

REPORT ON BOILERS.

No. 21912

Received at London Office 25 MAY 1936

Writing Report 16th May 1936 When handed in at Local Office

Port of HAMBURG

in Survey held at

HAMBURG

Date, First Survey 28th Aug. 1935 Last Survey 21st April 1936

(Number of Visits 26)

Gross 10389

Net 5922

on the

STEEL SC. "SEMINOLE"

Built at HAMBURG By whom built ELOHN & VOSS K.A.F. Yard No. 502 When built 1936

es made at

HAMBURG

By whom made FRIED. KRUPP GERM. WET. F.G.

Engine No. 5099 When made 1936

rs made at

HAMBURG

By whom made ELOHN & VOSS K.A.F.

Boiler No. 1504 When made 1936

inal Horse Power

912

Owners BRITISH-MEXICAN PETR. CO. LD. Port belonging to LONDON.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Mannesmann Röhren Werke, Abt. Klein, Siemenshütte, Neukirchen (Letter for Record S. ✓)

Heating Surface of Boilers 2 x 255 sq. m. 510 Is forced draught fitted yes ✓ Coal or Oil fired oil ✓

and Description of Boilers 2 single ended multitubular Donkey Boilers ✓ Working Pressure 200 lbs ✓

Tested by hydraulic pressure to 350 lbs. Date of test 6. 2. 36. No. of Certificate 606-607 Can each boiler be worked separately yes ✓

No. and Description of safety valves to each boiler 2 spring loaded. ✓

No. of each set of valves per boiler {per Rule 10,050 ✓ as fitted 15,708 ✓ Pressure to which they are adjusted 200 lbs. Are they fitted with easing gear yes ✓

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler. At Sea these Donkey Boilers are working in connection with the exhaust from D. Boilers. ✓

Is oil fuel carried in the double bottom under boilers? Yes ✓

Smallest distance between boilers or uptakes and bunkers or wooden work? 500 mm. ✓ Is the bottom of the boiler insulated? yes ✓

Smallest distance between shell of boiler and tank top plating 500 mm. ✓

Largest internal dia. of boilers 4400 mm. ✓ Length 3690 mm. ✓ Shell plates: Material S.M. Steel ✓ Tensile strength 44-50 kg/cm² ✓

Thickness 34 mm. ✓ Are the shell plates welded or flanged flanged ✓ Description of riveting: circ. seams {end double rivets ✓ inter. 105.5 mm ✓

D.B. double riveted Diameter of rivet holes in {circ. seams 35 mm ✓ long. seams 35 mm ✓ Pitch of rivets {230 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 89.2 % ✓ 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. ✓ 30 ✓

Material S.M. Steel ✓ Tensile strength 41-47 kg/cm² ✓ Smallest outside diameter 1080 mm. ✓

Length of plain part {top 260 mm ✓ bottom ✓ Thickness of plates {crown 15 mm ✓ bottom ✓ 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 ✓Stays and plates in steam space: Material S.M. Steel ✓ Tensile strength 41-47 kg/cm² ✓ Thickness 32 mm ✓ Pitch of stays 480 x 420 mm ✓How are stays secured screwed - nuts outside ✓ Working pressure by Rules 19.6 kg/cm² ✓Stays and plates: Material {front S.M. Steel ✓ back S.M. Steel ✓ Tensile strength {41-47 kg/cm² ✓ Thickness {23 mm ✓Mean pitch of stay tubes in nests 220 x 220 mm ✓ Pitch across wide water spaces 367 mm. ✓ Working pressure {front 15.5 kg/cm² ✓ back 26 kg/cm² ✓Stays to combustion chamber tops: Material S.M. Steel ✓ Tensile strength 44-50 kg/cm² ✓ Depth and thickness of girder

centre 250 mm - 2 x 18 mm ✓ Length as per Rule 875 mm. ✓ Distance apart 220 mm. ✓ No. and pitch of stays

each 3 - 205 mm. ✓ Working pressure by Rules 14.5 kg/cm² ✓ Combustion chamber plates: Material S.M. Steel. ✓Tensile strength 41-47 kg/cm² ✓ Thickness: Sides 19 mm. ✓ Back 19 mm. ✓ Top 19 mm. ✓ Bottom 23 mm. ✓

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

Working pressure by Rules 15.65 - 16.3 - 13.2 kg/cm² ✓ Front plate at bottom: Material S.M. Steel. ✓ Tensile strength 41-47 kg/cm² ✓Thickness 23 mm. ✓ Lower back plate: Material S.M. Steel. ✓ Tensile strength 41-47 kg/cm² ✓ Thickness 22 mm. ✓

Pitch of stays at wide water space d - 500 mm. ✓ Are stays fitted with nuts or riveted over screwed - nuts outside ✓

Working Pressure 16.9 kg/cm² ✓ Main stays: Material S.M. Steel. ✓ Tensile strength 44-50 kg/cm² ✓

Diameter {At body of stay 76 mm. ✓ or Over threads Front 84 mm. ✓ Back 76 mm. ✓ No. of threads per inch 6 ✓ Area supported by each stay 480 x 420 mm. ✓

Working pressure by Rules 33.5 kg/cm² ✓ Screw stays: Material S.M. Steel. ✓ Tensile strength 41-47 kg/cm² ✓Diameter {At turned off part 35 mm. ✓ or Over threads 39 mm. ✓ No. of threads per inch 9 ✓ Area supported by each stay 37,925 mm² ✓

Working pressure by Rules 22.8 kg/cm^2 Are the stays drilled at the outer ends ☒ Margin stays: Diameter 50 mm At turned off part 54 mm
No. of threads per inch 9 Area supported by each stay $69,730 \text{ cm}^2$ Working pressure by Rules 18.5 kg/cm^2
Tubes: Material *S.M. Steel* External diameter 83 mm Thickness 8 mm No. of threads per inch 9
Pitch of tubes $110 \times 110 \text{ mm}$ Working pressure by Rules 16 kg/cm^2 Manhole compensation: Size of opening $460 \times 560 \text{ mm}$
Section of compensating ring $750 \times 1050 \times 34 \text{ mm}$ No. of rivets and diameter of rivet holes $42 - 35 \text{ mm}$
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 $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$ _____
Internal diameter _____ Working pressure by Rules _____ Thickness of crown _____ No. and diameters made _____
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 *Coil system & square header* Manufacturers of *Press. und Walzwerk. Duiseldorf. Reich*
Number of elements 22 Material of tubes *S.M. Steel* Internal diameter and thickness of tubes $32 \text{ mm} - 3 \text{ mm}$
Material of headers *S.M. Steel* Tensile strength $41-47 \text{ kg/cm}^2$ Thickness 22 mm 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 as _____
Rules 97 kg/cm^2 Pressure to which the safety valves are adjusted 200 lb./sq. inch Hydraulic test pressure _____
tubes 1000 lbs , castings 600 lbs and after assembly in place 600 lbs 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 ☒

BLOHM & VOSS
The foregoing is a correct description,

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - } 1935 \text{ Aug. 28, Sept. 2, 9, 13, 19, 25 Oct. 5, Nov. 4, 5, 8, 11, 19, 29.} \\ \text{while building - } \text{Dec. 11, 1936 Jan. 24, 30, Feb. 6.} \end{array} \right.$ Are the approved plans of boiler and superheater forwarded herewith ☒
 $\left\{ \begin{array}{l} \text{During erection on board vessel - } \text{Feb. 26, 28, Mar. 3, 16, 26, 30 Apr. 14, 17, 21.} \end{array} \right.$ Total No. of visits 26

Is this Boiler a duplicate of a previous case ☒ If so, state Vessel's name and Report No. *"NARRAGANSETT" No. 212*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *Material and workmanship of these Donkey Boilers are of good quality. The materials used in the construction are tested by the Society's Surveyors in accordance with the Rules requirements. These Boilers having been built under Special Survey in accordance with the approved plans, the Secretary's Letter and otherwise in compliance with the Rules are eligible in my opinion for notation in the Reg. of S.*

2 D.B. (aff) 200 lbs.

THICKNESS OF ADJUST. WASHERS:

	FORW.	AFL.	SUPERHEATER.
PORT D.B.	43.5 mm	44 mm	19 mm
STB D.B.	45.5 mm	44 mm	16.5 mm

Survey Fee ... *£ 616:*

Travelling Expenses (if any) £ *-: -:*

When applied for, *18.5.1936*

When received, *2.6.1936*

Friedrich H. H.
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute *FRI. 29 MAY 1936*

Assigned *see J.E. Machy Report*



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Foundation