

REPORT ON BOILERS.

No. 21011Received at London Office 7 MAY 1935Date of writing Report 20th April, 1935 When handed in at Local OfficePort of HamburgNo. in Survey held at KielDate, First Survey 14/9/34Last Survey 13/4/35 19No. of Book. 1472 on the Steel Ss. Gadila (Oil Engs.)(Number of Visits 15) Gross 7999
Tons Net 4762Built at Kiel By whom built Howaldtswerke A.G. Yard No. 732 When built 1935Engines made at Kiel By whom made Howaldtswerke A.G. Engine No. 6 When made 1935Boilers made at Kiel By whom made Howaldtswerke A.G. Boiler No. 1513 When made 1935Nominal Horse Power 502 Owners Petroleum Maats. "La Corona" Port belonging to The HagueMULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR~~ DONKEY.Manufacturers of Steel Mannesmann-Röhrenwerke A.G., Hückingen/Rhine (Letter for Record 5)Total Heating Surface of Boilers 232.7 m² Is forced draught fitted yes Coal or Oil fired Exhaust gasType and Description of Boilers 1 multitubular Scotch Marine Boiler Working Pressure 180 lbTested by hydraulic pressure to 320 lb Date of test 29/11/34 No. of Certificate 580 Can each boiler be worked separately ✓Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 1, 2 springs loadedArea of each set of valves per boiler { per Rule 12500 mm² as fitted 19007 mm² Pressure to which they are adjusted 180 lb Are they fitted with easing gear yesIn 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 tw. dk. 1000 mm Is the bottom of the boiler insulated with asbestos matLargest internal dia. of boilers 4420 mm Length of shell 3365 mm Shell plates: Material O.H. Steel Tensile strength 47-52 kg/mm²Thickness 29- mm Are the shell plates welded or flanged flanged Description of riveting: circ. seams { end 3. R. inter. —Long. seams double butt straps Diameter of rivet holes in { circ. seams 31- mm long. seams 31- mm Pitch of rivets { 28- mm above 95 376- mm ✓Percentage of strength of circ. end seams { plate 67.3 rivets 42- Percentage of strength of circ. intermediate seam { plate ✓ rivets ✓Percentage of strength of longitudinal joint { plate 92% rivets 109% combined 183% Working pressure of shell by Rules 13.8 kg/cm²Thickness of butt straps { outer 29- mm inner 29- mm No. and Description of Furnaces in each Boiler 3 MorisonMaterial O.H. Steel Tensile strength 41-47 kg/mm² Smallest outside diameter 1132 mmLength of plain part { top 180 mm bottom — Thickness of plates { crown 16- mm bottom — Description of longitudinal joint weldedDimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 14.45 kg/cm²End plates in steam space: Material O.H. Steel Tensile strength 41-47 kg/mm² Thickness 26- 24- mm Pitch of stays 390*370 mmHow are stays secured Screwed into plates with nuts inside and outside Working pressure by Rules 15.15 kg/cm², 12.82 kg/cm²Tube plates: Material { front O.H. Steel back O.H. Steel Tensile strength { 41-47 kg/mm² Thickness { 26- mm 21- mmLean pitch of stay tubes in nests 220*220 mm Pitch across wide water spaces 385*220 mm Working pressure { front 14.7 kg/cm² back 22.2 kg/cm²Girders to combustion chamber tops: Material O.H. Steel Tensile strength 44-50 kg/mm² Depth and thickness of girderAt centre 220 mm (2*19) mm Length as per Rule 720 mm Distance apart 193 mm No. and pitch of staysIn each 3*190 mm Working pressure by Rules 20.75 kg/cm² Combustion chamber plates: Material O.H. SteelTensile strength 41-47 kg/mm² Thickness: Sides 19- mm Back 16- mm Top 19- mm Bottom 25- mmPitch of stays to ditto: Sides 200*190 mm Back 200*195 mm Top 190*193 mm Are stays fitted with nuts or riveted over nut. nutsWorking pressure by Rules 15.65, 15.38, 22.4 Front plate at bottom: Material O.H. Steel Tensile strength 41-47 kg/mm²Thickness 26- mm Lower back plate: Material O.H. Steel Tensile strength 41-47 kg/mm² Thickness 24- mmPitch of stays at wide water space d = 430 mm Are stays fitted with nuts or riveted over with nutsWorking Pressure 19.2 kg/cm² Main stays: Material O.H. Steel Tensile strength 44-50 kg/mm²Diameter { At body of stay, 62.6 mm or 68- mm No. of threads per inch 6 Area supported by each stay 390*370 = 144300 mm²Working pressure by Rules 16.35 kg/cm² Screw stays: Material O.H. Steel Tensile strength 41-47 kg/mm²Diameter { At turned off part, 35.38 mm or 39- mm No. of threads per inch 9 Area supported by each stay 195*200 = 39000

Working pressure by Rules 15.4 kg/cm^2 Are the stays drilled at the outer ends ☒ Yes Margin stays: Diameter { At turned off part, 35.38 mm or Over threads 42 mm }
No. of threads per inch 9 Area supported by each stay $275 \times 200 = 55000$ Working pressure by Rules 13.06 kg/cm^2
Tubes: Material 0.4 Steel External diameter { Plain 83 mm Stay 83 mm } Thickness { 4 mm 8.5 mm } No. of threads per inch 9
Pitch of tubes $40 \times 40 \text{ mm}$ 110×110 Working pressure by Rules Plain 16 kg/cm^2 Manhole compensation: Size of opening
shell plate $420 \times 620 \text{ mm}$ Section of compensating ring $350 \times 950 \times 30 \text{ mm}$ No. of rivets and diameter of rivet holes $46 \times 31 \text{ mm}$
Outer row rivet pitch at ends 125 mm Depth of flange if manhole flanged 100 mm 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 { Plate Rivets }
Internal diameter Working pressure by Rules Thickness of crown No. and diameter
stays Inner radius of crown Working pressure by Rules
How connected to shell Size of doubling plate under dome Diameter of rivet holes and
of rivets in outer row in dome connection to shell

Type of Superheater

Manufacturers of { Tubes 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
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
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 22 inclusive for boilers been complied with ☒ Yes

The foregoing is a correct description,
HOWALDTSWERKE A.-G.

Manufactured by

Dates of Survey { During progress of work in shops - 1934: - Sept. 14, 25 Oct. 2, Nov. 6, 9, 16, 20, 29 Dec. 4
while building { During erection on board vessel - 1935: - Feb. 1, 15, 22, 26 Mar. 1, Apr. 13 }
Are the approved plans of boiler and superheater forwarded herewith $28/7/35$
(If not state date of approval.)
Total No. of visits 15

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 Donkey Boiler has been built under special survey in accordance with the approved plan, the Secretary's letters and the Society's Rules. The materials used in the construction and the workmanship are of good quality. The Boiler has been satisfactorily fitted on board and the safety valves have been adjusted under steam to a pressure of 180 lbs. In my opinion the Boiler is eligible for notation in the Reg. Book of:-
DB pressure 180 lbs.

Safety valve's washers:-

St.5:- 14.7 mm Pt:- 11.2 mm

Survey Fee ... £ 14: 14: -

When applied for, 29/4/35

Travelling Expenses (if any) £ - : - : -

When received, 2.7.10

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

TUE. 14 MAY 1935

Assigned

See Name F.E. 21511



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