

REPORT ON BOILERS.

No. 1187C.

JUN 30 1938

Received at London Office

Date of writing Report 27-6, 1938 When handed in at Local Office 27-6, 1938 Port of Helsingborg

No. in Reg. Book. 39236 Survey held at Helsingborg Date, First Survey 11-11-1937 Last Survey 18-6, 1938

on the Steel screw Steamer "MIRAMAR" (Number of Visits 11) Gross 1555 Tons Net 856

Master H. W. Wickesjö Built at Helsingborg By whom built Helsingborgs Værft A/B Yard No. 58 When built 1938

Engines made at Helsingborg By whom made Helsingborgs Værft A/B Engine No. 32 When made 1938

Boilers made at " By whom made " Boilers Nos. 148/9 When made 1938

Nominal Horse Power 165 Owners Rederi A/B Sörling Port belonging to Gothenburg

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Tubes: Messrs. J. Marshall & Co. Plates: Messrs. Colvilles, Ltd.
Messrs. A.G. Stahl Röhrenwerke Rivets: The Rivet Bolt & Nut, Co. Ltd. (Letter for Record S)

Total Heating Surface of Boilers 2 x 105 = 210 m² Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers Two multitubular Working Pressure 15.3 Kg/cm²

Tested by hydraulic pressure to 26 Kg Date of test 10.12.37 No. of Certificate 25/26 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 2.5 m² No. and Description of safety valves to each boiler 2 spring loaded

Area of each set of valves per boiler per Rule 2 x 50 mm diam. Pressure to which they are adjusted 218 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.

Smallest distance between boilers or uptakes and bunkers 350 mm Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 450 mm Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 3300 mm Length 3352 mm Shell plates: Material S.M. Steel Tensile strength 44-50.5 Kg/mm²

Thickness 27.5 mm Are the shell plates welded or flanged No Description of riveting: circ. seams and Ddl. zig-zag

long. seams Ddl. butt straps Diameter of rivet holes in circ. seams 30 mm Pitch of rivets 86 mm

Percentage of strength of circ. end seams plate 65% Percentage of strength of circ. intermediate seam plate

rivets 58% combined 100% Working pressure of shell by Rules 15.3 Kg/cm²

Percentage of strength of longitudinal joint plate 85% rivets 98.5% combined 100%

Thickness of butt straps outer 21 mm No. and Description of Furnaces in each Boiler 2 Morrison corrugated

Material S.M. Steel Tensile strength 43.5-44.3 Kg/mm² Smallest outside diameter 928 mm

Length of plain part top 14 mm Thickness of plates bottom 14 mm Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 15.3 Kg/cm²

End plates in steam space: Material S.M. Steel Tensile strength 41-47 Thickness 23 mm Pitch of stays 410 x 375 mm

How are stays secured With nuts and outside washers Working pressure by Rules 15.3 Kg/cm²

Tube plates: Material front S.M. Steel Tensile strength 41-47 Kg/mm² Thickness 21 mm

back S.M. Steel Mean pitch of stay tubes in nests 267 mm Pitch across wide water spaces 370 mm Working pressure front 16 Kg/cm²

back 15.6 Kg/cm² Girders to combustion chamber tops: Material S.M. Steel Tensile strength 44-50.5 Kg/mm²

at centre 180 mm Length as per Rule 703 mm Distance apart 210 mm No. and pitch of stays

in each 2 x 175 mm Working pressure by Rules 16.6 Kg/cm² Combustion chamber plates: Material S.M. Steel

Tensile strength 41-47 Kg/mm² Thickness: Sides 17 mm Back 17 mm Top 17 mm Bottom 18.5 mm

Pitch of stays to ditto: Sides 185 x 165 mm Back 165 x 165 mm Top 175 x 210 mm Are stays fitted with nuts or riveted over Riveted over

Working pressure by Rules 15.3 Kg/cm² Front plate at bottom: Material S.M. Steel Tensile strength 41-47 Kg/mm²

Thickness 24.5 mm Lower back plate: Material S.M. Steel Tensile strength 41-47 Kg/mm² Thickness 23 mm

Pitch of stays at wide water space 370 x 165 mm Are stays fitted with nuts or riveted over Fitted with nuts

Working Pressure 18.6 Kg/cm² Main stays: Material S.M. Steel Tensile strength As per Rule

Diameter At body of stay, 70 mm No. of threads per inch 6 Area supported by each stay 410 x 375 mm

Over threads, 76.2 mm Working pressure by Rules 21 Kg/cm² Screw stays: Material S.M. Steel Tensile strength As per Rule

Diameter At turned off part, 1 1/2" No. of threads per inch 9 Area supported by each stay 165 x 165 mm

Over threads

Working pressure by Rules 21 kg/cm^2 Are the stays drilled at the outer ends No. Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{or} \\ \text{Over threads} \end{array} \right. 1 \frac{3}{4}$

No. of threads per inch 9 Area supported by each stay $370 \times 165 \text{ m/m}$ Working pressure by Rules 18.6 kg/cm^2

Tubes: Material S.M. Steel External diameter $\left\{ \begin{array}{l} \text{Plain} \\ \text{Stay} \end{array} \right. 3''$ Thickness $\left\{ \begin{array}{l} \text{L.S.G. No. 8} \\ \text{9.5 m/m} \end{array} \right.$ No. of threads per inch 9

Pitch of tubes $108 \times 105 \text{ m/m}$ Working pressure by Rules 16.5 kg/cm^2 Manhole compensation: Size of opening in shell plate $500 \times 390 \text{ m/m}$ Section of compensating ring $25 \times 500 \text{ m/m}$ No. of rivets and diameter of rivet holes 42 \times 32 m/m

Outer row rivet pitch at ends 210 m/m Depth of flange if manhole flanged 105 m/m Steam Dome: Material

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right. \text{$

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 *Schmidt* Manufacturers of $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right. \text{ *Vithorvic Mines Steel & Ironworks Co.* *Comp. Gen. des Miniers.*$

Number of elements 2×36 Material of tubes *Steel* Internal diameter and thickness of tubes $18 \text{ m/m} \times 2.5 \text{ m/m}$

Material of headers *Cast steel* Tensile strength 47.1 tons/in^2 Thickness 30 m/m 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 38 m/m diam Are the safety valves fitted with easing gear Yes Working pressure as per Rules Pressure to which the safety valves are adjusted 224 LBS/in^2 Hydraulic test pressure: tubes 50 kg/cm^2 , castings 50 kg/cm^2 and after assembly in place 224 LBS/in^2 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 Yes

The foregoing is a correct description,
Helsingborgs Varvs Aktiebolag
W. H. H. H. Manufacturer.

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of} \\ \text{work in shops} \end{array} \right. 1937. \text{ Sept. 11, 23, 30, Nov. 5, Dec. 4, 8, 10. Are the approved plans of boiler and superheater forwarded herewith No. (If not state date of approval.) BOILERS 5.12.37. Superh. 22.11.37.$

while building $\left\{ \begin{array}{l} \text{During erection on} \\ \text{board vessel} \end{array} \right. 1938. \text{ JAN. 14, MAY 10, 17, JUNE 18. Total No. of visits 11.$

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. *1 "LORNE", Hbg Rpt. No. 1064*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *These boilers have been built under special survey in accordance with approved plans and instructions and the Rule requirements have been complied with. The scantlings are in accordance with the Society's Rules for a working pressure of 15 kg/cm^2 (213.4 lbs/in^2). The workmanship is good. The boilers have been tested in my presence on the 10th December, 1937, by hydraulic pressure to 26 kg/cm^2 , showed no signs of weakness and were found tight and sound at that pressure. The materials are good and have been tested by the surveyors to Lloyd's Register. Opinion as to class please see Pp. 4.*

MARKS ON BOILERS:-

Nos. 25 & 26
 LLOYD'S TEST
 26 kg/cm^2
 $\text{W.P. } 15 \text{ kg/cm}^2$
 P.S. 12.10.37

Survey Fee ... £ : : When applied for, 19

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

P. O. Fogren
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **TUE 5 JUL 1938**

Assigned *See other 7 C. report*

