

Received at London Office

Date of writing Report 11th Dec. 1945. When handed in at Local Office 24th Dec. 1945. Port of Gothenburg

No. in Reg. Book. Survey held at Gothenburg Date, First Survey 31st January 1941 Last Survey 4th December 1945.

31760 on the Motor Tanker "SAN ANTONIO" (Number of Visits 18) Tons {Gross 11163 Net 6676

Master Built at Gothenburg By whom built A-B. Götaverken Yard No. 546 When built 1945.

Engines made at Gothenburg By whom made A-B. Götaverken Engine No. 1410 When made 1945.

Boilers made at Gothenburg By whom made A-B. Götaverken Boiler No. 2128-29 When made 1941.

Nominal Horse Power 992 Owners Argentine Government Port belonging to Buenos Aires

MULTITUBULAR BOILERS—DONKEY.

Manufacturers of Steel Colvilles (Letter for Record s.)

Total Heating Surface of Boilers $2 \times 165 \text{ M}^2$ Is forced draught fitted Yes Coal or Oil fired OilNo. and Description of Boilers 2 Scotch multi-tubular Working Pressure 10.55 kg/cm^2 (150 lbs)

Tested by hydraulic pressure to 275 lbs. Date of test 4.9.41 No. of Certificate 353,354 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 1 double spring loaded

Area of each set of valves per boiler {per Rule 8670 mm. as fitted 11350 mm. Pressure to which they are adjusted 155 lbs. Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No main boilers

Smallest distance between boilers or uptakes and bunkers 2'-6" A.P. Bhd. Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating Boilers on a flat above thrust Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 3750 mm. Length 3450 mm. Shell plates: Material S.M. Steel Tensile strength $44/50 \text{ kg/mm}^2$

Thickness 21.5 mm. Are the shell plates welded or flanged No Description of riveting: circ. seams {end D.R.L. inter 93 mm. long seams D.B. straps 4 rows rivets diameter of rivet holes in {circ. seams 27 mm. Pitch of rivets {inter 93 mm. long seams 27, 23 mm. 279 mm.

Percentage of strength of circ. end seams {plate 71 rivets 46.8 Percentage of strength of circ. intermediate seam {plate --- rivets ---

Percentage of strength of longitudinal joint {plate 90.3 rivets 93 combined 91.3 Working pressure of shell by Rules 10.95 kg/cm^2

Thickness of butt straps {outer 21.5 mm. inner 21.5 mm. No. and Description of Furnaces in each Boiler 2 Morison corrugated

Material S.M. Steel Tensile strength $41/47 \text{ kg/mm}^2$ Smallest outside diameter 1124 mm.

Length of plain part {top 267 mm. Thickness of plates {crown 12 mm. Description of longitudinal joint Welded {bottom 267 mm. 12 mm.

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 10.76 kg/cm^2 End plates in steam space: Material S.M. Steel Tensile strength $41-47 \text{ kg/mm}^2$ Thickness 22 Pitch of stays $415 \times 375 \text{ mm.}$ How are stays secured Double nuts and loose washers outside Working pressure by Rules 12 kg/cm^2 Tube plates: Material {front S.M. Steel Tensile strength $41-47 \text{ kg/mm}^2$ Thickness 22 mm. {back S.M. Steel $41-47 \text{ kg/mm}^2$ 19 mm.Mean pitch of stay tubes in nests 282.5 mm. Pitch across wide water spaces 330 mm. Working pressure {front 12.4 kg/cm^2 back 11.33 kg/cm^2 Girders to combustion chamber tops: Material S.M. Steel Tensile strength $44/50 \text{ kg/mm}^2$ Depth and thickness of girder

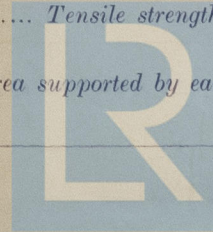
at centre 200 mm. 2 x 21.5 mm Length as per Rule 759 mm. Distance apart 225 mm. No. and pitch of stays

in each 2, 210 mm. Working pressure by Rules 15.3 kg/cm^2 Combustion chamber plates: Material S.M. SteelTensile strength $41-47 \text{ kg/mm}^2$ Thickness: Sides 18 mm. Back 19 mm. Top 18 mm. Bottom 18 mm.

Pitch of stays to ditto: Sides 215 x 210 mm. Back 205 x 225 mm. Top 210 x 225 mm. Are stays fitted with nuts or riveted over Riveted

Working pressure by Rules 11.25 kg/cm^2 Front plate at bottom: Material S.M. Steel Tensile strength $41-47 \text{ kg/mm}^2$ Thickness 22 mm. Lower back plate: Material S.M. Steel Tensile strength $41-47 \text{ kg/mm}^2$ Thickness 22 mm.

Pitch of stays at wide water space 350 x 205 mm. Are stays fitted with nuts or riveted over Riveted

Working Pressure 11.2 kg/cm^2 Main stays: Material S.M. Steel Tensile strength $44-50 \text{ kg/cm}^2$ Diameter {At body of stay, or 63.5 mm. No. of threads per inch 6 Area supported by each stay $415 \times 375 \text{ mm.}$ {Over threads 63.5 mm.Working pressure by Rules 12.95 kg/cm^2 Screw stays: Material S.M. Steel Tensile strength $41-47 \text{ kg/mm}^2$ Diameter {At turned off part, or 38 mm. No. of threads per inch 9 Area supported by each stay $210 \times 225 \text{ mm.}$ {Over threads 38 mm.Lloyd's Register
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Working pressure by Rules 12 kg/cm^2 Are the stays drilled at the outer ends ☒ No. Margin stays: Diameter { At turned off part or Over threads 44.5 mm. }
No. of threads per inch 9 Area supported by each stay $225 \times 282.5 \text{ mm.}$ Working pressure by Rules 12.7 kg/cm^2
Tubes: Material **S.M. Steel** External diameter { Plain $2\frac{1}{8}"$ Stay $2\frac{1}{2}"$ } Thickness { 10 ISG $5/16"$ } No. of threads per inch 9
Pitch of tubes $89 \times 96 \text{ mm.}$ Working pressure by Rules 15.2 kg/cm^2 Manhole compensation: Size of opening in shell plate 400×500 Section of compensating ring $700 \times 800 \times 21.5 \text{ mm.}$ No. of rivets and diameter of rivet holes $36, 27 \text{ mm.}$
Outer row rivet pitch at ends 120 mm. Depth of flange if manhole flanged $85 \text{ mm. in endplate}$ 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 forgings
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 forgings and 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 22 inclusive for boilers been complied with ☒ Yes

The foregoing is a correct description.

AKTIEBOLAGET GÖTAVERKEN

Manufacturer

Dates During progress of work in shop while During erection on board vessel building

31st January 1941 - 4th December 1945.

Are the approved plans of boiler and superheater forwarded herewith ☒ No Plan approved 30.8.1939.

Total No. of visits 18

Is this Boiler a duplicate of a previous case ☒ Yes If so, state Vessel's name and Report No. Buenos Aires (now San José), Rpt. 13534.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These donkey boilers have been built under special survey in accordance with the Rules and approved plan. The workmanship and materials are good and test sheets for the latter are attached.

The boilers have been securely fitted in the vessel under my inspection and to my satisfaction and the safety valves adjusted under steam to 155 lbs. per square inch.

Survey Fee Kr. 450:00. : When applied for, 24th Dec. 1945.

Travelling Expenses (if any) £ : : When received, 19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 18 JAN 1946

Assigned

See F.E. Macky, rpt.