

REPORT ON BOILERS.

No. 22296

Received at London Office APR 24 1937

Date of writing Report 5.4.37 19 When handed in at Local Office 19 Port of Hamburg

No. in Survey held at Kiel Date, First Survey 6.8.36 Last Survey 1.4.37 19

eg. Book. 8598 on the Steel Ste. "Henry Dundas" (Number of Visits 7) Gross 10448 Tons Net 6065

Master J. H. C. Built at Kiel By whom built F. Krupp Germania Yard No. 562 When built 1902

Engines made at Kiel By whom made Fried. Krupp Germania Engine No. 5507 When made 1902

Boilers made at Kiel By whom made Fried. Krupp Germania Boiler No. 3944 When made 1902

Nominal Horse Power 912 Owners Oriental Tankers Limited Port belonging to London

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Fried. Krupp A.G., Essen (Letter for Record 5)

Total Heating Surface of Boilers 180 m² Is forced draught fitted no Coal or Oil fired oil gas

No. and Description of Boilers 1 multitubular horizontal Waste Heat Donk. Boiler Working Pressure 200 lb

Tested by hydraulic pressure to 350 Date of test 6.11.36 No. of Certificate 640 Can each boiler be worked separately no

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 5480 m² Pressure to which they are adjusted 200 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

Smallest distance between boilers or uptakes and bunkers or woodwork 400 mm Is oil fuel carried in the double bottom under boilers in deck

Smallest distance between shell of boiler and tank top plating 400 mm Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 2800 mm Length 2681 mm Shell plates: Material 0.4 Steel Tensile strength 4450 kg/cm²

Thickness 20 mm Are the shell plates welded or flanged flanged Description of riveting: circ. seams end D.R. inter. ✓

long. seams double 5t. straps Diameter of rivet holes in circ. seams 29 mm Pitch of rivets 90 mm long. seams 29 mm

Percentage of strength of circ. end seams plate 67.8 Percentage of strength of circ. intermediate seam plate 71.7 rivets 48.1

Percentage of strength of longitudinal joint plate 81.7 Working pressure of shell by Rules 18.1 kg/cm² rivets 148.1 combined 98.2

Thickness of butt straps outer 20 mm No. and Description of Furnaces in each Boiler removable system of tubes inner 20 mm

Material 0.4 Steel Tensile strength 41-47 kg/cm² Smallest outside diameter ✓

Length of plain part top 1 Thickness of plates crown 1 Description of longitudinal joint bottom 1

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules ✓

End plates in steam space: Material 0.4 Steel Tensile strength 41-47 kg/cm² Thickness 28 mm Pitch of stays 4100 mm

How are stays secured Stay tubes expanded, no nuts Working pressure by Rules as approved

Tube plates: Material front 0.4 Steel Tensile strength 41-47 kg/cm² Thickness 28 mm back 0.4 Steel

Mean pitch of stay tubes in nests 130-150 mm Pitch across wide water spaces ✓ Working pressure front as approved back as approved

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 0.4 Steel Tensile strength 41-47 kg/cm²

Thickness 28 mm Lower back plate: Material 0.4 Steel Tensile strength 41-47 kg/cm² Thickness 28 mm

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

Working Pressure as approved Main stays: Material ✓ Tensile strength ✓

Diameter At body of stay, 1 No. of threads per inch 1 Area supported by each stay ✓ Over threads, 1

Working pressure by Rules ✓ Screw stays: Material ✓ Tensile strength ✓

Diameter At turned off part, 1 No. of threads per inch 1 Area supported by each stay ✓ Over threads, 1

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 0.4 Steel External diameter ☒ Plain 47.8 mm Thickness ☒ 7.2 mm No. of threads per inch 9
Pitch of tubes 25.4 mm Working pressure by Rules above 15 kg/cm² Manhole compensation: Size of opening ☒
shell plate 300 x 400 mm Section of compensating ring 25 x 680 x 780 mm No. of rivets and diameter of rivet holes 86, 29 mm
Outer row rivet pitch at ends 115 mm Depth of flange if manhole flanged ☒ Steam Dome: Material none
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 pitch of rivets in outer row in dome connection to shell ☒

Type of Superheater: Steam driven System of Coils Manufacturers of ☒ Tubes from one manufacturer, Düsseldorf ☒ Steel castings
Number of elements 1 Material of tubes 0.4 Steel Internal diameter and thickness of tubes 61.5 mm, 4.25 mm
Material of headers ☒ Tensile strength ☒ Thickness ☒ Can the superheater be shut off and the boiler be worked separately yes Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes
Area of each safety valve 314 mm² Are the safety valves fitted with easing gear ☒ Working pressure as per Rules 17.1 kg/cm² Pressure to which the safety valves are adjusted 200 lbs Hydraulic test pressure tubes 1180 lbs, castings ☒ and after assembly in place 45 kg/cm² 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, as far as applicable, yes
This steam driven works in connection with the Scotch Donkey Boilers.

The foregoing is a correct description,
FRIED. KRUPP
GERMANIAWERFT
Aktiengesellschaft
Manufacture

Dates of Survey ☒ During progress of work in shops Aug. 4-12 1937 ☒ Are the approved plans of boiler and superheater forwarded herewith yes 1-4-1
while building ☒ During erection on board vessel Feb. 22 April (If not state date of approval.)
Total No. of visits 3

Is this Boiler a duplicate of a previous case yes If so, state Vessel's name and Report No. 21578 "V. B. Kalscher" 21886 "Naragana"

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

This donkey boiler is built under special survey in accordance with the approved plans, the Secretary's letters and the Society's Rules, as far as they are applicable. The materials used in the construction and the workmanship are of good quality. It is satisfactorily fitted on board and its safety valves are adjusted under steam to a pressure of 200 lb. In my opinion this donkey boiler is eligible for notation in the Register Book of DB (low) pressure 200 lb.

Safety valves: two, 8.4 mm Apr. 4-1937 Steam driven: 5.8 mm

Survey Fee 2.00 When applied for, 9.4. 1937
Travelling Expenses (if any) See Rpt. 4.3 When received, 19

John A. ...
Engineer in Charge for to Lloyd's Register of Shipping.

Committee's Minute FRI 30 APR 1937
Assigned See Ham. 76. 22296



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Foundation