

REPORT ON BOILERS.

No. 1678.

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Date of writing Report 4/3/1931 When handed in at Local Office 5/3/1931 Port of NantesNo. in Reg. Book. Saint Nazaire + Date, First Survey 11 Oct. 1929 Last Survey 3rd March 1931on the steel sc. "ALABAMA" (Number of Visits 24) Tons { Gross NetMaster Built at Rouen By whom built Ch. de Normandie Yard No. "S. C." When built Engines made at Dunkirk By whom made Ch. et Atel. de France Engine No. 1291, 1292 When made 1931Boilers made at Saint Nazaire By whom made Ch. et Atel. de St Nazaire Boiler No. 293, 1294 When made 1930Nominal Horse Power 752 Owners Soc. Gen. Transatlantique Port belonging to MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY~~, OR ~~DONKEY~~Manufacturers of Steel Messrs. Schneider, S. Colville & Co. Beardmore (Letter for Record "S.")Total Heating Surface of Boilers 1048 m² Is forced draught fitted yes Coal or Oil fired oilNo. and Description of Boilers Four multitubular single ended Working Pressure 12 K. 65 c/m²Tested by hydraulic pressure to 22 K. 5 c/m² Date of test 2-11/10/30 No. of Certificate 017102 Can each boiler be worked separately yesArea of Firegrate in each Boiler No. and Description of safety valves to each boiler Area of each set of valves per boiler { per Rule 4035 m² as fitted 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 4 m 850 Length 3 m 565 Shell plates: Material steel Tensile strength 49-55 K/m²Thickness 31 m/m Are the shell plates welded or flanged no Description of riveting: circ. seams { end double inter long. seams T. R. D. B. S. Diameter of rivet holes in { circ. seams 32 m/m long. seams 32 m/m Pitch of rivets { 9.47 m/m 193.6 m/mPercentage of strength of circ. end seams { plate 66.0 rivets 42.0 Percentage of strength of circ. intermediate seam { plate rivets Percentage of strength of longitudinal joint { plate 83.5 rivets 89.5 combined 84.9 Working pressure of shell by Rules 13 K. 9 m/m²Thickness of butt straps { outer 25 m/m inner 28 m/m No. and Description of Furnaces in each Boiler 3. Morison 3cfMaterial steel Tensile strength 41-47 K/m² Smallest outside diameter 1 m 181Length of plain part { top bottom Thickness of plates { crown 15 m/m bottom Description of longitudinal joint weldDimensions of stiffening rings on or c.c. bottom double Working pressure of furnace by Rules 13 K. 5 c/m²End plates in steam space: Material steel Tensile strength 41-47 K Thickness 27 m/m Pitch of stays 440 m/m x 400 m/mHow are stays secured double nuts & washers Working pressure by Rules 13 K. 6 c/m²Tube plates: Material { front steel back Tensile strength { 41-47 K 41-47 K Thickness { front 25 m/m back 22 m/mMean pitch of stay tubes in nests 194 m/m Pitch across wide water spaces 340 m/m Working pressure { front 12 K. 7 c/m² back 22 K. 0 c/m²Girders to combustion chamber tops: Material steel Tensile strength 41-47 K Depth and thickness of girderat centre 260 m/m x 2 @ 15 m/m Length as per Rule 462 m/m Distance apart 230 m/m No. and pitch of staysin each 3 @ 190 m/m Working pressure by Rules 13 K. 6 c/m² Combustion chamber plates: Material steelTensile strength 41-47 K/m² Thickness: Sides 19 m/m Back 19 m/m Top 19 m/m Bottom 19 m/mPitch of stays to ditto: Sides 215 x 210 Back 222 x 221.5 Top 230 x 190 Are stays fitted with nuts or riveted over nutsWorking pressure by Rules 18 K. 9 m/m² Front plate at bottom: Material steel Tensile strength 41-47 K/m²Thickness 25 m/m Lower back plate: Material steel Tensile strength 41-47 K Thickness 25 m/mPitch of stays at wide water space Are stays fitted with nuts or riveted over nutsWorking Pressure Main stays: Material steel Tensile strength 44-50 K/m²Diameter { At body of stay 65 m/m over threads No. of threads per inch 6.35 Area supported by each stay 176,000 m/m²Working pressure by Rules Screw stays: Material steel Tensile strength 41-47 K/m²Diameter { At turned-off part 42 m/m over threads No. of threads per inch 10 Area supported by each stay 49,173 m/m²

Working pressure by Rules $141.6 \frac{lb}{sq. in.}$ Are the stays drilled at the outer ends no. Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned-off part,} \\ \text{or} \\ \text{Over threads} \end{array} \right. 48 \frac{mm}{in.}$
No. of threads per inch 10. Area supported by each stay $77.09 \frac{cm^2}{in.}$ Working pressure by Rules $121.8 \frac{lb}{sq. in.}$
Tubes: Material W. Iron. External diameter $\left\{ \begin{array}{l} \text{Plain} \\ \text{Stay} \end{array} \right. 63.5 \frac{mm}{in.}$ Thickness $3.45 \frac{mm}{in.}$ No. of threads per inch 9.
Pitch of tubes $95 \times 97 \frac{mm}{in.}$ Working pressure by Rules Manhole compensation: Size of opening in
shell plate $50 \frac{mm}{in.} \times 445 \frac{mm}{in.}$ Section of compensating ring $1040 \times 1040 \times 31 \frac{mm}{in.}$ No. of rivets and diameter of rivet holes $60 - 32 \frac{mm}{in.}$
Outer row rivet pitch at ends $195 \frac{mm}{in.}$ Depth of flange if manhole flanged $90 \frac{mm}{in.}$ Steam Dome: Material none.
Tensile strength Thickness of shell Description of longitudinal joint
Diameter of rivet holes Pitch of rivets Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$
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 none. Manufacturers of $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$
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,
Manufacturer.

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of} \\ \text{work in shops} \end{array} \right. 1929 \text{ Oct. 11, Nov. 6, Dec. 24, 1930 Jan. 16, Feb. 19, April 26, May 23, June 10, July 4, 22, 26, Aug. 27, Sept. 3, Oct. 24, 27, 28, Nov. 4, 24, Dec. 1$
while building $\left\{ \begin{array}{l} \text{During erection on} \\ \text{board vessel} \end{array} \right. 1931 \text{ March 3. = 24 visits.}$
Are the approved plans of boiler and superheater forwarded herewith no. 2/17/29
(If not state date of approval.)
Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The boilers of this vessel have been built under special survey in accordance with the Rules & approved plans. The materials & workmanship are good. The boilers have been forwarded to Rauen to be fitted on board the vessel & in my opinion will be eligible to be included in the notation + L.R.C. (with date) when satisfactorily fitted aboard & the boiler safety valves be found satisfactory when tested in accordance with the requirements of Section 21, clause 6 of the Rules. 4 nuts have been fitted to 4 stay tubes at the front tube plate wide water space as indicated on the approved plan on each boiler. ✓

Survey Fee ... £ 62.00. When applied for, 5/3/1931.
Travelling Expenses (if any) £ 19.90. When received, 28.3.1931.

R. J. Basthope
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 1 MAY 1931

Assigned Su F. E. Rpl.