

REPORT ON BOILERS.

7 JAN 1937

Received at London Office

Date of writing Report 25. 11. 36 When handed in at Local Office 31st DECEMBER, 1936 Port of Greenock

No. in Reg. Book. Survey held at Greenock Date, First Survey 4th FEBRUARY, 1936 Last Survey 29th DECEMBER, 1936

on the M/s "San Casimiro" (Number of Visits) Gross Tons Net

Muster J.M. Built at Glasgow By whom built Blythswood SBC & Co. Yard No. 43 When built 1936
Engines made at Greenock By whom made John & W. Caird & Co. Engine No. 1799 When made 1936
Boilers made at ditto By whom made ditto Boiler No. 1796 When made 1936
Nominal Horse Power 503 Owners Eagle Oil Refining Co. Port belonging to London.

MULTITUBULAR BOILERS [REDACTED], AUXILIARY, [REDACTED].

Manufacturers of Steel Colville Scottish S.C. Steel Co. of Scotland Cargo Fleet Iron Co. (Letter for Record S ✓)

Total Heating Surface of Boilers 2502 sq ft Is forced draught fitted yes ✓ Coal or Oil fired Oil ✓

No. and Description of Boilers one Single Ended ✓ Working Pressure 180 ✓

Tested by hydraulic pressure to 320 ✓ Date of test 2. 11. 36 No. of Certificate 2076 ✓ Can each boiler be worked separately ✓

Area of Firegrate in each Boiler Oil fired No. and Description of safety valves to each boiler Double Spring

Area of each set of valves per boiler {per Rule 16" as fitted 16 5/8" } Pressure to which they are adjusted 185 ✓ Are they fitted with easing gear yes ✓

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

Smallest distance between boilers or uptakes and bunkers or woodwork 2-6" ✓ Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 14-0" ✓ Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 14-6" ✓ Length 11-6" Shell plates: Material S ✓ Tensile strength 29.33

Thickness 1 5/32" - Are the shell plates welded or flanged ✓ Description of riveting: circ. seams {end DE ✓ inter. ✓

long. seams TR & DBS ✓ Diameter of rivet holes in {circ. seams 17/32" long. seams 15/32" } Pitch of rivets { 3.524" 47/8" }

Percentage of strength of circ. end seams {plate 65.4 rivets 45.3 } Percentage of strength of circ. intermediate seam {plate 86.52 rivets ✓ }

Percentage of strength of longitudinal joint {plate 86.45 rivets 84.49 } Working pressure of shell by Rules 180

Thickness of butt straps {outer 7/8" inner 1" } No. and Description of Furnaces in each Boiler 3 Deighton 30 ✓

Material S Tensile strength 26-30 ✓ Smallest outside diameter 3-4 1/8" ✓

Length of plain part {top bottom } Thickness of plates {crown 9/16" bottom } Description of longitudinal joint weld ✓

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 189 ✓

End plates in steam space: Material S Tensile strength 26-30 ✓ Thickness 1 9/32" ✓ Pitch of stays 21-19 1/2" ✓

How are stays secured DN Washers. Working pressure by Rules 191 ✓

Tube plates: Material {front back } S Tensile strength { 26-30 } Thickness { 15/16" 11/16" } ✓

Mean pitch of stay tubes in nests 9 3/4" ✓ Pitch across wide water spaces 13 1/2" ✓ Working pressure {front 225 back 191 }

Girders to combustion chamber tops: Material S Tensile strength 29.33 ✓ Depth and thickness of girder

at centre 8 1/2" x 3 1/4" (2) ✓ Length as per Rule 2-4 5/8" ✓ Distance apart 9" ✓ No. and pitch of stays

in each 3 at 4 1/2" ✓ Working pressure by Rules 193 ✓ Combustion chamber plates: Material S ✓

Tensile strength 26-30 ✓ Thickness: Sides 11/16" ✓ Back 11/16" ✓ Top 11/16" ✓ Bottom 7/8" ✓

Pitch of stays to ditto: Sides 4 1/2" x 4 1/16" ✓ Back 4 1/16" x 4 1/2" ✓ Top 9" x 4 1/2" ✓ Are stays fitted with nuts or riveted over Riveted

Working pressure by Rules 184 ✓ Front plate at bottom: Material S Tensile strength 26-30 ✓

Thickness 15/16" ✓ Lower back plate: Material S Tensile strength 26-30 ✓ Thickness 13/16" ✓

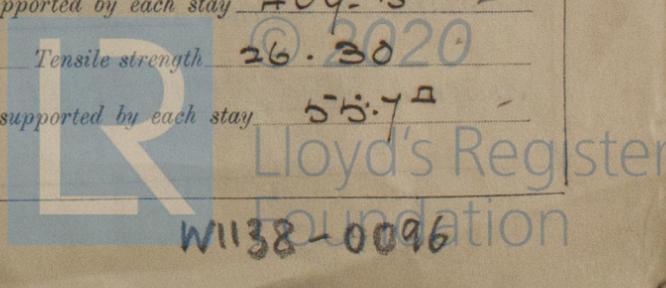
Pitch of stays at wide water space 14" ✓ Are stays fitted with nuts or riveted over Marginal Stays Nuts or Rivets

Working Pressure 189 ✓ Main stays: Material S Tensile strength 28-32

Diameter {At body of stay, or Over threads } 3 1/4" ✓ No. of threads per inch 6 Area supported by each stay 409.5 sq in

Working pressure by Rules 191 ✓ Screw stays: Material S Tensile strength 26-30 ✓

Diameter {At turned off part, or Over threads } 1 3/8" ✓ No. of threads per inch 9 Area supported by each stay 55.7 sq in



Working pressure by Rules **184** ✓ Are the stays drilled at the outer ends **9/0** ✓ Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turn d off part, } 1\frac{5}{8}'' \\ \text{Over threads } \checkmark \end{array} \right.$

No. of threads per inch **9** Area supported by each stay **80.3** Working pressure by Rules **189** ✓

Tubes: Material **Iron** External diameter $\left\{ \begin{array}{l} \text{Plain } 2\frac{1}{2}'' \\ \text{Stay } \end{array} \right.$ Thickness $\left\{ \begin{array}{l} \text{9 WG } 1\frac{1}{2}'' \\ \text{11 } 1\frac{3}{4}'' \\ \text{12 } 1\frac{1}{2}'' \end{array} \right.$ No. of threads per inch **9** ✓

Pitch of tubes **3 3/4 + 3 3/4** Working pressure by Rules **210** ✓ Manhole compensation: Size of opening in shell plate **16 1/2 x 20 1/2** Section of compensating ring **2-11 + 2-4 + 19/32** No. of rivets and diameter of rivet holes **38 at 1 5/16**

Outer row rivet pitch at ends **9 1/4** Depth of flange if manhole flanged **3 1/4** ✓ Steam Dome: Material _____

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 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 $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$ _____

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 _____ 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,
For JOHN G. KINCALD & CO. LIMITED.
W. Carter Director. Manufacturer.

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building } \left\{ \begin{array}{l} \text{During erection on board vessel - - -} \end{array} \right. \end{array} \right.$

Are the approved plans of boiler and ~~superheater~~ forwarded herewith **yes** (If not state date of approval.)
Total No. of visits _____

Is this Boiler a duplicate of a previous case **yes** If so, state Vessel's name and Report No. **M/S "Arinia" Lrk. Rpt. No. 20189**

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **This boiler has been built under special survey in accordance with the approved plan & the workmanship & material are of good. Boiler now securely fitted on board. This Report accompanies that of the Machinery**

Survey Fee **Charged on Mailstaff** : : When applied for, 19
Travelling Expenses (if any) : : When received, 19

W. Gordon-Mitchell
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 6 JAN 1937**
Assigned **SEE ACCOMPANYING MACHINERY REPORT.**

