

REPORT ON BOILERS.

No. 18047

Received at London Office 17 MAY 1928

Date of writing Report 14 May 1928 When handed in at Local Office 1928 Port of Hamburg

No. in Reg. Book. Survey held at Hamburg - Kiel Date, First Survey 26th August 27 Last Survey 30th April 1928

on the STEEL TWIN SC PACIFIC GROVE (Number of Visits 6) Gross 7114 Tons Net 4316

Master Kiel Built at Kiel By whom built Deutsche Werke A.G. Yard No. 213 When built 1928

Engines made at Kiel By whom made Deutsche Werke A.G. Engine No. 213 When made 1928

EXHAUST GAS Fired Hamburg By whom made Deutsche Werke A.G. Boiler No. 305 When made 1928

Nominal Horse Power 1014 Owners TRANS OCEANIC S.S. Co. Port belonging to LONDON.

Waste heat.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

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

Total Heating Surface of Boilers 45 m² Is forced draught fitted no Coal or Oil fired Exhaust gas fired

No. and Description of Boilers One vertical multitubular donkey boiler Working Pressure 100 lbs (7 kg/cm²)

Tested by hydraulic pressure to 200 lbs Date of test 23. 11. 27 No. of Certificate 454 Can each boiler be worked separately no

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

Area of each set of valves per boiler (per Rule 3440 m² as fitted 3926 m²) Pressure to which they are adjusted 100 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

Smallest distance between boilers or uptakes and bunkers or woodwork no Is oil fuel carried in the double bottom under boilers no

Smallest distance between shell of boiler and tank top plating no Is the bottom of the boiler insulated no

Largest internal dia. of boilers 1450 mm Length 1780 mm Shell plates: Material 1. M. steel Tensile strength 41-47 kg/cm²

Thickness 11 mm Are the shell plates welded or flanged flanged Description of riveting: circ. seams end lap single

long. seams lap single Diameter of rivet holes in circ. seams 30 mm Pitch of rivets 49.5 mm

Percentage of strength of circ. end seams (plate 60% rivets 50%) Percentage of strength of circ. intermediate seam (plate 70% rivets 75%) Working pressure of shell by Rules 9.1 kg/cm²

Thickness of butt straps (outer no inner no)

No. and Description of Furnaces in each Boiler no

Material no Tensile strength no Smallest outside diameter no

Length of plain part (top no bottom no) Thickness of plates (crown no bottom no) Description of longitudinal joint no

Dimensions of stiffening rings on furnace or c.c. bottom no Working pressure of furnace by Rules no

End plates in steam space: Material no Tensile strength no Thickness no Pitch of stays no

How are stays secured no Working pressure by Rules no

Tube plates: Material top 1. M. steel Tensile strength 41-47 kg/cm² Thickness 20 mm

Mean pitch of stay tubes in nests 260 x 235 mm Pitch across wide water spaces no Working pressure (front no back 16 kg/cm²)

Girders to combustion chamber tops: Material no Tensile strength no Depth and thickness of girder no

at centre Length as per Rule no Distance apart no No. and pitch of stays no

in each Working pressure by Rules no Combustion chamber plates: Material no

Tensile strength no Thickness: Sides no Back no Top no Bottom no

Pitch of stays to ditto: Sides no Back no Top no Are stays fitted with nuts or riveted over no

Working pressure by Rules no Front plate at bottom: Material no Tensile strength no

Thickness no Lower back plate: Material no Tensile strength no Thickness no

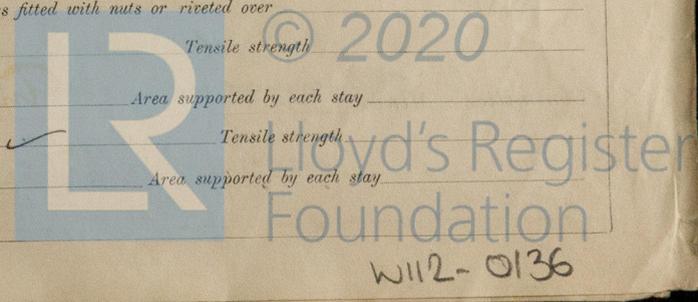
Pitch of stays at wide water space no Are stays fitted with nuts or riveted over no

Working Pressure no Main stays: Material no Tensile strength no

Diameter (At body of stay no or Over threads no) No. of threads per inch no Area supported by each stay no

Working pressure by Rules no Screw stays: Material no Tensile strength no

Diameter (At turned off part no or Over threads no) No. of threads per inch no Area supported by each stay no



Working pressure by Rules Are the stays drilled at the outer ends Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{or} \\ \text{Over threads} \end{array} \right.$

No. of threads per inch Area supported by each stay Working pressure by Rules

Tubes: Material *steel* External diameter $\left\{ \begin{array}{l} \text{Plain } 54 \frac{1}{2} \text{ in} \\ \text{Stay } 54 \frac{1}{2} \text{ in} \end{array} \right.$ Thickness $\left\{ \begin{array}{l} 3 \frac{1}{2} \text{ in} \\ 8 \frac{1}{2} \text{ in} \end{array} \right.$ No. of threads per inch *10*

Pitch of tubes *76 in* Working pressure by Rules *10 hp/cm²* Manhole compensation: Size of opening in shell plate Section of compensating ring No. of rivets and diameter of rivet holes

Outer row rivet pitch at ends Depth of flange if manhole flanged 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

How connected to shell Inner radius of crown Working pressure by Rules

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 $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$

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, 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 23 inclusive for boilers been complied with *yes*

The foregoing is a correct description,
 FRIEDRICH J. A. CANTUSINE
 Ingenieur-Gesellschaft, Manufacturer

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building} \end{array} \right.$ *18th H. 27. 23rd H. 27* Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

28/3-11/4-26/4-30/4/28 Total No. of visits *6*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This exhaust gas fired Donkey Boiler has been built under Special Survey in accordance with the approved plan, the Secretary's letter of 27th July 1927 and otherwise in conformity with the requirements of the Rules and the material & the workmanship are of good quality. The materials used in the construction are made at works recognised by the Committee and tested in accordance with the Rules by the Soc. Surveyors. When tested by hydraulic pressure to 300 lbs per sq. inch this Donkey Boiler was found to be tight and sound in every respect and showed no signs of weakness. Under steam it was found tight and its safety valves have been adjusted to 100 lbs per sq. inch. It is eligible in our opinion for notation of * N.D.B. 3. 28.*

Marks on Boiler:

No 454
Lloyds Test
200 lbs
WP 100 lbs
A.E. 23. 11. 27

Thickness of washers:
 FRONT: 17th in - AFT: 18th in.

Survey Fee ... £ 4 : 4 : 0 } When applied for, *23. 11. 1927*

Travelling Expenses (if any) £ 0 : 5 : 0 } When received, *21. 12 1927*

Friedrich J. A. Cantusine
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUES. 22 MAY 1928*

Assigned *See Spec. attached*

