

## REPORT ON BOILERS.

No. 2340.

24 APR 1946

Received at London Office

Date of writing Report 13<sup>th</sup> April 1946 When handed in at Local Office 16<sup>th</sup> April 1946 Port of MaharröNo. in Reg. Book. 39705 on the Single Screw Motor Tanker "SOYA II" Survey held at Maharrö Date, First Survey 11<sup>th</sup> Sept. 1945 Last Survey 27<sup>th</sup> March 1946

(Number of Visits 23) Tons {Gross 10477 Net 6260

Master Built at Maharrö By whom built Hockmms M. V. A. B. Yard No. 279 When built 1946

Engines made at Maharrö By whom made Hockmms Mek. V. A. B. Engine No. 373 When made 1946

Boilers made at Maharrö By whom made Hockmms Mek. V. A. B. Boiler No. 1003/04 When made 1946

Nominal Horse Power 1556 Owners Rudini A. B. Sogva Port belonging to Stockholm.

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

Manufacturers of Steel Messrs. Vithcoria Mins Steel & Ironw. Corp., Vithcoria (Letter for Record)

Total Heating Surface of Boilers  $2 \times 131 = 262 \text{ m}^2$  Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers Two S. B. Working Pressure 12 kg.  $\text{cm}^2$  171 lb

Tested by hydraulic pressure to 306 lbs. Date of test 13.12.1945 No. of Certificate 133 & 134 Can each boiler be worked separately Yes

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

Area of each set of valves per boiler {per Rule 4300  $\text{mm}^2$  as fitted 7697 " 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 or uptakes and bunkers or woodwork The boilers placed on a platform at after end of eng. room. Is oil fuel carried in the double bottom under boilers

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

Largest internal dia. of boilers 3400 mm Length 3600 mm Shell plates: Material Steel Tensile strength 45.6-49.7 kg.  $\text{mm}^2$

Thickness 22.5 mm Are the shell plates welded or flanged No Description of riveting: circ. seams 26 mm end 83 mm inter. 171.5 mm

long. seams S. R. Dbl. str. Diameter of rivet holes in {circ. seams 26 mm Pitch of rivets 171.5 mm

Percentage of strength of circ. end seams {plate 68.6 % rivets 45.0 % Percentage of strength of circ. intermediate seam {plate 86.3 % rivets 83.0 % combined 89.2 %

Percentage of strength of longitudinal joint {plate 86.3 % rivets 83.0 % combined 89.2 % Working pressure of shell by Rules 12.14 kg.  $\text{cm}^2$

Thickness of butt straps {outer 17 mm inner 20 " No. and Description of Furnaces in each Boiler Two corrugated.

Material Steel Tensile strength 41.6-44.2 kg.  $\text{mm}^2$  Smallest outside diameter 1076 1086

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

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 12.25 kg.  $\text{cm}^2$

End plates in steam space: Material Steel Tensile strength 41.5-44.8 kg.  $\text{mm}^2$  Thickness 22 mm Pitch of stays 350 x 406 mm

How are stays secured Dbl. nuts and washers Working pressure by Rules 13 kg.  $\text{cm}^2$

Tube plates: Material {front Steel Tensile strength 41.6-44.8 kg.  $\text{mm}^2$  Thickness 22 mm

Mean pitch of stay tubes in nests 240 mm Pitch across wide water spaces 330 mm Working pressure {front 16.6 kg.  $\text{cm}^2$  back 19.4 "

Girders to combustion chamber tops: Material Steel Tensile strength 46.2 kg.  $\text{mm}^2$  Depth and thickness of girder

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

in each 2 - 228 mm Working pressure by Rules 14.4 kg.  $\text{cm}^2$  Combustion chamber plates: Material Steel

Tensile strength 44.3-46.8 kg.  $\text{mm}^2$  Thickness: Sides 18 mm Back 18 mm Top 18 mm Bottom 18 mm

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

Working pressure by Rules 12.0 kg.  $\text{cm}^2$  Front plate at bottom: Material Steel Tensile strength 41.6-44.8 kg.  $\text{mm}^2$

Thickness 22 mm Lower back plate: Material Steel Tensile strength 41.5-43.0 kg.  $\text{mm}^2$  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.  $\text{cm}^2$  Main stays: Material Steel Tensile strength 44 kg.  $\text{mm}^2$

Diameter {At body of stay 2 3/8 " No. of threads per inch 6 Area supported by each stay 142100  $\text{mm}^2$

Working pressure by Rules 12.6 kg.  $\text{cm}^2$  Screw stays: Material Steel Tensile strength 44 kg.  $\text{mm}^2$

Diameter {At turned off part 1 1/2 " & 1 7/8 " No. of threads per inch 9 Area supported by each stay 43848  $\text{mm}^2$



Working pressure by Rules  $12.9 \text{ kg. cm}^{-2}$  Are the stays drilled at the outer ends ☒ No Margin stays: Diameter { At turned off part or Over threads  $1.58"$   
No. of threads per inch  $9$  Area supported by each stay  $57560 \text{ mm}^2$  Working pressure by Rules  $12.9 \text{ kg. cm}^{-2}$   
Tubes: Material  $\text{Steel}$  External diameter { Plain  $2\frac{1}{2}"$  Thickness  $3.25 \text{ mm}$  No. of threads per inch  $9$   
Pitch of tubes  $89 \times 92 \text{ mm}$  Working pressure by Rules  $12.5 \text{ kg. cm}^{-2}$  Manhole compensation: Size of opening in shell plate  $400 \times 500$  Section of compensating ring  $14040 \text{ mm}^2$  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  $82$  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 ☒ 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 ☒

The foregoing is a correct description.

MEKANISKA VERKSTADS AKTIEBOLAG

Hurtbolvind 2168 Manufacturer.

Dates of Survey { During progress of work in shops - 11<sup>th</sup> Sept. to 17<sup>th</sup> Dec. 1945. Are the approved plans of boiler and superheater forwarded herewith 10.9.1943  
while building { During erection on board vessel - 10<sup>th</sup> Dec. 1945 to 27<sup>th</sup> March 1946. Total No. of visits 23.

Is this Boiler a duplicate of a previous case ☒ Yes. If so, state Vessel's name and Report No.  $M/T \text{ "Glimmingehus", Rpt. No. 2164}$ .

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 approved plans.

The material used have been tested as per Rule by the Schiffbauabholungsaktion and checked tested at Mahro, and the workmanship is good.

Survey Fee  $\text{Rs. } 357.-$  When applied for  $16^{\text{th}}$  April, 1946.  
Travelling Expenses (if any) £ : : When received, 19

A. Børring  
Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 31 MAY 1946

Committee's Minute

Assigned  $\text{Su F.E. machy. rpt.}$