 When received, 192

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

Committee's Minute

FRI. 11 MAR 1927

Assigned

See Report on Engines attached



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