

REPORT ON BOILERS.

No. 2970

AUG 23 1938

Received at London Office

Date of writing Report 17. 8. 1938 When handed in at Local Office 102 Port of LISBON

No. in Survey held at LISBON Date, First Survey 31. 5. 38 Last Survey 11. 8. 1938

Reg. Book. 83553 on the S. S. "SILVA GOUVEIA" (Number of Visits 16) Gross Tons 893 Net Tons 511

Master ✓ Built at Hamburg. By whom built Schiffswerke (v. J. r. Sch.) Yard No. ✓ When built 1922

Engines made at Dresden. By whom made Maschfabrik A. G. Vebigan Engine No. 1642 When made 1921

Boilers made at " By whom made " Boiler No. " When made 1921

Nominal Horse Power 87. Owners Soc. Geral de Comercio, Industria e Transportes, Lda. Port belonging to LISBON.

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel ✓ (Letter for Record 7. 5. 37.)

Total Heating Surface of Boilers 95.52 sq. m. x 2 Is forced draught fitted No Coal or Oil fired Coal. Working Pressure 13 kg. p. sq. cm.

No. and Description of Boilers 2 Scotch Type. Can each boiler be worked separately Yes

Tested by hydraulic pressure to 13 kg. Date of test 19. 7. 38 No. of Certificate 33 Description of safety valves to each boiler 2 Spring loaded.

Area of Firegrate in each Boiler 3.05 sq. m. Pressure to which they are adjusted 12 kg. as requested. Are they fitted with easing gear Yes

Area of each set of valves per boiler 8.4 sq. m. In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler ✓

Smallest distance between boilers or uptakes and bunkers 145 m. m. Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 380 Is the bottom of the boiler insulated No

Largest internal dia. of boilers 3200 Length 3075 Shell plates: Material Steel Tensile strength Double

Thickness 21 m. m. Are the shell plates welded or flanged No Description of riveting: circ. seams 105 inter. 95

Long. seams Quintuple Diameter of rivet holes in 40.4 Percentage of strength of circ. intermediate seam ✓

Percentage of strength of circ. end seams ✓ Working pressure of shell by Rules ✓

Percentage of strength of longitudinal joint ✓

Thickness of butt straps 18 outer 20 inner 18 No. and Description of Furnaces in each Boiler 2 Corrugated

Material Steel. Tensile strength ✓ Smallest outside diameter 924

Length of plain part 250 Thickness of plates 12 Description of longitudinal joint ✓

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules ✓

End plates in steam space: Material Steel Tensile strength ✓ Thickness 25 Pitch of stays 400 x 400

How are stays secured Nuts outside only, screwed thro' plates Working pressure by Rules 25

Tube plates: Material Steel Tensile strength ✓ Thickness 21.5

Mean pitch of stay tubes in nests 345 Pitch across wide water spaces 400 380 Working pressure front back

Girders to combustion chamber tops: Material ✓ Tensile strength ✓ Depth and thickness of girder ✓

at centre 150 x 19 Length as per Rule 597 Distance apart 200 No. and pitch of stays ✓

in each 2 x 190 Working pressure by Rules ✓ Combustion chamber plates: Material Steel

Tensile strength ✓ Thickness: Sides 18 Back 16 Top 18 Bottom 18

Pitch of stays to ditto: Sides 190 Back 180 Top 200 Are stays fitted with nuts or riveted over Riveted over.

Working pressure by Rules ✓ Front plate at bottom: Material Steel Tensile strength ✓ Thickness 25

Thickness 25 Lower back plate: Material Steel Tensile strength ✓ Are stays fitted with nuts or riveted over Marginal-nuts. Remainder riveted.

Pitch of stays at wide water space 380 Main stays: Material Steel. Tensile strength ✓

Working Pressure ✓ Area supported by each stay 400 x 400.

Diameter 70 At body of stay, 75 No. of threads per inch 10 Area supported by each stay 180 x 180

Working pressure by Rules ✓ Screw stays: Material Steel Tensile strength ✓

Diameter 40 At turned off part, 38 No. of threads per inch 11 Area supported by each stay 180 x 180

Working pressure by Rules _____ Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, 54 Over threads 54 ✓

No. of threads per inch 11 Area supported by each stay 150 x 180 Working pressure by Rules _____

Tubes: Material _____ External diameter { Plain 89 Stay 89 Thickness { 3.5 7.5 x 10 No. of threads per inch _____

Pitch of tubes 114 x 115 Working pressure by Rules _____ Manhole compensation: Size of opening in shell plate 400 x 300 Section of compensating ring 125 x 23 No. of rivets and diameter of rivet holes 24 - 27 ✓

Outer row rivet pitch at ends 135 Depth of flange if manhole flanged _____ ✓ Steam Dome: Material Steel ✓

Tensile strength _____ Thickness of shell 15 ✓ Description of longitudinal joint Double rivetted lap joint ✓

Diameter of rivet holes 25 Pitch of rivets 80 x 44 Percentage of strength of joint { Plate Rivets _____

Internal diameter 700 Working pressure by Rules _____ Thickness of crown 19 1.6 in plate No. and diameter of stays none Inner radius of crown 650 850 in plate Working pressure by Rules _____

How connected to shell flanged & double rivetted Size of doubling plate under dome none ✓ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 25 - 70 ✓

Type of Superheater _____ Manufacturers of { Tubes _____ Steel castings _____

Number of elements 12 Material of tubes Steel Internal diameter and thickness of tubes 24. 0/D.

Material of headers Cast Steel Tensile strength _____ Thickness _____ Can the superheater be shut off and the boiler be worked separately. yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes ✓

Area of each safety valve _____ Are the safety valves fitted with easing gear yes ✓ Working pressure as per Rules _____ Pressure to which the safety valves are adjusted 12 Kg. as requested. ✓ Hydraulic test pressure: _____

tubes _____, castings _____ and after assembly in place _____ Are drain cocks or valves fitted to free the superheater from water where necessary yes ✓

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 { During progress of work in shops - - } while building { During erection on board vessel - - }

Are the approved plans of boiler and superheater forwarded herewith 7. 5. 37. (If not state date of approval.)

Total No. of visits _____

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

The boilers have been examined internally & externally & all doors & mountings, hydraulic test at working pressure satisfactory & boilers examined under steam & the safety valves adjusted under steam to 12 kilos. as requested. all plating, steam dome & combustion chambers carefully examined & show no signs of strain. Furnaces found distorted & it is stated that the four furnaces were found down early this year & ^{this} was traced to an excess of oil in the boilers. The furnaces were lifted & gauged in April last & the readings at this time show no increase. In the Port Boiler, port furnace maximum 2" at 3rd corrugation, Starb^d furnace 1" at 3rd corrugation. Starb^d Boiler, port furnace 1 1/16" & Starb^d furnace 1 5/16" both at 3rd corrugation. Tube plates sighted fair & riveting of furnace seems tight. It is considered that the boilers are in a safe working condition. Safety valves adjusted as stated at the request of the Supt.

Survey Fee Inclusive Fee £ 7. 10. Travelling Expenses (if any) £ 5. 00. see above

When applied for, 192 _____ When received, 192 _____

En. J. H. Lunnell

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute _____

TUE 18 OCT 1938

Assigned _____

See minute on H. Mack



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