

## REPORT ON BOILERS.

No. 21578

-5 JUL 1935

of writing Report 6/6/35

When handed in at Local Office

Port of

Hamburg

Survey held at

Kiel

Date, First Survey

18/12/34

Last Survey

17/6/35

Book.

on the

Steel S.S. "V.B. Walke"

(Number of Visits 15)

Tons

Gross 10,468

Net 6,127

Built at

Kiel

By whom built

Fried. Krupp Germaniawerft Yard No. 534

When built

1935

made at

Kiel

By whom made

Fried. Krupp Germaniawerft A.G.

Engine No. 4820

When made

1935

made at

Kiel

By whom made

ditto

Boiler No. 3857

When made

1935

Horse Power

912

Owners

Standard Vacuum Oil Co. Ltd.

Port belonging to

Hongkong

## TUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Deutsche Röhrenwerke A.G. Werk Mülheim/Ruhr. Fr. Krupp, Essen (Letter for Record 5)

Heating Surface of Boilers

510 m<sup>2</sup>

Is forced draught fitted

yes

Coal or Oil fired

oil

Description of Boilers

2 multitubular Scotch Marine Donkey Boilers

Working Pressure 200 lbs

by hydraulic pressure to

350 lbs

Date of test

19.3.35

No. of Certificate

583/4

Can each boiler be worked separately

yes

Firegrate in each Boiler

No. and Description of safety valves to each boiler 1, 2 springs loaded

each set of valves per boiler

per Rule 12,500 mm<sup>2</sup>as fitted 18,708 mm<sup>2</sup>

Pressure to which they are adjusted 200 lbs

Are they fitted with easing gear

yes

of donkey boilers, state whether steam from main boilers can enter the donkey boiler

These boilers work in connect with ex. donkey boiler fitted in

distance between boilers or uptakes and bunkers or woodwork

between dh.

Is oil fuel carried in the double bottom under boilers

on deck

distance between shell of boiler and tank top plating

500 mm

Is the bottom of the boiler insulated

yes, asbestos mats

Internal dia. of boilers

4400 mm

Length

3690 mm

Shell plates: Material

O.H. Steel

Tensile strength 44-55 kg/mm<sup>2</sup>

ss 34- mm

Are the shell plates welded or flanged

flanged

Description of riveting: circ. seams

end DR

inter.

Double 66 straps

Diameter of rivet holes in

circ. seams 35- mm

long. seams 35- mm

Pitch of rivets

100-5 mm

age of strength of circ. end seams

plate 66.7

rivets 44.4

Percentage of strength of circ. intermediate seam

plate

rivets

age of strength of longitudinal joint

plate 84.7

rivets 89-

combined 87.3

Working pressure of shell by Rules

14.3 kg/cm<sup>2</sup>

ss of butt straps

outer 27- mm

inner 30- mm

No. and Description of Furnaces in each Boiler

3 Morison

Material

O.H. Steel

Tensile strength 41-47 kg/mm<sup>2</sup>

Smallest outside diameter

1080 mm

of plain part

top 259.5 mm

bottom

Thickness of plates

crown 15- mm

bottom

Description of longitudinal joint

welded

ions of stiffening rings on furnace or c.c. bottom

Working pressure of furnace by Rules

14.2 kg/cm<sup>2</sup>

ates in steam space: Material

O.H. Steel

Tensile strength 41-47 kg/mm<sup>2</sup>

Thickness

32- mm

Pitch of stays 480 x 420 mm

re stays secured

screwed in, nuts outside

Working pressure by Rules

19.6 kg/cm<sup>2</sup>

lates: Material

front O.H. Steel

back O.H. Steel

Tensile strength

41-47 kg/mm<sup>2</sup>

Thickness

23- mm

front 15.5 kg/cm<sup>2</sup>back 26- kg/cm<sup>2</sup>

itch of stay tubes in nests

220 x 220 mm

Pitch across wide water spaces

367 mm

Working pressure

front 15.5 kg/cm<sup>2</sup>back 26- kg/cm<sup>2</sup>

s to combustion chamber tops: Material

O.H. Steel

Tensile strength 44-55 kg/mm<sup>2</sup>

Depth and thickness of girder

re 280 mm, 18 mm each

Length as per Rule

875 mm

Distance apart

220 mm

No. and pitch of stays

3, 205 mm

Working pressure by Rules

14.5 kg/cm<sup>2</sup>

Combustion chamber plates: Material

O.H. Steel

strength 41-47 kg/mm<sup>2</sup>

Thickness: Sides 19 mm

Back 19 mm

Top 19 mm

Bottom 23 mm

of stays to ditto: Sides 205 x 18 mm

Back 190 x 192.5 mm

Top 205 x 220 mm

Are stays fitted with nuts or riveted over riveted over

ng pressure by Rules 16.65, 16.3, 13.2 kg/cm<sup>2</sup>

Front plate at bottom: Material

O.H. Steel

Tensile strength 41-47 kg/mm<sup>2</sup>

ess 23- mm

Lower back plate: Material

O.H. Steel

Tensile strength 41-47 kg/mm<sup>2</sup>

Thickness

22 mm

itch of stays at wide water space

d = 500 mm

Are stays fitted with nuts or riveted over

with nuts

Working Pressure

16.9 kg/cm<sup>2</sup>

Main stays: Material

O.H. Steel

Tensile strength

44-55 kg/mm<sup>2</sup>

iameter

At body of stay, 76- mm

or

Over threads 82.47 mm

No. of threads per inch

6

Area supported by each stay 115,200 mm<sup>2</sup>

Working pressure by Rules

33.5 kg/cm<sup>2</sup>

Screw stays: Material

O.H. Steel

Tensile strength

44-55 kg/mm<sup>2</sup>

iameter

At turned off part, 35- mm

or

Over threads 39- mm

No. of threads per inch

9

Area supported by each stay 37,925 mm<sup>2</sup>



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## REPORT ON BOILERS

Working pressure by Rules  $21.5 \text{ kg/cm}^2$  Are the stays drilled at the outer ends no Margin stays: Diameter  $50 - \text{mm}$   
 No. of threads per inch 9 Area supported by each stay  $69730 \text{ mm}^2$  Working pressure by Rules  $18.5 \text{ kg/cm}^2$   
 Tubes: Material O.H. Steel External diameter  $83 - \text{mm}$  Thickness  $4 - \text{mm}$  No. of threads per inch 9  
 Pitch of tubes  $110 \times 110 \text{ mm}$  Working pressure by Rules  $16 \text{ kg/cm}^2$  Manhole compensation: Size of opening  
 shell plate  $460 \times 560 \text{ mm}$  Section of compensating ring  $950 \times 1050 \times 34 \text{ mm}$  No. of rivets and diameter of rivet holes  $42, 30 \phi$   
 Outer row rivet pitch at ends  $194 \text{ mm}$  Depth of flange if manhole flanged  $101 \text{ mm}$  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  
 Internal diameter Working pressure by Rules Thickness of crown No. and diameter  
 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 coil system

Manufacturers of

Tubes Press- und Holzwerk, Düsseldorf-Reisina  
 headers ditto  
 Steel castings ditto

Number of elements 22 Material of tubes O.H. Steel Internal diameter and thickness of tubes  $38 - \text{mm}$   $3 - \text{mm}$   
 Material of headers O.H. Steel Tensile strength  $46.7 \text{ kg/mm}^2$  Thickness 22 mm Can the superheater be shut off  
 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  $804.25 \text{ mm}^2$  Are the safety valves fitted with easing gear yes Working pressure as per Rules  $97 - \text{kg/cm}^2$   
 Pressure to which the safety valves are adjusted 200 lbs Hydraulic test pressure and De  
 tubes 1140 lbs headers 600 lbs and after assembly in place 600 lbs Are drain cocks or valves fitted by  
 to free the superheater from water where necessary yes

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yesDetails of the Steam Dryer are contained  
 in Report on Exhaust Gas Donkey Boiler!

The foregoing is a correct description,

FRIED. KRUPP  
 GERMANIAWERKE

Manufacture

Dates of Survey During progress of work in shops - 18/12/34, 1935, 11, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29 Are the approved plans of boiler and superheater forwarded herewith 21/9/34  
 while building During erection on board vessel - 2, 4, 7, 17 (If not state date of approval) 19/1/35  
 Total No. of visits 15

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

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

These Donkey Boilers have been built under Special Survey in accordance with the approved plans, the Secretary's Letters and the Society's Rules. The materials used in the construction and the workmanship are of good quality. They have been satisfactory fitted on board and their safety valves have been adjusted under steam to a pressure of 200 lbs. In my opinion they are eligible for notation in the Register Book of:-  
 2 DB (aft) pressure 200 lb.

## Safety valves' washers:

	fore	aft
Port Boiler	23 - mm	23 - mm
Starb. Boiler	16.8 mm	18 - mm

Survey Fee Rmk 2 6.16.-When applied for, 19Travelling Expenses (if any) £ 9.10.10.35When received, 9/10

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

FRI. 12 JUL 1935

Assigned

See other Ham 21578

Lloyd's Register  
 Foundation