

# REPORT ON BOILERS

No. 1692/1

14 JUL 1926

Received at London Office

Date of writing Report 10<sup>th</sup> July 1926 When handed in at Local Office

Port of HAMBURG

No. in Surrey held at HAMBURG

Date, First Survey 13<sup>th</sup> March 26 Last Survey 26<sup>th</sup> June 1926

38543 on the Steel Twin Screw Motor Vessel CHINESE PRINCE

(Number of Visits 5) Tons Gross 6734 Net 3656

Master Built at HAMBURG By whom built Deutsche Werft A.G. Yard No. 95 When built 1926

Engines made at BERLIN By whom made Allgemeine Electricitäts Gesellschaft Engine No. 190/91 When made 1926

Boilers made at HAMBURG By whom made Deutsche Werft A.G. Boiler No. 219 When made 1926

Nominal Horse Power 1313 Owners RIO-CAPE-LINE, Ltd Port belonging to LONDON

## MULTITUBULAR BOILERS—<sup>Heater</sup> MAIN, AUXILIARY, OR DONKEY

Manufacturers of Steel Gutehoffnung-Hütte, Oberhausen (Letter for Record S)

Total Heating Surface of Boilers 25 m<sup>2</sup> Is forced draught fitted no Coal or Oil fired exhaust gas fired

No. and Description of Boilers One exhaust gas fired multitubular donkey boiler Working Pressure 3 kg/cm<sup>2</sup> = 43 lb

Tested by hydraulic pressure to 6 kg/cm<sup>2</sup> = 86 lb Date of test 10.4.26 No. of Certificate 424 Can each boiler be worked separately

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

Area of each set of valves per boiler {per Rule 3800 mm<sup>2</sup> as fitted 3926 mm<sup>2</sup> Pressure to which they are adjusted 3 kg/cm<sup>2</sup> = 43 lb Are they fitted with easing gear yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no non-return valve fitted

Smallest distance between boilers or uptakes and bunkers or woodwork placed in machinery 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 yes

Largest internal dia. of boilers 1800 mm Length 2000 mm Shell plates: Material steel Tensile strength 34-41 kg

Thickness 7 mm Are the shell plates welded or flanged flange Description of riveting: circ. seams {end by ringe inter. 47.7 mm

long. seams by single Diameter of rivet holes in {circ. seams 20 mm long. seams 20 mm Pitch of rivets {47.8 mm

Percentage of strength of circ. end seams {plate 58% rivets 99% Percentage of strength of circ. intermediate seam {plate rivets

Percentage of strength of longitudinal joint {plate 58.3% rivets 99% Working pressure of shell by Rules 3.9 kg/cm<sup>2</sup>

Thickness of butt straps {outer inner No. and Description of Furnaces in each Boiler

Material 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

End plates in steam space: Material steel Tensile strength 34-41 kg Thickness 18 mm Pitch of stays

How are stays secured Working pressure by Rules 3.1 kg

Tube plates: Material {front steel back steel Tensile strength {34-41 kg Thickness {18 mm

Mean pitch of stay tubes in nests 200 x 300 mm Pitch across wide water spaces Working pressure {front 8 kg back 8 kg

Girders to combustion chamber tops: Material Tensile strength Depth and thickness of girder

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

in each 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 steel Tensile strength 34-41 kg

Thickness 18 mm Lower back plate: Material steel Tensile strength 34-41 kg Thickness 18 mm

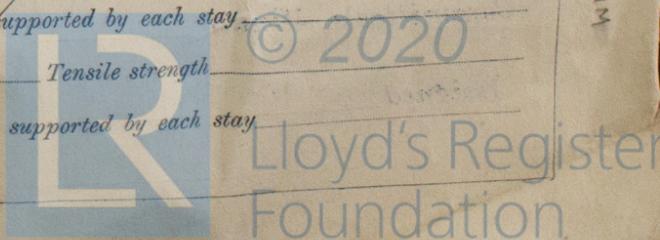
Pitch of stays at wide water space Are stays fitted with nuts or riveted over

Working Pressure 5 kg/cm<sup>2</sup> Main stays: Material Tensile strength

Diameter {At body of stay, Over threads No. of threads per inch Area supported by each stay

Working pressure by Rules Screw stays: Material Tensile strength

Diameter {At turned off part, Over threads No. of threads per inch Area supported by each stay



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Working pressure by Rules At 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 saunders mild steel External diameter Plain 76 Thickness 3 mm No. of threads per inch 11  
Stay 76 7.5 mm

Pitch of tubes 100 mm Working pressure by Rules 9 kg/cm<sup>2</sup> Manhole compensation: Size of opening

shell plate 300 x 400 mm Section of compensating ring 600 x 700 x 7 mm No. of rivets and diameter of rivet holes 28 - 20 mm

Outer row rivet pitch at ends 130 mm Depth of flange if manhole flanged ✓ Steam Dome: Material steel casting

Tensile strength 40 kg/mm<sup>2</sup> Thickness of shell 15 mm Description of longitudinal joint ✓

Diameter of rivet holes ✓ Pitch of rivets ✓ Percentage of strength of joint Plate Rivets

Internal diameter 200 mm Working pressure by Rules 90 kg/cm<sup>2</sup> Thickness of crown 20 mm No. and diameter stays ✓

Inner radius of crown flat Working pressure by Rules 11 kg/cm<sup>2</sup>

How connected to shell riveted Size of doubling plate under dome ✓ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell 23 mm - 58 mm

Type of Superheater Manufactory 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 and the boiler be worked separately

Area of each safety valve Is a safety valve fitted to every part of the superheater which can be shut off from the boiler

Rules Are the safety valves fitted with casing gear Working pressure as per tubes Pressure to which the safety valves are adjusted Hydraulic test pressure 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,  
**DEUTSCHE WERFT**  
**AKTIENGESELLSCHAFT.** Manufacturer.

Dates of Survey During progress of work in shops - - 13.3.26, 23.3.26, 10.4.26 Are the approved plans of boiler and superheater forwarded herewith yes  
while building During erection on board vessel - - - 21.6.26, 26.6.26 Total No. of visits 5

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) This gas fired Donkey Boiler has been built under Special Survey in accordance with the approved plan, the Secretary's letter E 15.10.25 and otherwise in conformity with the requirements of the Rules, and the materials and the workmanship are of good quality. The material, used in the construction are made at works recognized by the Committee and tested in accordance with the Rules by the Society's Surveyors. When tested by hydraulic pressure to 86 lbs p. sq. inch, this Donkey Boiler was found to be tight and sound in every respect, and showed no sign of weakness. Under steam it was found tight and its safety valves have been adjusted to 43 lbs p. sq. inch. It is eligible in my opinion for notification of NIB 6.26.

Mark on Boiler:  
 No 424  
 Lloyds Test  
 W.P. 43  
 A.C 10.4.26

Thickness of washers:  
 port 7.5 mm  
 starb. 11.5 mm

Survey Fee ... £ 4 : 4 : 0 } When applied for, 28<sup>th</sup> June 1926  
 Travelling Expenses (if any) £ : : } When received, 29/7/26

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

Committee's Minute TUES. 20 JUL 1926  
 Assigned See A.C. rpt attached