

## REPORT ON BOILERS.

No. 22630.

Received at London Office 24 JAN 1938

Date of writing Report 12<sup>th</sup> Jan. 1938. When handed in at Local Office 19 Port of Hamburg

No. in Survey held at Hamburg Date, First Survey 23<sup>rd</sup> March 1937 Last Survey 4<sup>th</sup> Jan. 1938.

Reg. Book. on the Steel Single Lever "NORVIK" (Number of Visits 16) Gross 9355 Tons Net 5987

Master Built at Hamburg By whom built Deutsche Werft A.G. Yard No. 194 When built 1938

Engines made at Augsburg By whom made Maschinenfabrik Augsburg-Königsberg Engine No. 691210 When made 1937

Boilers made at Hamburg By whom made Deutsche Werft A.G. Boiler No. 611-612 When made 1937

Nominal Horse Power 1167 Owners Tanker Corporation / Johan Rasmussen & Co Port belonging to Panama R.P.

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR~~ DONKEY.

Stay tubes: Hamburger Eisenwerk A.G. Hamburg (Laar).

Manufacturers of Steel Messrs. Gutehoffnungshütte Akt. Walenwerk Oberhausen (Letter for Record S.)

Total Heating Surface of Boilers each 145 sq. m. Is forced draught fitted yes Coal or Oil fired oil fired

No. and Description of Boilers two single ended multitubular donkey boilers Working Pressure 12 kgs/cm<sup>2</sup>Tested by hydraulic pressure to 21.5 kgs/cm<sup>2</sup> Date of test 21.7.37 No. of Certificate 668+669 Can each boiler be worked separately yes

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

Area of each set of valves per boiler {per Rule 6767 mm<sup>2</sup> as fitted 7697} Pressure to which they are adjusted 12 kgs/cm<sup>2</sup> 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 on ~~woodwork~~ 750 mm Is oil fuel carried in the double bottom under boilers no boilers fitted in ~~double~~ <sup>interdeck</sup>Smallest distance between shell of boiler and ~~tank top~~ plating 450 mm Is the bottom of the boiler insulated yes, by span glass matsLargest internal dia. of boilers 3400 mm Length 3294 mm Shell plates: Material S.M.-Steel Tensile strength 47-53 kgs/mm<sup>2</sup>

Thickness 22 mm Are the shell plates welded or flanged flanged (double buttstrapped) Description of riveting: circ. seams {end double row - lap. inner -

long. seams treble row (double buttstrapped) Diameter of rivet holes in {circ. seams 29 mm Pitch of rivets {96 mm inner - 131 mm

Percentage of strength of circ. end seams {plate 69.8 % rivets 47.9 % Percentage of strength of circ. intermediate seam {plate - rivets -

Percentage of strength of longitudinal joint {plate 84.8 % rivets 101.3 % combined 89.8 Working pressure of shell by Rules 12.4 kgs/cm<sup>2</sup>

Thickness of butt straps {outer 22 mm inner 22 mm No. and Description of Furnaces in each Boiler two corrugated furnaces (Morison type)

Material S.M.-Steel Tensile strength 41-47 kgs/mm<sup>2</sup> Smallest outside diameter 974 mm

Length of plain part {top 316 mm Thickness of plates {crown 12 mm Description of longitudinal joint watergas lapwelded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 12.42 kgs/cm<sup>2</sup>End plates in steam space: Material S.M.-Steel Tensile strength 41-47 kgs/mm<sup>2</sup> Thickness 22 mm Pitch of stays 390 x 380 mmHow are stays secured washers and strips riveted to shell, nuts in- and outside Working pressure by Rules 14.4 kgs/cm<sup>2</sup>Tube plates: Material {front S.M.-Steel Tensile strength {41-47 kgs/mm<sup>2</sup> Thickness {22 mmMean pitch of stay tubes in nests 308 x 312 mm Pitch across wide water spaces 360 mm Working pressure {front 14.4 kgs/cm<sup>2</sup> back 13.2 kgs/cm<sup>2</sup>Girders to combustion chamber tops: Material S.M.-Steel Tensile strength 47-53 kgs/mm<sup>2</sup> Depth and thickness of girder

at centre 180 - 2x14 Length as per Rule 609 mm Distance apart 220 mm No. and pitch of stays

in each 2 - 180 mm Working pressure by Rules 14 kgs/cm<sup>2</sup> Combustion chamber plates: Material S.M.-SteelTensile strength 41-47 kgs/mm<sup>2</sup> Thickness: Sides 16 mm Back 19 mm Top 16 mm Bottom 22 mm

Pitch of stays to ditto: Sides 190 x 300 mm Back 190 x 210 mm Top 220 x 180 mm Are stays fitted with nuts or riveted over margin stays with nuts in nests riveted over

Working pressure by Rules 16.4-14.8-15.4 kgs/cm<sup>2</sup> Front plate at bottom: Material S.M.-Steel Tensile strength 41-47 kgs/mm<sup>2</sup>Thickness 22 mm Lower back plate: Material S.M.-Steel Tensile strength 41-47 kgs/mm<sup>2</sup> Thickness 22 mm

Pitch of stays at wide water space diameter 500 mm Are stays fitted with nuts or riveted over margin stays with nuts in nests riveted over

Working Pressure 12.5 kgs/cm<sup>2</sup> Main stays: Material S.M.-Steel Tensile strength 41-47 kgs/mm<sup>2</sup>Diameter {At body of stay, 62.6 mm No. of threads per inch 6 Area supported by each stay 390 x 380 = 148200 mm<sup>2</sup>Working pressure by Rules 14.5 kgs/cm<sup>2</sup> Screw stays: Material S.M.-Steel Tensile strength 41-47 kgs/mm<sup>2</sup>Diameter {At turned off part, 35.4 - 41.4 - 47.4 No. of threads per inch 9 Area supported by each stay 39900 mm<sup>2</sup>

{Over threads 39 - 45 - 51



Working pressure by Rules  $15 \text{ kg/cm}^2$  Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part, 41.4 - 47.4 mm  
or 45 - 51.0 mm  
Over threads }  
No. of threads per inch 9 Area supported by each stay  $57750 \text{ mm}^2$  Working pressure by Rules  $14.6 \text{ kg/cm}^2$   
Tubes: Material S-M-Steel External diameter { Plain 76 mm  
Stay 76 mm } Thickness { 3.75 mm  
8.0 mm } No. of threads per inch 9  
Pitch of tubes  $104 \times 104 \text{ mm}$  Working pressure by Rules  $14.6 \text{ kg/cm}^2$  Manhole compensation: Size of opening in  
shell plate  $300 \times 400 \text{ mm}$  Section of compensating ring  $2 \times (25 \times 225)$  No. of rivets and diameter of rivet holes 32 of 29 mm  $\phi$   
Outer row rivet pitch at ends 125 mm Depth of flange if manhole flanged - Steam Dome: Material S-M-Steel  
Tensile strength  $41-47 \text{ kg/mm}^2$  Thickness of shell 14 mm Description of longitudinal joint oxy-acetylene welded and secured by  
Diameter of rivet holes 23 mm Pitch of rivets 74 mm Percentage of strength of joint { Plate 69% } welding 60%  
Internal diameter 800 mm Working pressure by Rules  $16.4 \text{ kg/cm}^2$  Thickness of crown 17 mm No. and diameter of End  
stays - Inner radius of crown 800 mm Working pressure by Rules  $14.4 \text{ kg/cm}^2$   
How connected to shell pressed flange and riveted Size of doubling plate under dome - Diameter of rivet holes and pitch  
of rivets in outer row in dome connection to shell 29 mm - 199 mm

Type of Superheater Manufacturers of Tubes  
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 on  
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,

DEUTSCHE WERFT  
AKTIENGESELLSCHAFT

Manufacturers

Dates of Survey { During progress of work in shops - - 1937 Mar. 25 Apr. 6, 17, 22 May 3, June 3, 5, 15, 21, 28  
while building { During erection on board vessel - - 1937 Nov. 27 Dec. 20, 29 1938 Jan. 4 } Are the approved plans of boiler and superheater forwarded herewith 13. 11. 35  
(If not state date of approval.)  
Total No. of visits 16

Is this Boiler a duplicate of a previous case ☒ If so, state Vessel's name and Report No. HERRING HAMBURG REPORT No. 21702  
THORNEIMER " " 21233  
WOLLYS " " 22061  
REGULUS " " 22091

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) Material and workmanship of these  
donkey boilers are of good quality. The materials used in the constructions are made  
at works recognized by the Committee and tested by the Society's Surveyors in accordance  
with the requirements of the Rules.

These donkey boilers having been made under Special Survey in conformity with the  
approved plan, the Secretary's Letter and otherwise in compliance with the requirements of  
the Rules, is eligible in my opinion to be classed in the Society's Register Book =

Donkey boiler pressure 170 lbs/sq. inch.

Thickness of adjusting washers Port donkey boiler: Port 19.2 mm Itb 18.5 mm  
Itb donkey boiler: Port 19.6 mm Itb 19.8 mm

Survey Fee ... x R.M. 4/6: - When applied for, 17. 7. 1938  
Travelling Expenses (if any) £ : : When received, 4/2 1938

Friedrich Hilt  
H. Rohrs  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 1 FEB. 1938

Assigned See other F.E. report



© 2020

Lloyd's Register  
Foundation