

# REPORT ON BOILERS.

No. 13091

Date of writing Report.....19..... When handed in at Local Office.....13/9/47..... Port of Trieste

No. in Reg. Book..... Survey held at Monfalcone Date, First Survey.....13/11/45..... Last Survey.....5/8/1947.....

on the M/T JANUS (Number of Visits.....7.....) Tons { Gross.....6273 Net.....3701

Master..... Built at Monfalcone By whom built Cant. Riun. d. Adriat. Yard No. 1384 When built.....

Engines made at Trieste By whom made CRDA Fabbrica Macchine Engine No. 5432 When made.....

Boilers made at Trieste By whom made " " " Boiler No. 1894 When made.....

Nominal Horse Power.....842 Owners Western Chartering Co. Port belonging to Panama City

Received at London Office..... 2 SEP 1947

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

Manufacturers of Steel Mannesmannröhrenworks - Duisburg & A.F.H. Falck - Italy (Letter for Record 5)

Total Heating Surface of Boilers 225 m<sup>2</sup> 2422 q Is forced draught fitted yes ✓ Coal or Oil fired oil ✓

No. and Description of Boilers Cyl. Marine Working Pressure 13 kg/cm<sup>2</sup> ✓

Tested by hydraulic pressure to 32 kg/cm<sup>2</sup> Date of test 17.12.45 No. of Certificate..... Can each boiler be worked separately.....

Area of Firegrate in each Boiler 0.17 ✓ No. and Description of safety valves to each boiler 2 improved spring loaded ✓

Area of each set of valves per boiler { per Rule 98 cm<sup>2</sup> as fitted 108 cm<sup>2</sup> Pressure to which they are adjusted 185 lbs ✓ 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 3 feet ✓ Is oil fuel carried in the double bottom under boilers.....

Smallest distance between shell of boiler and <sup>Deck</sup> ~~lump~~ top plating 2'-6" ✓ Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 4250 mm ✓ Length 3440 mm ✓ Shell plates: Material S.M.S. ✓ Tensile strength 44-55 kg/cm<sup>2</sup>

Thickness 30.5 mm ✓ Are the shell plates welded or flanged no ✓ Description of riveting: circ. seams { end lap inter..... } long. seams D.B.S. Trebb. ✓ Diameter of rivet holes in { circ. seams 35 mm } Pitch of rivets { 106.7 mm } { long. seams 33 " } { 2.13 " }

Percentage of strength of circ. end seams { plate 88 } Percentage of strength of circ. intermediate seam { plate..... } { rivets 6.7 } { rivets..... }

Percentage of strength of longitudinal joint { plate 84 1/2 } Working pressure of shell by Rules 13.17 kg/cm<sup>2</sup> { rivets 95.5 } { combined 87 }

Thickness of butt straps { outer 24 mm } No. and Description of Furnaces in each Boiler 3 Morison ✓ { inner 27 " } Tensile strength 41-47 kg/cm<sup>2</sup> ✓ Smallest outside diameter 1032 mm ✓

Material S.M.S. Thickness of plates { crown 16 mm } Description of longitudinal joint welded ✓ { bottom..... } Working pressure of furnace by Rules 15.9 kg/cm<sup>2</sup>

Length of plain part { top..... } Thickness of plates..... Pitch of stays 450 mm ✓ { bottom..... } Working pressure by Rules 13.82 kg/cm<sup>2</sup>

End plates in steam space: Material S.M.S. ✓ Tensile strength 41-47 kg/cm<sup>2</sup> ✓ Thickness 28 mm ✓ Pitch of stays..... Working pressure by Rules 13.82 kg/cm<sup>2</sup>

How are stays secured double nuts ✓ Tensile strength { front 15.6 kg/cm<sup>2</sup> } { back 19.73 kg/cm<sup>2</sup> }

Tube plates: Material { front S.M.S. } Tensile strength 41-47 kg/cm<sup>2</sup> ✓ Thickness { 23 mm } { back..... } { 18 mm }

Mean pitch of stay tubes in nests 206 x 206 mm ✓ Pitch across wide water spaces 360 mm ✓ Working pressure.....

Girders to combustion chamber tops: Material S.M.S. ✓ Tensile strength 44-55 kg/cm<sup>2</sup> ✓ Depth and thickness of girder at centre 250 x 16 mm ✓ Length as per Rule 810 mm ✓ Distance apart 235 side 180 Centr. No. and pitch of stays in each 3 @ 190 mm ✓ Working pressure by Rules 14.3 kg/cm<sup>2</sup> ✓ Combustion chamber plates: Material S.M.S. ✓

Tensile strength 41-47 kg/cm<sup>2</sup> ✓ Thickness: Sides 19 mm ✓ Back 19 mm ✓ Top 19 mm ✓ Bottom 22 mm ✓

Pitch of stays to ditto: Sides 190 x 215 mm ✓ Back 192 x 207 mm ✓ Top 190 x 235 mm ✓ Are stays fitted with nuts or riveted over nuts & riveted

Working pressure by Rules 14.46-15-13 kg/cm<sup>2</sup> Front plate at bottom: Material S.M.S. ✓ Tensile strength 41-47 kg/cm<sup>2</sup> ✓

Thickness 23 mm ✓ Lower back plate: Material S.M.S. ✓ Tensile strength 41-47 ✓ Thickness 25 mm ✓

Pitch of stays at wide water space 375 x 207 mm ✓ Are stays fitted with nuts or riveted over nuts at margin ✓

Working pressure 19.73 kg/cm<sup>2</sup> Main stays: Material S.M.S. ✓ Tensile strength 44-55 kg/cm<sup>2</sup> ✓

Diameter { At body of stay..... } No. of threads per inch 6 ✓ Area supported by each stay 450 x 410 mm ✓ { Over threads 76 mm }

Working pressure by Rules 16.52 kg/cm<sup>2</sup> Screw stays: Material S.M.S. ✓ Tensile strength 41-47 kg/cm<sup>2</sup> ✓

Diameter { At turned off part..... } No. of threads per inch 9 ✓ Area supported by each stay 190 x 215 mm ✓ { Over threads..... }

Working pressure by Rules 13.82 kg/cm<sup>2</sup> Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part...  
 No. of threads per inch 9 Area supported by each stay 286 x 207 mm Working pressure by Rules 17.43 kg/cm<sup>2</sup>  
 Tubes: Material steel External diameter { Plain 66.2 mm Thickness 4 mm No. of threads per inch 9  
 Stay 66.2 mm Pitch of tubes 206 x 206 mm Working pressure by Rules 14.8 kg/cm<sup>2</sup> Manhole compensation: Size of opening in  
 shell plate 520 x 420 mm Section of compensating ring 23 x 150 mm No. of rivets and diameter of rivet holes 38 (2 33 mm)  
 Outer row rivet pitch at ends 813 mm Depth of flange if manhole flanged 98 mm 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 none 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

CANTIERI RIUNITI DELL'ADRIATICO  
 Fabbrica Macchine S. Andrea  
 The foregoing is a correct description,  
 Manufacturer

Dates of Survey while building { During progress of work in shops - -  
 During erection on board vessel - - -  
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
 1945 Nov 13. Dec 5. 17. 1947 Feb. Total No. of visits seven  
 27. May 10. Aug 5.

Is this Boiler a duplicate of a previous case no If so, state Vessel's name and Report No.

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This Boiler was made in Trieste under special survey of the Registro Italiano Turco and with material tested by G. L. & R. I. The drawing of Boiler was approved in London with letter dated F. 18.2.46. The Boiler and mountings have been carefully examined by the undersigned and tested hydraulically to 23 kg/cm<sup>2</sup> and found good. The Boiler examined under steam and the safety valves tested for accumulation and adjusted to blow at 18.5 lbs.

Survey Fee ... Lira 48.300 When applied for 27/8 47  
 Travelling Expenses (if any) £ : : When received

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 8 JAN 1948  
 Assigned See fe marks rpt

