

REPORT ON BOILERS.

No. 14971

Received at London Office

of writing Report 22nd March 1928. When handed in at Local Office

Port of Hamburg

Survey held at Hamburg & Kiel

Date, First Survey 16th August 27 Last Survey 12th March 1928

on the STEEL TWIN SC. PACIFIC PRESIDENT

(Number of Visits) Gross 7/14
Tons Net 4316

Built at Kiel

By whom built Deutsche Werke A.G. Yard No. 212 When built 1928

Lines made at Kiel

By whom made Deutsche Werke A.G.

Engine No. 212 When made 1928

Must Gas Fired

Boilers made at Hamburg

By whom made Deutsche Werke A.G.

Boiler No. 306 When made 1928

Final Horse Power

Owners TRANS-OCEANIC S.S. CO

Port belonging to LONDON.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs. Gutehoffnungshütte Oberhausen

(Letter for Record S.)

Heating Surface of Boilers 45 m²

Is forced draught fitted ☒

Coal or Oil fired ☒ Oil fired

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 455

Can each boiler be worked separately ☒

No. of Firegrate in each Boiler

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

No. of each set of valves per boiler { per Rule 3440 $\frac{1}{2}$ m²
as fitted 3926 $\frac{1}{2}$ m²

Pressure to which they are adjusted 100 lbs Are they fitted with easing gear ☒

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 ☒

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 ☒

Largest internal dia. of boilers 1450 mm Length 1780 mm

Shell plates: Material 19M steel Tensile strength 41-47 kg/cm²

Thickness 11 mm Are the shell plates welded or flanged ☒ Flanged

Description of riveting: circ. seams { end ☒ single
inter. ☒

Long. seams ☒ single Diameter of rivet holes in { circ. seams 20 mm
long. seams 20 mm

Pitch of rivets { 49.3 mm
66.1 mm

Percentage of strength of circ. end seams { plate 60 %
rivets 50 %

Percentage of strength of circ. intermediate seam { plate ☒
rivets ☒

Percentage of strength of longitudinal joint { plate 70 %
rivets 75 %
combined ☒

Working pressure of shell by Rules 9.1 kg/cm²

Thickness of butt straps { outer ☒
inner ☒

No. and Description of Furnaces in each Boiler

Tensile strength Smallest outside diameter

Length of plain part { top ☒
bottom ☒

Thickness of plates { crown ☒
bottom ☒

Description of longitudinal joint

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

Working pressure of furnace by Rules

Stays in steam space: Material

Tensile strength

Thickness

Pitch of stays

Are stays secured

Working pressure by Rules

Stays plates: Material

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

Thickness { 20 mm
20 mm

Pitch of stay tubes in nests 200 x 235 mm Pitch across wide water spaces

Working pressure { front 16 kg/cm²
back 16 kg/cm²

Stays to combustion chamber tops: Material

Tensile strength

Depth and thickness of girder

Length as per Rule

Distance apart

No. and pitch of stays

Working pressure by Rules

Combustion chamber plates: Material

Tensile strength

Thickness: Sides

Back

Top

Bottom

Pitch of stays to ditto: Sides

Back

Top

Are stays fitted with nuts or riveted over

Working pressure by Rules

Front plate at bottom: Material

Tensile strength

Thickness

Lower back plate: Material

Tensile strength

Thickness

Pitch of stays at wide water space

Are stays fitted with nuts or riveted over

Working Pressure

Main stays: Material

Tensile strength

At body of stay,

No. of threads per inch

Area supported by each stay

Over threads

Screw stays: Material

Tensile strength

At turned off part,

No. of threads per inch

Area supported by each stay

Over threads

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Working pressure by Rules ✓ Are the stays drilled at the outer ends Margin stays: Diameter { At turned off part, or Over threads
No. of threads per inch Area supported by each stay Working pressure by Rules
Tubes: Material *Steel* External diameter { Plain *54 7/8* Thickness { *3 7/8* No. of threads per inch *10*
Pitch of tubes *76 2* Working pressure by Rules *10 lbs/sq in* Manhole compensation: Size of opening
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 { 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 of rivets in outer row in dome connection to shell
Type of Superheater ✓ Manufacturers of { Tubes 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 from the boiler
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 by Rules
Rules Pressure to which the safety valves are adjusted Hydraulic test pressure
tubes, castings and after assembly in place Are drain cocks or valves 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 Wilhelm N. Carstensen Manufacturer

Dates of Survey { During progress of work in shops - - *18th 11. 27, 23rd 11. 27* Are the approved plans of boiler and superheater forwarded herewith *yes*
while building { During erection on board vessel - - - *2/2 - 5/2 - 8/2 - 10/2 / 12/3/28* (If not state date of approval.)
Total No. of visits *11*

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 plans, the Secretary's letter E 27th July 1927 and otherwise in conformity with the requirements of the Rules, and the materials & 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 Lic. Surveyors. When tested by hydraulic pressure to 200 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 in our opinion for notation of N.D.B. 3. 28.*

Marks on Boiler
N 455
Lloyd's Test
200 lbs
WP 100 lbs
A.C. 23. 11. 27

Thickness of washers:
Port - 20th 11. 21st 11.

Survey Fee £ *4 : 4 : 0* When applied for, *23. 11. 1927*
Travelling Expenses (if any) £ *0 : 5 : 0* When received, *24. 12. 1927*

Friedrich Wilhelm N. Carstensen
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute *TUES. 3 APR 1928*
Assigned *See p. 3 of attached*

WED. 8 AUG 1928
FRI. 21 SEP 1928
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