

## REPORT ON BOILERS.

No. 1495

-5 OCT 1936

Received at London Office

Date of writing Report 1st Oct. 36 When handed in at Local Office 3rd Oct. 1936 Port of Mahmō

No. in Reg. Book 17468 Survey held at Mahmō Date, First Survey 6th May Last Survey 30th Sept. 1936

on the Single Screw Motor Tanker "BRALANTA" (Number of Visits 37) Gross Tons 9608 Net Tons 5759

Master ✓ Built at Mahmō By whom built Hockmms M. V. 703 Yard No. 191 When built 1936

Engines made at Mahmō By whom made Hockmms M. V. 703 Engine No. 144 When made 1936

Boilers made at Mahmō By whom made Hockmms M. V. 703 Boiler No. 934/5 When made 1936

Nominal Horse Power 1361 Owners Ms Bralanta Port belonging to Oso

1358

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Wilkens & Co. Bremen (Letter for Record S.)

Total Heating Surface of Boilers 2 x 131 = 262 m<sup>2</sup> Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers Two SB. Working Pressure 12 kg. cm<sup>2</sup>

Tested by hydraulic pressure to 306 lbs. Date of test 12-8-1936 No. of Certificate 70271 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler Two direct spring loaded.

Area of each set of valves per boiler 6300 mm<sup>2</sup> Pressure to which they are adjusted 175 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 on uptake and bunkers 1220 mm. Is oil fuel carried in the DEEP TANK under boilers Yes

Smallest distance between shell of boiler and tank top plating 600 mm. Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 3400 mm. Length extr. 3600 mm. Shell plates: Material Steel Tensile strength 44-50 kg. mm<sup>2</sup>

Thickness 22.5 mm. Are the shell plates welded or flanged No Description of riveting: circ. seams end D.R.

long. seams T.R. Sbl. S. Diameter of rivet holes in 26 mm. Pitch of rivets 83 mm.

Percentage of strength of circ. end seams plate 68.6% Percentage of strength of circ. intermediate seam plate 46.7%

Percentage of strength of longitudinal joint plate 86.3% Working pressure of shell by Rules 12.14 kg. cm<sup>2</sup>

Thickness of butt straps outer 17 mm. No. and Description of Furnaces in each Boiler Two corrugated.

Material Steel Tensile strength 41.7-43.3 kg. mm<sup>2</sup> Smallest outside diameter 1076 mm.

Length of plain part top 13 mm. Thickness of plates bottom 13 mm. Description of longitudinal joint Welded.

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 13.5 kg. cm<sup>2</sup>

End plates in steam space: Material Steel Tensile strength 46.6-46.7 kg. mm<sup>2</sup> Thickness 22 mm. Pitch of stays 350 x 406 mm.

How are stays secured Sbl. nuts and washers. Working pressure by Rules 13 kg. cm<sup>2</sup>

Tube plates: Material front Steel. Tensile strength 43.2-46.7 kg. mm<sup>2</sup> Thickness 22 mm.

Mean pitch of stay tubes in nests 240 mm. Pitch across wide water spaces 330 mm. Working pressure front 14.5 kg. cm<sup>2</sup>

Girders to combustion chamber tops: Material Steel Tensile strength 44-50 kg. mm<sup>2</sup> Depth and thickness of girder back 14.3 "

at centre 2 (180 x 20) Length as per Rule 735 mm. Distance apart 210 mm. No. and pitch of stays Steel.

in each 2-228 mm. Working pressure by Rules 15.6 kg. cm<sup>2</sup> Combustion chamber plates: Material Steel.

Tensile strength 41-47 kg. mm<sup>2</sup> Thickness: Sides 18 mm. Back 18 mm. Top 18 mm. Bottom 18 mm.

Pitch of stays to ditto: Sides 228 x 180 x 190 mm. Back 216 x 203 mm. Top 228 x 210 mm. Are stays fitted with nuts or riveted over Both.

Working pressure by Rules 12 kg. cm<sup>2</sup> Front plate at bottom: Material Steel Tensile strength 46.6-46.7 kg. mm<sup>2</sup>

Thickness 22 mm. Lower back plate: Material Steel Tensile strength 42.5-43.5 kg. mm<sup>2</sup> Thickness 22 mm.

Pitch of stays at wide water space 216 x 330 mm. Are stays fitted with nuts or riveted over Nuts.

Working Pressure 17.8 kg. cm<sup>2</sup> Main stays: Material Steel Tensile strength 44-50 kg. mm<sup>2</sup>

Diameter At body of stay, 2 3/8" & 3" No. of threads per inch 6 Area supported by each stay 142100 mm<sup>2</sup>

Working pressure by Rules 12.4 kg. cm<sup>2</sup> Screw stays: Material Steel Tensile strength 41-47 kg. mm<sup>2</sup>

Diameter At turned off part, 34 & 37 mm. No. of threads per inch 9 Area supported by each stay 43320 mm<sup>2</sup>



Working pressure by Rules  $12.9 \text{ kg. cm}^{-2}$  Are the stays drilled at the outer ends ☒ No Margin stays: Diameter  $\left\{ \begin{array}{l} \text{At turned off part. } 34-37 \text{ mm} \\ \text{Over threads} \end{array} \right.$   
No. of threads per inch 9 Area supported by each stay  $57560 \text{ mm}^2$  Working pressure by Rules  $12 \text{ kg. cm}^{-2}$   
Tubes: Material Steel External diameter  $\left\{ \begin{array}{l} \text{Plain } 2\frac{1}{2}'' \\ \text{Stay } 2\frac{1}{2}'' \end{array} \right.$  Thickness  $\left\{ \begin{array}{l} 3.25 \text{ mm} \\ 8 \text{ mm} \end{array} \right.$  No. of threads per inch 9  
Pitch of tubes  $89 \times 92 \text{ mm}$  Working pressure by Rules  $12.5 \text{ e } 15 \text{ kg. cm}^{-2}$  Manhole compensation: Size of opening  
shell plate  $400 \times 500$  Section of compensating ring  $12000 \text{ mm}^2$  No. of rivets and diameter of rivet holes  $44-26 \text{ mm}$   
Outer row rivet pitch at ends  $190 \text{ mm}$  Depth of flange if manhole flanged  $83 \text{ mm}$  Steam Dome: Material ☒  
Tensile strength Thickness of shell Description of longitudinal joint  
Diameter of rivet holes Pitch of rivets Percentage of strength of joint  $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$   
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 Manufacturers of  $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel forgings} \\ \text{Steel castings} \end{array} \right.$   
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  
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

The foregoing is a correct description,  
KOCKUMS MEKANISKA VERKSTÄD  
AKTIE-BOLAG Manufacture

Dates of Survey  $\left\{ \begin{array}{l} \text{During progress of work in shops - } 6/5, 12/5, 14/5, 22/5, 25/5, 27/5, 31/6, 3/6, 8/6, 12/6, 17/6, 20/6, 27/6, 4/7, 8/7, 9/7, 13/7, 15/7, 16/7, 22/7, 27/7, 30/7, 31/8, 7/8, 11/8, 12/8, 18/8, 24/8, 1936 \\ \text{During erection on board vessel - } 25/8, 31/8, 4/9, 7/9, 11/9, 17/9, 25/9, 30/9, 1936 \end{array} \right.$  Are the approved plans of boiler and superheater forwarded herewith  $10-7-1936$   
(If not state date of approval.)  
Total No. of visits 37

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. M/T "BASILEA", Rpt. No. 1475

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

These donkey boilers have been built under special survey in accordance with the Rules and the approved plans.

The materials used has been tested as per Rule and the workmanship is good.

A waste heat boiler, see Hamburg report No. 21828, heated by exhaust gas from top of main engine cylinders has also been installed. A double  $1\frac{1}{2}''$  safety valve is fitted on this boiler and adjusted to the safe working pressure.

Survey Fee ... See Rpt. Hb. When applied for, 19  
Travelling Expenses (if any) £ : : When received, 19

A. Sundén, A. Barring.  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FM. 9 OCT 1936

Assigned See minute on F.E. report



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