

REPORT ON BOILERS.

No. 20623

Received at London Office 16 JAN 1933

Form of Reporting Report 4-1-33 10 When handed in at Local Office 10 Port of Hamburg

No. in Survey held at Kiel Date, First Survey 14-5-1932 Last Survey 3-1-33 19

Book. 818 on the Steel Trin Scr. "Geo. W. MacKnight" (Number of Visits 10) Gross 12,442 Tons Net 7,097

ster Built at Kiel By whom built Fried. Krupp Germania Yard No. 517 When built 1933
werft A.G.

gines made at Kiel By whom made ditto Engine No. 4141 When made 1933

ilers made at Kiel By whom made ditto Boiler No. 3803/4 When made 1933

iminal Horse Power 1165 Owners Balt. Amerik. Petrol. Import Co. Port belonging to Danzig

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Henrichshütte, Hattingen/Ruhr, Fr. Krupp A.G., Essen, Von Stahle, D'ort (Letter for Record S)

tal Heating Surface of Boilers 466 m² (2 Boilers) Is forced draught fitted yes Coal or Oil fired oil

and Description of Boilers 2 mult. Scotch Marine Donkey Boilers Working Pressure 200 lbs

sted by hydraulic pressure to 350 lbs Date of test 1.8.32 No. of Certificate 565/66 Can each boiler be worked separately yes

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

ea of each set of valves per boiler {per Rule 11400 mm² as fitted 12724 mm² Pressure to which they are adjusted 200 lbs Are they fitted with easing gear yes

case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no

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

allest distance between shell of boiler and lower plating 400 mm Is the bottom of the boiler insulated no

argest internal dia. of boilers 4300 mm Length 3690 mm Shell plates: Material O.H. Steel Tensile strength 47-53 kg/mm²

ickness 31.5 mm Are the shell plates welded or flanged flanged Description of riveting: circ. seams {end double row, zig-zag inter. no

g. seams double butt strapped Diameter of rivet holes in {circ. seams 32. mm Pitch of rivets { 91.9 mm long. seams 35. mm 214. mm

ercentage of strength of circ. end seams {plate 65.2 % rivets 42.5 % Percentage of strength of circ. intermediate seam {plate 83.7 % rivets 102.5 %

ercentage of strength of longitudinal joint {plate 83.7 % rivets 102.5 % combined 89.2 % Working pressure of shell by Rules 14.25 kg/cm²

ickness of butt straps {outer 28. mm inner 28. mm No. and Description of Furnaces in each Boiler 3 Morison

Material O.H. Steel Tensile strength 41-47 kg/mm² Smallest outside diameter 1080 mm

Length of plain part {top 259.5 mm bottom 259.5 mm Thickness of plates {crown 15. mm bottom 15. mm Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 14.2 kg/cm²

ad plates in steam space: Material O.H. Steel Tensile strength 41-47 kg/mm² Thickness 28.5 mm Pitch of stays 425 x 425 (max)

ow are stays secured nuts inside and outside Working pressure by Rules 14.63 kg/cm²

ube plates: Material {front O.H. Steel back O.H. Steel Tensile strength { 41-47 kg/mm² Thickness { 27.5 mm 23. mm

ean pitch of stay tubes in nests 198 x 196 mm Pitch across wide water spaces 350 mm Working pressure {front 20.05 kg/cm² back 19.75 kg/cm²

rders to combustion chamber tops: Material O.H. Steel Tensile strength 47-53 kg/mm² Depth and thickness of girder

centre 250 x 17 mm Length as per Rule 950 mm Distance apart 212 mm (maximum) No. and pitch of stays

each 3, 200 mm Working pressure by Rules 14.08 kg/cm² Combustion chamber plates: Material O.H. Steel

nsile strength 41-47 kg/mm² Thickness: Sides 17 mm Back 16 mm Top 17 mm Bottom 23 mm

ch of stays to ditto: Sides 210 x 180 mm Back 194 x 187 mm Top 200 x 212 mm Are stays fitted with nuts or riveted over with nuts

orking pressure by Rules 17.1, 17.15, 16.62 kg/cm² Front plate at bottom: Material O.H. Steel Tensile strength 41-47 kg/mm²

ickness 27.5 mm Lower back plate: Material O.H. Steel Tensile strength 41-47 kg/mm² Thickness 26. mm

ch of stays at wide water space d = 560 mm Are stays fitted with nuts or riveted over with nuts

orking Pressure 22.4 kg/cm² Main stays: Material O.H. Steel Tensile strength 41-47 kg/mm²

iameter {At body of stay, 68. mm No. of threads per inch 6 Area supported by each stay 180,500 mm² (max) Over threads 84-76. mm

orking pressure by Rules 14.15 kg/cm² Screw stays: Material O.H. Steel Tensile strength 41-47 kg/mm²

iameter {At turned off part, 35. mm No. of threads per inch 9 Area supported by each stay 210 x 180 = 37,800 Over threads 39. mm

Working pressure by Rules 15.5 lb/sq. in. Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 5.0 - 4.1 - mm or Over threads 5.4 - 4.6 - mm }
No. of threads per inch 9 Area supported by each stay 30,000 mm², 36,200 mm² Working pressure by Rules 16.15, 15.15 lb/sq. in.
Tubes: Material O.H. Steel External diameter { Plain 30.0 - mm Stay 30.0 - mm } Thickness { 4.0 - mm 7.0 - mm } No. of threads per inch 9
Pitch of tubes 99.2 98.0 mm Working pressure by Rules 19.5 kg/cm² Manhole compensation: Size of opening 42, 35 mm
shell plate 460 460 mm Section of compensating ring 320 31.5 mm No. of rivets and diameter of rivet holes 42, 35 mm
Outer row rivet pitch at ends 202 mm Depth of flange if manhole flanged 91 mm 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 of rivets in outer row in dome connection to shell —

Type of Superheater none 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 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 —
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 22 inclusive for boilers been complied with yes

The foregoing is a correct description,
FRIED. KRUPP
GERMANIA WERFT
Aldershot, England

Dates of Survey { During progress of work in shops - - - } 1932: V 24, VI 28, VII 1, 12, 15, 25, VIII 1 Are the approved plans of boiler and superheater forwarded herewith 28/5/32 (If not state date of approval.)
while building { During erection on board vessel - - - } 1932: IX 21, XI 2, 17, 22, 25, 29, XII 15/16 Total No. of visits 16

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 have been built under Special Survey in accordance with the approved plan the Secretary's Letters and the Ship's Rules. The materials used in the construction and the workmanship are of good quality. They have been satisfactorily fitted on board and their safety valves have been adjusted under steam to a pressure of 200 lb. In my opinion they are eligible for notation in the Register Book of:

2 DB (aft) pressure 200 lb.

Safety valves' weights:

	<u>from.</u>	<u>alt</u>
Port Boiler:	<u>40.8 mm</u>	<u>42.2 mm</u>
Star. Boiler:	<u>38.7 mm</u>	<u>36.9 mm</u>

The approved plan will be transmitted after completion of the Builder's Yard No. 518.

Survey Fee £ 29 : 5 : - When applied for, 19 London
Travelling Expenses (if any) £ - : - : - When received, 19

J. G. Smith
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute TUE. 24 JAN 1933

Assigned See J. G. Rpt.



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Foundation