

# REPORT ON BOILERS.

No. 913.

27 MAY 1935

Received at London Office

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Date of writing Report 22nd May, 1935. When handed in at Local Office 22nd May, 1935. Port of HELSINGBORG.

No. in Survey held at Helsingborg Date, First Survey 25th April Last Survey 21st May, 1935.

80987 on the Steel Single Screw Steamer "MAURITZ". /ex Luksefjell, etc./ (Number of Visits --) Tons { Gross 1480 Net 814.

Master J.N. Swensson. Built at Bergen. By whom built Bergens Mek. Vaerk. Yard No. 192 When built 1917.

Motors made at Bergen. By whom made Bergens Mek. Vaerksted. Engine No. -- When made 1917.

Boilers made at Bergen. By whom made Bergens Mek. Vaerksted. Boiler No. -- When made 1917.

Indicated Horse Power 151 Owners Råå Rederi A/B. Port belonging to Råå.

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

Manufacturers of Steel The quality of steel used in the boilers found good. (Letter for Record S)

Total Heating Surface of Boilers 2532 Is forced draught fitted No. Coal or Oil fired Coal.

Number and Description of Boilers 2 multitubular. Working Pressure 180 lbs/

Tested by hydraulic pressure to NV Test. Date of test -- No. of Certificate -- Can each boiler be worked separately Yes.

Area of Firegrate in each Boiler 33.4 No. and Description of safety valves to each boiler 2, direct springloaded.

Diam. 8.12 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 No donkey boiler fitted.

Smallest distance between boilers or uptakes and bunkers or woodwork 375 mm. Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating 535 mm. Is the bottom of the boiler insulated Yes.

Largest internal dia. of boilers 12'-0" Length 10'-9 3/8" Shell plates: Material Steel. Tensile strength --

Thickness 1" Are the shell plates welded or flanged None. Description of riveting: circ. seams { end Single. inter. -- }

Long. seams Double butt straps. Diameter of rivet holes in { circ. seams 1.1/8" long. seams 1.5/32" } Pitch of rivets { 2 1/2" 12" in outer. 9" }

Percentage of strength of circ. end seams { plate -- rivets 32 } Percentage of strength of circ. intermediate seam { plate -- rivets -- }

Percentage of strength of longitudinal joint { plate -- rivets -- combined -- } Working pressure of shell by Rules --

Thickness of butt straps { outer 31/32" inner 31/32" } No. and Description of Furnaces in each Boiler 2 furnaces, corrugated.

Material Steel. Tensile strength -- Smallest outside diameter 3'-3.9/16"

Length of plain part { top -- bottom -- } Thickness of plates { crown -- bottom 17/32" } Description of longitudinal joint welded.

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

Stays and plates in steam space: Material Steel. Tensile strength -- Thickness 1.5/16" Pitch of stays 17"x24.3/8"

How are stays secured Passing through plates. Washers & nuts comb. Working pressure by Rules --

Wide plates: Material { front Steel back Steel. } Tensile strength { -- } Thickness { 15/16" 7/8" }

Span pitch of stay tubes in nests 4 1/2"x4.5/8" Pitch across wide water spaces 14.1/4" Working pressure { front -- back -- }

Stays to combustion chamber tops: Material Steel. Tensile strength -- Depth and thickness of girder

Centre 3"x1"x8 1/2" Length as per Rule 2'x9" Distance apart 11" No. and pitch of stays

each 2"x8.3/4" Working pressure by Rules -- Combustion chamber plates: Material Steel.

Tensile strength -- Thickness: Sides 49/64" Back 48/64" Top 48/64" Bottom 1"

Pitch of stays to ditto: Sides 12"x8.3/4" Back 10 1/2"x10 1/2" Top 8.3/4"x11" Are stays fitted with nuts or riveted over Fitted w.nuts.

Working pressure by Rules -- Front plate at bottom: Material Steel. Tensile strength --

Thickness 15/16" Lower back plate: Material Steel. Tensile strength -- Thickness 7/8"

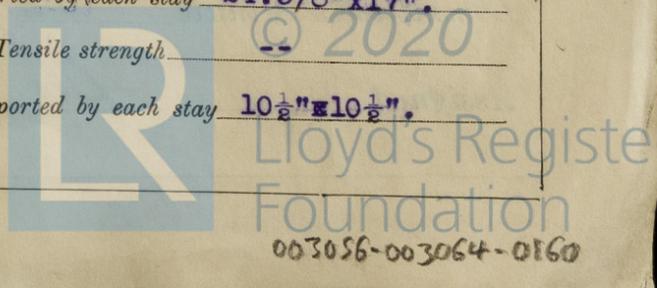
Pitch of stays at wide water space 10 1/2"x13 1/2" Are stays fitted with nuts or riveted over Fitted with nuts.

Working Pressure -- Main stays: Material Steel. Tensile strength --

Girth diameter { At body of stay, -- or Over threads 3.1/4" } No. of threads per inch 6 Area supported by each stay 24.3/8"x17"

Working pressure by Rules -- Screw stays: Material Steel. Tensile strength --

Girth diameter { At turned off part, -- or Over threads 1.7/8" } No. of threads per inch 9 Area supported by each stay 10 1/2"x10 1/2"



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Working pressure by Rules -- Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, or Over threads. 2" ✓  
 No. of threads per inch 9 ✓ Area supported by each stay 10 1/2" x 13 1/2". Working pressure by Rules --  
 Tubes: Material Steel. External diameter { Plain 3.1/4". ✓ Stay 3.1/4". ✓ Thickness { 5/16". ✓ 3/8". ✓ No. of threads per inch 11. ✓  
 Pitch of tubes 4.5/8" x 4 1/2". ✓ Working pressure by Rules -- Manhole compensation: Size of opening in shell plate 520x412 mm. Section of compensating ring 25x400 mm<sup>2</sup> ✓ No. of rivets and diameter of rivet holes 44-1.3/16". ✓  
 Outer row rivet pitch at ends 102 mm. Depth of flange if manhole flanged 80 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 of stays --  
 How connected to shell -- Inner radius of crown -- Working pressure by Rules --  
 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 Schmidts. Manufacturers of { Tubes -- Steel castings --  
 Number of elements 2 x 28. Material of tubes Steel. Internal diameter and thickness of tubes 16 mm. 4 mm. ✓  
 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 1100 mm<sup>2</sup> ✓ Are the safety valves fitted with easing gear Yes. ✓ Working pressure as per Rules -- Pressure to which the safety valves are adjusted 185 lbs/□" ✓ 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 22 inclusive for boilers been complied with --

The foregoing is a correct description, -- Manufacturer.

Dates of Survey { During progress of work in shops - - } See Report 9. Are the approved plans of boiler and superheater forwarded herewith Yes. (If not state date of approval.)  
 while building { During erection on board vessel - - - } Total No. of visits --

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been carefully examined in- and externally /See Report on Form No.9/. The workmanship and materials are good. No signs of leakage or strain being observed.

Secretary's letters initiated "E" of the 18th April and 3rd May, 1935.

Opinion as to class please see Report 4.

Survey Fee Kr. 100:00. When applied for, 22nd May 1935.  
 Travelling Expenses (if any) £ -- : When received, 27.7.1935

*J. Ineson*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute WED. 12 JUN 1935 TUE. 27 AUG 1935

Assigned Dec Hbg. JE 913

