

REPORT ON BOILERS.

No. 22902

Received at London Office SEP 19 1938

Date of writing Report 3rd SEPT. 1938 When landed in at Local Office

19

Port of HAMBURG

No. in Survey held at HAMBURG

Date, First Survey 10th FEB. 1937 Last Survey 23rd August 1938

on the STEEL SC. "ARTHUR F. CORWIN"

(Number of Visits 23)

Gross 10516
Tons Net 6077

Master Built at HAMBURG By whom built BLOHM & VOSS Yard No. 512 When built 1938.

Engines made at NIEL By whom made FRD. KRUPP, GERMANIAWERFT Engine No. 5740 When made 1938.

Boilers made at HAMBURG By whom made BLOHM & VOSS Boiler No. 1564. When made 1938.

Nominal Horse Power 912 Owners ORIENTAL TANKERS LD. Port belonging to LONDON.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Mannermauwohnen - Werke AG, Ludwigshafen - Neudorf (Letter for Record S.)

Total Heating Surface of Boilers 130.19 m² Is forced draught fitted no Coal or Oil fired waste gasNo. and Description of Boilers 1 multitubular horizontal water heat Donkey Boiler Working Pressure 207 lb./in²

Tested by hydraulic pressure to 361 lb. Date of test 7.7.37 No. of Certificate 665 Can boiler be worked separately no

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2 spring loaded

Area of each set of valves per boiler (per Rule 5280 m²) (as fitted 5655 m²) Pressure to which they are adjusted 207 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 Is oil fuel carried in the double bottom under boilers situated in woodwork

Smallest distance between shell of boiler and tank top plating 450 mm Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 2300 mm Length 2681 mm Shell plates: Material S. Y. Steel Tensile strength 44-50 kg/cm²

Thickness 20 mm Are the shell plates welded or flanged flanged Description of riveting: circ. seams and double riveted

long. seams D.B. treble riveted Diameter of rivet holes in circ. seams 29 mm Pitch of rivets 90 mm

Percentage of strength of circ. end seams (plate 67.8% rivets 43.2%) Percentage of strength of circ. intermediate seam (plate rivets)

Percentage of strength of longitudinal joint (plate 81.7% rivets 48.2% combined 93.2%) Working pressure of shell by Rules 15 kg/cm²

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

Material S. Y. Steel Tensile strength 44-47 kg/cm² Smallest outside diameter

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

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

End plates in steam space: Material S. Y. Steel Tensile strength 44-47 kg/cm² Thickness 28 mm Pitch of stays 2-300 mm

How are stays secured stay tubes expanded without nuts Working pressure by Rules approved

Tube plates: Material (front S. Y. Steel back S. Y. Steel) Tensile strength 44-47 kg/cm² Thickness 25 mm

Mean pitch of stay tubes in nests 130x150 mm Pitch across wide water spaces Working pressure (front approved back 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 S. Y. Steel Tensile strength 44-47 kg/cm²Thickness 28 mm Lower back plate: Material S. Y. Steel Tensile strength 44-47 kg/cm² Thickness 28 mm

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

Working Pressure approved Main 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

© 2020

Lloyd's Register
Foundation

W1180 - 0127

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 *S.M. Steel* External diameter { Plain *47.5 mm* Stay *47.5 mm* Thickness { *3.25 mm* *7 mm* No. of threads per inch *9*

Pitch of tubes *75 x 75 mm* Working pressure by Rules *approved* Manhole compensation: Size of opening in shell plate *300 x 400 mm* Section of compensating ring *25 x 680 x 780 mm* No. of rivets and diameter of rivet holes *36 - 29 mm*

Outer row rivet pitch at ends *86 mm* Depth of flange if manhole flanged ☒ Steam Dome: Material

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

How connected to shell Inner radius of crown Working pressure by Rules

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 DRIER: Coil* Manufacturers of { Tubes *Mannmannröhren Werke* Steel forgings ☒ Steel castings ☒

Number of elements *1* Material of tubes *S.M. 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 *3/4 in²* Are the safety valves fitted with easing gear *yes* Working pressure as per Rules *17.1 kg/cm²* Pressure to which the safety valves are adjusted *207 lb (19 inch) (14.5 kg/cm²)* Hydraulic test pressure: tubes *45 kg/cm²* forgings and castings ☒ and after assembly in place *45 kg/cm²* Are drain cocks or valves fitted to free the superheater from water where necessary *no*

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

The foregoing is a correct description,
Blohm & Voß
Hamburg. Manufacturer.

Dates of Survey { During progress of work in shops - *1937-10/2-5/3-6, 12, 21, 24, 28/4 - 11, 20/5* Are the approved plans of boiler and superheater forwarded herewith *yes* (If not state date of approval.) while building { During erection on board vessel - *1938-10, 14, 23/5 - 1, 7, 28/6 - 2/7 - 15, 23/8* Total No. of visits *23*

Is this Boiler a duplicate of a previous case *yes* If so, state Vessel's name and Report No. *"SEMINOLE" Hand. Rep. 24912*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This Waste Heat Donkey Boiler has been built under Special Survey in accordance with the approved plan, the Secretary's letter and the Society's Rules as far as they are applicable. The materials used are tested by the Society's Surveyors and the workmanship is good. In my opinion this Donkey Boiler is eligible for the notation in the Reg. Pl: "D.B. (forward) - 207 lbs."*

THICKNESS OF ADJ. WASHERS.
PORT: *12.9 mm* STB: *11.0 mm*

Survey Fee ... *RM 122-* When applied for *15/9/38* 19
Travelling Expenses (if any) £ ... When received, *4/10* 19

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

Committee's Minute *FRI 23 SEP 1938*
Assigned *See F.C. Rep.*