

Lab.

REPORT ON BOILERS.

No. 81050

Date of writing Report _____ 192__ When handed in at Local Office **2 MAR. 1927** Received at London Office **2 MAR. 1927**

No. in Survey held at *Wallsend* Port of **NEWCASTLE-ON-TYNE**
Date, First Survey *14th May 1925* Last Survey *1st March 1927*

on the *New Steel M.V. Marpesa* (Number of Visits _____) Tons { Gross _____ Net _____

Master Built at *Rotterdam* By whom built *Rotterdamsche Droogdok* Yard No. *98* When built *1927*

Engines made at *Newcastle-on-Tyne* By whom made *H.E. Mannie Engineering Co. Ltd.* Engine No. *2603* When made *1927*

Boilers made at *Newcastle-on-Tyne* By whom made *H.E. Mannie Engineering Co. Ltd.* Boiler No. *2603* When made *1927*

Nominal Horse Power *1204* Owners *Nederlandsche Stoomboot Maats.* Port belonging to *Gravenhage*

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel *Dr. Colville & Sons Ltd.* (Letter for Record *S. 11*)

Total Heating Surface of Boilers *2372 sq ft* Is forced draught fitted *Yes* Coal or Oil fired *Oil*

No. and Description of Boilers *Two Single-Ended Cylindrical* Working Pressure *180 lbs.*

Tested by hydraulic pressure to *320 lbs.* Date of test *22.7.26* No. of Certificate *116* Can each boiler be worked separately *Yes*

Area of Firegrate in each Boiler *30 sq ft* No. and Description of safety valves to each boiler *Two Spring-loaded*

Area of each set of valves per boiler { per Rule *9.02 sq ft* as fitted *14.14 sq ft* Pressure to which they are adjusted *180 lbs.* Are they fitted with easing gear *Yes*

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *On main Deck peers.* Is oil fuel carried in the double bottom under boilers *Yes*

Smallest distance between shell of boiler and tank top plating *2'-10"* Is the bottom of the boiler insulated *Yes*

Smallest internal dia. of boilers *10'-6"* Length *10'-8"* Shell plates: Material *Steel* Tensile strength *28-32 Tons*

Thickness *7/8"* Are the shell plates welded or flanged *No.* Description of riveting: circ. seams { end *Double* inter. _____

Percentage of strength of circ. end seams { plate *69.6* rivets *47.5* Percentage of strength of circ. intermediate seam { plate _____ rivets _____

Percentage of strength of longitudinal joint { plate *85.9* rivets *94.3* combined *90.6* Working pressure of shell by Rules *180 lbs.*

Thickness of butt straps { outer *1 1/16"* inner *1 3/16"* No. and Description of Furnaces in each Boiler *Two Decipon Marsson corrugated*

Material *Steel* Tensile strength *26-30 Tons* Smallest outside diameter *33 5/8"*

Thickness of plates { crown *7/16"* bottom *7/16"* Description of longitudinal joint *Weld*

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules *185 lbs.*

Stays in steam space: Material *Steel* Tensile strength *26-30 Tons* Thickness *1"* Pitch of stays *17 1/2" x 13 1/2"*

Are stays secured *Double nuts* Working pressure by Rules *188 lbs.*

Stays in water space: Material { front *Steel* back *Steel* Tensile strength { front *26-30 Tons* back *26-30 Tons* Thickness { front *1 1/4"* back *1 1/4"*

Pitch of stay tubes in nests *7 3/8"* Pitch across wide water spaces *14"* Working pressure { front *195 lbs* back *305 lbs*

Stays to combustion chamber tops: Material *Steel* Tensile strength *28-32 Tons* Depth and thickness of girder _____

Centre *7"-1 1/2"* Length as per Rule *27"* Distance apart *8 3/4"* No. and pitch of stays _____

Working pressure by Rules *193 lbs.* Combustion chamber plates: Material *Steel*

Tensile strength *26-30 Tons* Thickness: Sides *3/4"* Back *3/4"* Top *3/4"* Bottom *15/16"*

Dimensions of stays to ditto: Sides *8 3/4" x 7 3/8"* Back *8 3/4" x 8"* Top *8 3/4" x 7 3/8"* Are stays fitted with nuts or riveted over *Riveted over*

Working pressure by Rules *190 lbs.* Front plate at bottom: Material *Steel* Tensile strength *26-30 Tons*

Thickness *1"* Lower back plate: Material *Steel* Tensile strength *26-30 Tons* Thickness *1"*

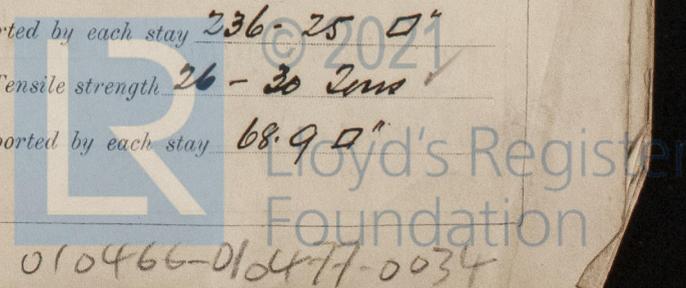
Dimensions of stays at wide water space *14"* Are stays fitted with nuts or riveted over *Nuts*

Working Pressure *298 lbs.* Main stays: Material *Steel* Tensile strength *28-32 Tons*

At body of stay *2 1/4"* No. of threads per inch *Six* Area supported by each stay *236-25 sq in*

Over threads *2 1/2"* Screw stays: Material *Steel* Tensile strength *26-30 Tons*

Working pressure by Rules *181 lbs.* At turned off part *1 1/2"* No. of threads per inch *Nine* Area supported by each stay *68.9 sq in*



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Working pressure by Rules 182 lbs Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part,} 1 3/4" _{or Over threads}

No. of threads per inch nine Area supported by each stay 90 sq" Working pressure by Rules 202 lbs

Tubes: Material Iron External diameter ^{Plain} 2 3/4" Thickness 1/8" ^{Stay} 2 3/4" No. of threads per inch nine

Pitch of tubes 4" x 3 7/8" Working pressure by Rules plain 275 lbs Stay 199 lbs Manhole compensation: Size of opening

shell plate 20" x 16" Section of compensating ring 32 1/2" x 28 1/2" x 1" No. of rivets and diameter of rivet holes 32 - 1 3/16"

Outer row rivet pitch at ends 9" Depth of flange if manhole flanged 3 1/2" 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

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 a

Rules Pressure to which the safety valves are adjusted Hydraulic test press

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 23 inclusive for boilers been complied with

FOR THE NORTH EASTERN MARINE ENGINEERING CO. LTD.
The foregoing is a correct description,
G. H. Stephens Manufact
Commercial Manager

Dates of Survey ^{During progress of} _{work in shops - - -} See Machinery Rept. Are the approved plans of boiler and superheater forwarded herewith Yes _(If not state date of approval.) Please to Newcastle for duplicate

building ^{During erection on} _{board vessel - - -} Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
These Boilers have been built under Special Survey. Materials + Workman good. Hydraulic tests Satisfactory. They have been efficiently installed + fired in the vessel + examined under steam + safety valves adjusted.

Survey Fee 192 When applied for,

Travelling Expenses (if any) See Machinery Rept. When received,

William Bates
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute FRI 4 MAR 1927

Assigned See other report
NWC 81050

