

REPORT ON BOILERS.

No. 22634

Received at London Office JAN 26 1938

Port of **HAMBURG**

Date of writing Report 28.12.37 19 10 When handed in at Local Office 10 Port of HAMBURG

No. in Reg. Book Survey held at Kiel Date, First Survey 14.6.37 Last Survey 8.1.38 19

on the Steel Twin Se. "China" (Number of Visits 8) Tons Gross 10781
Net 6545

Built at Kiel By whom built Fried. Krupp Germania-Werft A.G. Yard No. 569 When built 1938

Engines made at Kiel By whom made do. Engine No. 5629-34 When made 1938

Boilers made at Kiel By whom made do. Boiler No. 3988-89 When made 1938

Owner's Balboa Transport Corporation Port belonging to Panama R.P.

VERTICAL DONKEY BOILER.

Made at Kiel By whom made F. Krupp Germania-Werft Boiler No. 3988-89 When made 1938 Where fixed upper part of Stockholm

Manufacturers of Steel Ruhrstahl A.G. Henrichshütte, Hattingen/Ruhr.

Total Heating Surface of Boiler 2.62 = 124 m² Is forced draught fitted no Coal or Oil fired Waste heat

No. and Description of Boilers 2 multitubular vertical Waste Heat Donkey Boilers Working pressure 100 lb

Tested by hydraulic pressure to 200 lb Date of test 13.8.37 No. of Certificate 672-73

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 1, 2 springs loaded

Area of each set of valves per boiler per rule 4680 m² Pressure to which they are adjusted 100 lb Are they fitted with easing gear yes
as fitted 6630 "

State whether steam from main boilers can enter the donkey boiler no Smallest distance between boiler or uptake and bunkers or woodwork ✓ Is oil fuel carried in the double bottom under boiler ✓ Smallest distance between base of boiler and tank top plating ✓

Is the base of the boiler insulated ✓ Largest internal dia. of boiler 1700 mm Height of shell 2922 mm

Shell plates: Material O.H. Steel Tensile strength 46-50 kg/mm² Thickness 13 mm

Are the shell plates welded or flanged flanged Description of riveting: circ. seams end Cap. S.R. long. seams Cap. D.R.

Dia. of rivet holes in circ. seams 26 mm Pitch of rivets 67 mm Percentage of strength of circ. seams plate 61.2 of Longitudinal joint plate 68.-
long. seams 23 mm 72 mm rivets 46.- combined 69.4

Working pressure of shell by rules 9.62 kg/mm² Thickness of butt straps outer ✓ inner ✓

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat flat = Tube plate Material ✓

Tensile strength ✓ Thickness ✓ Radius ✓ Working pressure by rules ✓

Description of Furnace: Plain, spherical, or dished crown ✓ Material ✓ Tensile strength ✓

Thickness ✓ External diameter top ✓ Length as per rule ✓ Working pressure by rules ✓
bottom ✓

Pitch of support stays circumferentially ✓ and vertically ✓ Are stays fitted with nuts or riveted over ✓

Diameter of stays over thread ✓ Radius of spherical or dished furnace crown ✓ Working pressure by rule ✓

Thickness of Ogee Ring ✓ Diameter as per rule D ✓ Working pressure by rule ✓
d ✓

Combustion Chamber: Material Unknowable system of tubes Tensile strength ✓ Thickness of top plate ✓

Radius if dished ✓ Working pressure by rule ✓ Thickness of back plate ✓ Diameter if circular ✓

Length as per rule ✓ Pitch of stays ✓ Are stays fitted with nuts or riveted over ✓

Diameter of stays over thread ✓ Working pressure of back plate by rules ✓

Tube Plates: Material top O.H. Steel Tensile strength 41-47 kg/mm² Thickness 24 mm Mean pitch of stay tubes in nests 357.5 x 427.4 mm
bottom

If comprising shell, Dia. as per rule front ✓ Pitch in outer vertical rows ✓ Dia. of tube holes FRONT stay 48.2 BACK stay 48.4
back ✓ plain 47.5 plain 49.-

Is each alternate tube in outer vertical rows a stay tube no Working pressure by rules 6.45 kg/cm²
back C = 3740

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 rule ✓

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Crown stays: Material Tensile strength Diameter at body of stay, or 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, or over threads No. of threads per inch

Area supported by each stay Working pressure by rules Are the stays drilled at the outer ends

Tubes: Material O.H. Steel External diameter plain 47.62 Thickness 3 - 1/2 stay 47.52 6 - 1/2

No. of threads per inch 9 Pitch of tubes 71.5 x 61.842 Working pressure by rules above 11 - 1/2 lbs

Manhole Compensation: Size of opening in shell plate 380 x 280 Section of compensating ring 24 x 540 x 440 No. of rivets and diameter of rivet holes 16, φ 26 Outer row rivet pitch at ends 80 Depth of flange if manhole flanged

Uptake: External diameter Thickness of uptake plate

Cross Tubes: No. External diameters Thickness of plates

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes

The foregoing is a correct description,
FRIED. KRUPP
GERMANIAWERKE Aktiengesellschaft, Manufacturer.
H. Hiltner

1937:-
 Dates of Survey During progress of work in shops - Jun: 14, 18, Jul: 16 Aug: 13, 20 Is the approved plan of boiler forwarded herewith yes, 21.12.36
 while building During erection on board vessel - Sept - Oct 25 Dec: 20 1938 Jan: 8 (If not state date of approval.)
 Total No. of visits 8

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, &c.)

These donkey boilers are built under Special Survey in accordance with the approved plan and instructions thereto and in compliance with the Society's Rules. The materials used in the construction are made at works recognized by the Committee. They are of good quality and the workmanship is satisfactory. They satisfactorily withstood the hydraulic tests with 200 lb. Under steam they were found tight and their safety valves were adjusted to 100 lb. In my opinion they are eligible to be placed in the Society's Register Book with notation of 2 D.B HP 100 lb.

Safety valves' washers:-	port	starb.
Port Boiler	20 - 7/8	24 - 7/8
Star Boiler	18.5 7/8	19.5 7/8

Please note:
 These boilers are fitted in the upper part of the Slope Hold.

Survey Fee ... RM 2 x 168.- : When applied for, 22.1.1938
 Travelling Expenses (if any) £ : : When received, 17/2 1938

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

Committee's Minute FRI 4 FEB 1938
 Assigned See other J.C. report

