

REPORT ON BOILERS.

No. 15738^e

AUG - 4 1939

Received at London Office

Date of writing Report 20 July 1939 When handed in at Local Office

Port of Amsterdam

No. in Reg. Book. Survey held at

Amsterdam

Date, First Survey

2 Sept. 1930

Last Survey

26 July

1939

35105 on the *Staal Single Screw M.V. "TIBIA"*

(Number of Visits 20)

Gross 1035.6 Tons
Net 6146.81

Master Built at Amsterdam By whom built N.V. Nederl Scheepst⁴ Yard No. 272 When built 1939.

Engines made at Amsterdam By whom made N.V. Werkspoor Engine No. 743 When made 1939.

Boilers made at Amsterdam By whom made N.V. Werkspoor Boiler No. 2027/120 When made 1939

Nominal Horse Power 620 Owners N.V. Petroleum M⁴ La Carona Port belonging to 's Gravenhage

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

Manufacturers of Steel *The Broomside Steelworks, Deutsche Röhrenwerke* (Letter for Record *3*)

Total Heating Surface of Boilers $2 \times 203 M^2 = 4360 M^2$ Is forced draught fitted *Yes* Coal or Oil fired *oil*

No. and Description of Boilers *2 Multitubular single ended* Working Pressure *12.65 kg/cm²*

Tested by hydraulic pressure to *320 LBS* Date of test *10-2-39* No. of Certificate *437-38* Can each boiler be worked separately *Yes*

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

Area of each set of valves per boiler *per Rule* Pressure to which they are adjusted *100 LBS* Are they fitted with easing gear *Yes*

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler *No mountboilers*

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

Smallest distance between shell of boiler and tank top plating *Is the bottom of the boiler insulated *Yes**

Largest internal dia. of boilers *3900 mm* Length *3700 mm* Shell plates: Material *SMS* Tensile strength *47.55 kg*

Thickness *27 mm* Are the shell plates welded or flanged *Yes* Description of riveting: circ. seams *end *dbl welded**

long. seams *dbl butt joints* Diameter of rivet holes in *circ. seams *20 mm** Pitch of rivets *85 mm*

Percentage of strength of circ. end seams *plate *67** rivets *42.2* Percentage of strength of circ. intermediate seam *plate *0** rivets *0*

Percentage of strength of longitudinal joint *plate *85.64** rivets *80* combined *80.4* Working pressure of shell by Rules *13.6 kg*

Thickness of butt straps *outer *23 mm** inner *20 mm* No. and Description of Furnaces in each Boiler *Two Morrison's*

Material *SMS* Tensile strength *41-47 kg* Smallest outside diameter *1150 mm*

Length of plain part *top *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 *13.6 kg**

End plates in steam space: Material *SMS* Tensile strength *41-47 kg* Thickness *27 mm* Pitch of stays *400 x 450*

How are stays secured *double nuts* Working pressure by Rules *13 kg*

Tube plates: Material *front *SMS** back *SMS* Tensile strength *41-47 kg* Thickness *23 mm*

Mean pitch of stay tubes in nests *247 mm* Pitch across wide water spaces *370 mm* Working pressure *front *14.6 kg**

Girders to combustion chamber tops: Material *SMS* Tensile strength *44-50 kg* Depth and thickness of girder

at centre *220 x 30 mm* Length as per Rule *700 mm* Distance apart *225 mm* No. and pitch of stays

in each *3. 200 mm* Working pressure by Rules *15 kg* Combustion chamber plates: Material *SMS*

Tensile strength *41-47 kg* Thickness: Sides *19 mm* Back *19 mm* Top *19 mm* Bottom *25 mm*

Pitch of stays to ditto: Sides *200 x 200* Back *195-203 mm* Top *200 x 225 mm* Are stays fitted with nuts or riveted over *riveted over *top nuts**

Working pressure by Rules *14.0 kg* Front plate at bottom: Material *SMS* Tensile strength *41-47 kg*

Thickness *23 mm* Lower back plate: Material *SMS* Tensile strength *41-47 kg* Thickness *20 mm*

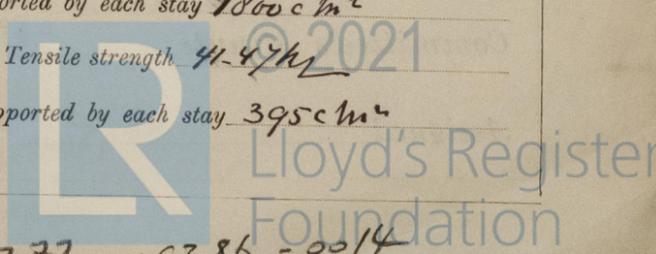
Pitch of stays at wide water space *370 x 177 mm* Are stays fitted with nuts or riveted over *with nuts*

Working Pressure *10 kg* Main stays: Material *SMS* Tensile strength *44-50 kg*

Diameter *At body of stay, *2 3/4"** or *Over threads* No. of threads per inch *8* Area supported by each stay *1800 cm²*

Working pressure by Rules *14 kg* Screw stays: Material *SMS* Tensile strength *41-47 kg*

Diameter *At turned off part, *1 1/2"** or *Over threads* No. of threads per inch *9* Area supported by each stay *395 cm²*



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Working pressure by Rules 14.3 kg Are the stays drilled at the outer ends Yes Margin stays: Diameter ^{At turned off part,} 15" or 15 7/8" Over threads 15 7/8" ✓

No. of threads per inch 9 Area supported by each stay 500 cm² Working pressure by Rules 13.0 kg

Tubes: Material Steel External diameter ^{Plain 2 3/4"} ^{Stay 2 3/4"} Thickness ^{3.65 mm} ^{5/16" and 2-7/16"} No. of threads per inch 9 ✓

Pitch of tubes 100 x 90 mm Working pressure by Rules 15 kg Manhole compensation: Size of opening in shell plate 390 x 490 Section of compensating ring 179 cm² No. of rivets and diameter of rivet holes 54- 32 mm

Outer row rivet pitch at ends 220 mm Depth of flange if manhole flanged 20 mm 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 _____

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 _____ Manufacturers of ^{Tubes} ^{Steel forgings} ^{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 and 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 per Rules _____

Pressure to which the safety valves are adjusted _____ Hydraulic test pressure: tubes _____ forgings and castings _____ and after assembly in place _____ 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 _____

The foregoing is a correct description,
WERKSPOR N.V.
J. Schipper Manufacturer.

Dates of Survey ^{During progress of work in shops - -} Sept 2 Oct 7 Nov 8-18 Dec 6 Jan 16 Are the approved plans of boiler and superheater forwarded herewith 14-2-20 (If not state date of approval.)
^{while building} ^{During erection on board vessel - - -} April 4 June 7-15 July 12-25 Total No. of visits 20

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.)

The Boilers have been made under special survey in accordance with approved plans & Secretary letter. Material duly tested workmanship good. The Boilers have been efficiently secured on a special made platform in Motorroom & good.

Survey Fee £ : : When applied for, 10
 Travelling Expenses (if any) £ : : When received, 10

J. Burgdijffer
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 11 AUG 1939
 Assigned See FK machy rth

