

REPORT ON BOILERS.

No. 21883

-4 MAY 1936

Received at London Office

Date of writing Report 26/4/36. 19

When handed in at Local Office

19

Port of Hamburg

No. in Survey held at Kiel

Reg. Book.

Date, First Survey 7/9/1935

Last Survey 7/4/36

19

9319 on the Steel Str. "Narragansett" (one Engs)

(Number of Visits 18)

Gross 10381

Tons Net 5940

Master Built at Kiel

By whom built Fried Krupp Germaniawerft Yard No. 540 When built 1936

Engines made at Kiel

By whom made Fried Krupp Germaniawerft A.G. Engine No. 5091 When made 1936

Boilers made at Kiel

By whom made Nitto Boiler No. 3578-9 When made 1936

Nominal Horse Power 912

Owners British-Mexican Petrol. Co. Ltd. Port belonging to London

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR~~ DONKEY.

Manufacturers of Steel Deutsche Rohrenw. A.G., W. Thyssen, Mülheim and Krupp, Essen (Letter for Record S ✓)

Total Heating Surface of Boilers 510 m²

Is forced draught fitted yes ✓ Coal or Oil fired oil ✓

No. and Description of Boilers 2 multitubular Scotch Marine Donkey Boilers Working Pressure 200 lb. ✓

Tested by hydraulic pressure to 350 lb. Date of test 13/12/35 No. of Certificate 600/1 Can each boiler be worked separately yes ✓

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 10,050 mm² as fitted 15,708 mm² 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 Then at sea these boilers work in connection with a waste heat donkey boiler.

Smallest distance between boilers or uptakes and bunkers or woodwork ✓ Is oil fuel carried in the double bottom under boilers ✓ No. Aitch

Smallest distance between shell of boiler and tank top plating 500 mm ✓ Is the bottom of the boiler insulated yes, asbestos mats ✓

Largest internal dia. of boilers 4400 mm ✓ Length 3690 mm ✓ Shell plates: Material O.H. Steel Tensile strength 44 ÷ 50 kg/mm² ✓

Thickness 34- mm ✓ Are the shell plates welded or flanged flanged ✓ Description of riveting: circ. seams { end D.R. ✓

long. seams double 5:5 straps ✓ Diameter of rivet holes in { circ. seams 35- mm ✓ Pitch of rivets { 105.5 mm ✓

Percentage of strength of circ. end seams { plate 66.7 ✓ rivets 44.4 ✓ Percentage of strength of circ. intermediate seam { plate ✓ rivets ✓

Percentage of strength of longitudinal joint { plate 84.7 ✓ rivets 89.7 ✓ combined 87.3 ✓ Working pressure of shell by Rules 14.3 kg/cm² ✓

Thickness of butt straps { outer 27- mm ✓ inner 30- mm ✓ No. and Description of Furnaces in each Boiler 3 Morrison ✓

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

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

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 14.2 kg/cm² ✓End plates in steam space: Material O.H. Steel Tensile strength 41 ÷ 47 kg/mm² ✓ Thickness 32- mm ✓ Pitch of stays 480 × 420 mm ✓How are stays secured screwed, with outside ✓ Working pressure by Rules 19.6 kg/cm² ✓Tube plates: Material { front O.H. Steel ✓ back O.H. Steel ✓ Tensile strength { 41 ÷ 47 kg/mm² ✓ Thickness { 23- mm ✓Mean pitch of stay tubes in nests 220 × 220 mm ✓ Pitch across wide water spaces 367 mm ✓ Working pressure { front 15.5 kg/cm² ✓ back 26- kg/cm² ✓Girders to combustion chamber tops: Material O.H. Steel Tensile strength 44 ÷ 50 kg/mm² ✓ Depth and thickness of girder

at centre 250 mm, 18 mm each Length as per Rule 875 mm ✓ Distance apart 220 mm ✓ No. and pitch of stays

in each 3, 205 mm ✓ Working pressure by Rules 14.5 kg/cm² ✓ Combustion chamber plates: Material O.H. Steel ✓Tensile strength 41 ÷ 47 kg/mm² ✓ Thickness: Sides 19 mm ✓ Back 19 mm ✓ Top 19 mm ✓ Bottom 22 mm ✓

Pitch of stays to ditto: Sides 205 × 185 mm ✓ Back 190 × 192.5 mm ✓ Top 205 × 220 mm ✓ Are stays fitted with nuts or riveted over riveted over ✓

Working pressure by Rules 15.65, 16.3, 18.2 kg/cm² ✓ Front plate at bottom: Material O.H. Steel Tensile strength 41 ÷ 47 kg/mm² ✓Thickness 23- mm ✓ Lower back plate: Material O.H. Steel Tensile strength 41 ÷ 47 kg/mm² ✓ Thickness 22 mm ✓

Pitch of stays at wide water space d = 500 mm ✓ Are stays fitted with nuts or riveted over with nuts ✓

Working Pressure 16.9 kg/cm² ✓ Main stays: Material O.H. Steel Tensile strength 44 ÷ 50 kg/mm² ✓Diameter { At body of stay, 76 mm ✓ No. of threads per inch 6 ✓ Area supported by each stay 115,200 mm² ✓Working pressure by Rules 33.5 kg/cm² ✓ Screw stays: Material O.H. Steel Tensile strength 41 ÷ 47 kg/mm² ✓Diameter { At turned off part, 35- mm ✓ No. of threads per inch 9 ✓ Area supported by each stay 37,925 mm² ✓

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Working pressure by Rules $22.8 \frac{\text{kg}}{\text{cm}^2}$ Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part, 60 mm ✓
or Over threads 54 mm ✓
No. of threads per inch 9 ✓ Area supported by each stay $69,730 \text{ mm}^2$ ✓ Working pressure by Rules $18.5 \frac{\text{kg}}{\text{cm}^2}$ ✓
Tubes: Material 0.4 Steel External diameter { Plain 83 mm ✓
Stay 83 mm ✓ Thickness { 4 mm ✓
 8 mm ✓ No. of threads per inch 9 ✓
Pitch of tubes $110 \times 110 \text{ mm}$ Working pressure by Rules $16 \frac{\text{kg}}{\text{cm}^2}$ ✓ Manhole compensation: Size of opening in
shell plate $460 \times 560 \text{ mm}$ ✓ Section of compensating ring $950 \times 1050 \times 34 \text{ mm}$ No. of rivets and diameter of rivet holes $46, 35 \text{ mm } \phi$ ✓
Outer row rivet pitch at ends 194 mm Depth of flange if manhole flanged 101 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 pitch
of rivets in outer row in dome connection to shell _____

Type of Superheater coil system ✓ Manufacturers of { Tubes $\text{Press- und Walzwerk, Düsseldorf-Reisholz}$ ✓
Steel castings header: ditto ✓
Number of elements 22 ✓ Material of tubes 0.4 Steel Internal diameter and thickness of tubes $38 \text{ mm } 3 \text{ mm}$ ✓
Material of headers 0.4 Steel ✓ Tensile strength $45.5 \frac{\text{kg}}{\text{cm}^2}$ Thickness 22 mm 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 $804, 25 \text{ mm}^2$ ✓ Are the safety valves fitted with easing gear yes ✓ Working pressure as per
Rules $97 \frac{\text{kg}}{\text{cm}^2}$ ✓ Pressure to which the safety valves are adjusted 200 lb ✓ Hydraulic test pressure No. _____
tubes 1000 lb ✓ headers 600 lb ✓ and after assembly in place $42 \frac{\text{kg}}{\text{cm}^2}$ ✓ Are drain cocks or valves fitted
to free the superheater from water where necessary yes ✓

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.

Dates of Survey { During progress of 1935 $\text{I: 7, II: 22, 30, III: 5, 14, 19, 22, IV: 6, 13, 20}$ Are the approved plans of boiler and superheater forwarded herewith $7.5.35$ ✓
work in shops - - - - -
while building { During erection on 1935 $\text{I: 10, II: 11, III: 6, 13, 20, 25, IV: 3, 7}$ (If not state date of approval.) $17.6.35$ ✓
board vessel - - - - - Total No. of visits 18

Is this Boiler a duplicate of a previous case yes ✓ If so, state Vessel's name and Report No. $"W.B. Walker," \text{Ham. No. 21578}$

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

These donkey boilers are built under Special Survey in accordance with the approved plans, the Secretary's letters and the Society'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:-
 $2 \text{ DB (alt) pressure } 200 \text{ lb.}$

Safety valves marked:-	form:	alt:	Superheater
Port Boiler:	12.8 mm	15.5 mm	12 mm
St. Boiler:	14.1 mm	12.3 mm	10 mm

Survey Fee ... $2 \text{ Mks } £ 616-$: When applied for, $2/5/36$ ✓
Travelling Expenses (if any) £ : : When received, $20.5.1936$ ✓
 $20/5$

P.A. Krupp
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 19 MAY 1936

Assigned

See minute on
J.E. Rpt.



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Foundation