

REPORT ON BOILERS.

No. 1490.

27 AUG 1932

Received at London Office

of writing Report 22nd Aug 1932 When handed in at Local Office

10 Port of BREMEN

in Survey held at VEGESACK

Date, First Survey 27th Oct. 1931 Last Survey 16th Aug. 1932

on the STEEL TWIN SC.

F. J. WOLFE

(Number of Visits 15)

Gross 12,432

Tons Net 7100

Built at VEGESACK

By whom built BREMER VULKAN

Yard No. 698 When built 1932

Lines made at VEGESACK

By whom made BREMER VULKAN

Engine No. 297/300/304 When made 1932

Boilers made at VEGESACK

By whom made BREMER VULKAN

Boiler No. 729/30 When made 1932

Horse Power 1566

Owners BALTSCH AMERIK. PETROL. IMPORT G.M.B.H. Port belonging to DANZIG

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Vereinigte Stahlwerke, Stahl & Walzenwerk Thyssen, Mülheim-Ruhr. (Letter for Record 5)

Total Heating Surface of Boilers 2 x 233 m²

Is forced draught fitted yes

Coal or Oil fired oil fired

No. and Description of Boilers 2 cylindrical multitubular donkey boilers

Working Pressure 200 lbs, 14 kg/cm²

Tested by hydraulic pressure to 350 lbs Date of test 22.1.32 No. of Certificate 142 & 143 Can each boiler be worked separately yes

Area of Firegrate in each Boiler

No. and Description of safety valves to each boiler 2 spring loaded safety valves

Area of each set of valves per boiler { per Rule 11379 mm² as fitted 12814 "

Pressure to which they are adjusted 200 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 main boiler

Smallest distance between boilers or uptakes and bunkers or woodwork

Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating situated in double bottom the bottom of the boiler insulated yes

Largest internal dia. of boilers 4300 mm Length 3690 mm

Shell plates: Material S.M. Steel Tensile strength 47-53 kg/cm²

Thickness 31,5 mm Are the shell plates welded or flanged flanged

Description of riveting: circ. seams { end lap donkey inter. -

Long. seams donkey butt strap

Diameter of rivet holes in { circ. seams 32 mm long. seams 35 mm

Pitch of rivets { 91,9 mm 214, - mm

Percentage of strength of circ. end seams { plate 65 % rivets 43 %

Percentage of strength of circ. intermediate seam { plate rivets

Percentage of strength of longitudinal joint { plate 83 % rivets 100 % combined 83 %

Working pressure of shell by Rules 14,2 kg/cm²

Thickness of butt straps { outer 28 mm inner 28 mm

No. and Description of Furnaces in each Boiler 3 Morrison furnaces

Material S.M. Steel

Tensile strength 41-47 kg/cm²

Smallest outside diameter 1080 mm

Length of plain part { top 150 mm bottom 200 mm

Thickness of plates { crown 15 mm bottom 15 mm

Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom -

Working pressure of furnace by Rules 14,2 kg/cm²End plates in steam space: Material S.M. Steel Tensile strength 41-47 kg/cm² Thickness 28,5 mm Pitch of stays 425 x 425How are stays secured screwed through, with washers inside & outside Working pressure by Rules 15,6 kg/cm²

Tube plates: Material { front S.M. Steel back S.M. Steel

Tensile strength { 41-47 kg/cm² 41-47 -"

Thickness { 27,5 mm 23,0 mm

Mean pitch of stay tubes in nests 198 x 196 mm Pitch across wide water spaces 350 x 196 mm

Working pressure { front 16,5 kg/cm² back 35, - "

Girders to combustion chamber tops: Material S.M. Steel

Tensile strength 41-47 kg/cm²

Depth and thickness of girder

at centre 249 x 17 mm

Length as per Rule 850 mm

Distance apart 212 mm

No. and pitch of stays

in each 3, pitch 200 mm

Working pressure by Rules 14 kg/cm²

Combustion chamber plates: Material S.M. Steel

Tensile strength 41-47 kg/cm²

Thickness: Sides 17 mm

Back 16 mm

Top 17 mm

Bottom 23 mm

Pitch of stays to ditto: Sides 210 x 180 mm Back 194 x 187 mm Top 200 x 212 mm Are stays fitted with nuts or riveted over fitted with nuts

Working pressure by Rules 17 kg/cm²

Front plate at bottom: Material S.M. Steel

Tensile strength 41-47 kg/cm²

Thickness 27,5 mm

Lower back plate: Material S.M. Steel

Tensile strength 41-47 kg/cm²

Thickness 26 mm

Pitch of stays at wide water space 350 x 187 mm

Are stays fitted with nuts or riveted over fitted with nuts

Working Pressure 23 kg/cm²

Main stays: Material S.M. Steel

Tensile strength 41-50 kg/cm²

Diameter { At body of stay, 68 mm & 72 mm Over threads

No. of threads per inch 6

Area supported by each stay 425 x 425 mm

Working pressure by Rules 14,4 kg/cm²

Screw stays: Material S.M. Steel

Tensile strength 41-50 kg/cm²

Diameter { At turned off part, 35, - mm Over threads

No. of threads per inch 9

Area supported by each stay 194 x 187

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Working pressure by Rules 16 kg/cm^2 Are the stays drilled at the outer ends ☒ Margin stays: Diameter $50 = 41 \text{ mm}$
 No. of threads per inch 9 Area supported by each stay $187 \times 262 \text{ mm}^2$ Working pressure by Rules 17.5 kg/cm^2
 Tubes: Material *P.M. Steel* External diameter 70 mm Thickness 4 mm No. of threads per inch 9
 Pitch of tubes $98 \times 99 \text{ mm}$ Working pressure by Rules 19.5 kg/cm^2 Manhole compensation: Size of opening
 shell plate $460 \times 560 \text{ mm}$ Section of compensating ring $31.5 \times 940/1040$ No. of rivets and diameter of rivet holes $48 \text{ rivets of } 35$
 Outer row rivet pitch at ends 200 mm Depth of flange if manhole flanged 98 mm Steam Dome: Material *no dome*
 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
 stays — Inner radius of crown — Working pressure by Rules —
 How connected to shell — Size of doubling plate under dome — Diameter of rivet holes and
 of rivets in outer row in dome connection to shell —

Type of Superheater *no Superheater* Manufacturers of $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$
 Number of elements — Material of tubes — Internal diameter and thickness of tubes —
 Material of headers — Tensile strength — Thickness — Can the superheater be shut off
 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
 Rules — Pressure to which the safety valves are adjusted — Hydraulic test pressure
 tubes —, 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 *yes*

The foregoing is a correct description,
Sahlgrenska and Maschinenfabrik

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops} \\ \text{while building} \end{array} \right.$ $\left\{ \begin{array}{l} \text{During erection on board vessel} \end{array} \right.$
 $\left. \begin{array}{l} 1931 \\ 27/10, 10/11, 19/11, 3/12, 11/12, 13/1, 22/1 \end{array} \right\}$ Are the approved plans of boiler and superheater forwarded herewith $24.12.$
 $\left. \begin{array}{l} 1932 \\ 19/5, 26/5, 9/7, 26/7, 11/8, 16/8 \end{array} \right\}$ Total No. of visits 15

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These Boilers have been constructed under special survey in accordance with the approved plan, the Secretary's letters and otherwise in conformity with the requirements of the Rules. The materials used in the construction are made at works recognized by the Committee and tested by the Soc. Surveyors. Materials & workmanship are of good quality. There is a "Todd" semi-automatic high-low flame control system installed in accordance with the approved plan and was found under working condition to be in order.

Marks on boilers:

No 142 & 143
LLOYD'S TEST
350 lbs
WP 200 lbs
AC. 22. 1. 32.

Signs of adjusting washers:

Port Boiler: Port 9 mm Ht. 14.7 mm
 Starb " " 12.8 mm " 15.7 mm

These boilers are eligible to be noted in the Soc. Reg Book with: 2 D.B. pressure 200 lbs.

Survey Fee \dots ~~£ 29.5~~ — When applied for, 19
 Travelling Expenses (if any) £ : : When received, 19

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

Committee's Minute FRI, 2 SEP 1932

Assigned *See other report*
Boiler 1490



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