

REPORT ON BOILERS.

Received at London Office **12 9 NOV 1943**

Writing Report **Sept. 29, 1943** When handed in at Local Office **Oct. 7, 1943** Port of **Baltimore, Maryland**

Survey held at **Baltimore, Maryland** Date, First Survey **9th March,** Last Survey **27th July,** 19 **43**

on the **S.S. "LEONARDO da Vinci"** (Number of Visits -) Tons { Gross **7515** Net **4205**

Built at **Spezia** By whom built **Ansaldo San Giorgia** Yard No. **192** When built **1925**

Machinery made at **Sampierdarena** By whom made **Gio Ansaldo & Co.** Engine No. - When made -

Boilers made at **Sampierdarena** By whom made **Gio Ansaldo & Co.** Boiler No. - When made -

Indicated Horse Power **1116** Owners **Ministry of War Transport** Port belonging to **Mombassa**

WATER TUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel **Not Known** (Letter for Record)

Total Heating Surface of Boilers **2 @ 1073 = 2146 sq. ft.** Is forced draught fitted **Yes** Coal or Oil fired **Oil Fired**

Number and Description of Boilers **2 Scotch Auxiliary** Working Pressure **200 lbs.**

Tested by hydraulic pressure to **350 lbs.** Date of test **20 - 5 - 43** No. of Certificate - Can each boiler be worked separately **Yes**

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

Area of each set of valves per boiler { per Rule **8.32 sq. in.** as fitted **9.82 sq. in.** Pressure to which they are adjusted **200 lbs.** Are they fitted with easing gear **Yes**

Are donkey boilers, state whether steam from main boilers can enter the donkey boiler -

Least distance between boilers or uptakes and bunkers or woodwork **2' 5"** Is oil fuel carried in the double bottom under boilers **Yes**

Least distance between shell of boiler and tank top plating **2' 8"** Is the bottom of the boiler insulated **No**

Least internal dia. of boilers **10' 2"** Length **9' 3"** Shell plates: Material **Steel** Tensile strength **Not known**

Thickness **15/16"** Are the shell plates welded or flanged **Flanged** Description of riveting: circ. seams { end **lap. DR.** inter. **lap. DR.**

Seams **Double Butt Strap** Diameter of rivet holes in { circ. seams **1 3/16"** Pitch of rivets { **3 1/4"** long. seams **1"** **7 1/4"**

Percentage of strength of circ. end seams { plate **63.46** rivets **59.21** Percentage of strength of circ. intermediate seam { plate **63.46** rivets **59.21**

Percentage of strength of longitudinal joint { plate **86.21** rivets **89.02** combined **90.21** Working pressure of shell by Rules **201.6 lbs.**

Thickness of butt straps { outer **3/4"** inner **13/16"** No. and Description of Furnaces in each Boiler **2 "Adamson"**

Material **Steel** Tensile strength **Not known** Smallest outside diameter **32 3/4"**

Thickness of plain part { top **20"** bottom **20"** Thickness of plates { crown **1/2"** bottom **1/2"** Description of longitudinal joint **lap. S.R.**

Dimensions of stiffening rings on furnace or c.c. bottom flange of furnace **3 1/2 x 1/2"** Working pressure of furnace by Rules **203 lbs.**

Plates in steam space: Material **Steel** Tensile strength **Not known** Thickness **7/8"** Pitch of stays **13 3/4"**

Are stays secured **Nuts on inside, Nuts and rivetted washers outside.** Working pressure by Rules **265 lbs.**

Plates: Material { front **Steel** back **Steel** Tensile strength { Thickness { **7/8"** **25/32"**

Pitch of stay tubes in nests **8"** Pitch across wide water spaces **13 3/4"** Working pressure { front **433 lbs.** back **342 lbs.**

Plates to combustion chamber tops: Material **Steel** Tensile strength **Not known** Depth and thickness of girder

Thickness **7 1/16 x 19/32** Length as per Rule **23.6"** Distance apart **7 1/4"** No. and pitch of stays

2 - 7 1/16" Working pressure by Rules **182** Combustion chamber plates: Material **Steel**

Thickness: Sides **21/32"** Back **21/32"** Top **21/32"** Bottom **7/8"** Marginal with nuts

of stays to ditto: Sides **7 1/16"** Back **7 1/16"** Top **7 1/16"** Are stays fitted with nuts or riveted over **others rivetted**

Working pressure by Rules **200 lbs.** Front plate at bottom: Material **Steel** Tensile strength **Not known**

Thickness **7/8"** Lower back plate: Material **Steel** Tensile strength **Not known** Thickness **7/8"**

of stays at wide water space **12 1/4** Are stays fitted with nuts or riveted over **Fitted with nuts**

Working Pressure **220 lbs.** Main stays: Material **Steel** Tensile strength **Not known**

At body of stay, **2 9/32"** No. of threads per inch **12** Area supported by each stay **13 3/4 x 13 3/4"**

Over threads **2 1/2"** Screw stays: Material **Steel** Tensile strength

Working pressure by Rules **At turned off part, 1 1/4"** No. of threads per inch **12"** Area supported by each stay **7 1/16 x 7 1/16"**

Over threads **1 3/8"**

Working pressure by Rules 200 Arc the stays drilled at the outer ends No Margin stays: Diameter 1 5/8" (At turned off part, or Over threads 1 3/4")

No. of threads per inch 12 Area supported by each stay 85 sq. ins. Working pressure by Rules 200

Tubes: Material Plain External diameter 2 1/2" Thickness .375" No. of threads per inch 9

Pitch of tubes 4" Working pressure by Rules 230 lbs Manhole compensation: Size of opening 34 - 1 1/16"

shell plate 15.75" x 19.68" Section of compensating ring 8.268" x 3.15" x .945" No. of rivets and diameter of rivet holes 34 - 1 1/16"

Outer row rivet pitch at ends 7.086 Depth of flange if manhole flanged 3.15" 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 of rivets -

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 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 from the boiler -

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 -

Rules - Pressure to which the safety valves are adjusted - Hydraulic test pressure -

tubes - forgings and castings - and after assembly in place - Are drain 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,

 Manufacturer

Dates of Survey - (During progress of work in shops - -) Are the approved plans of boiler and superheater forwarded herewith Not (If not state date of approval.)

while building - (During erection on board vessel - - -) Total No. of visits -

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, etc.) These boilers were not built under Special Survey, but have been reconditioned, hydraulically tested and seen under full steaming conditions. The workmanship and material appears to be good. They are eligible in my opinion to be classed and recorded.

Survey Fee £ SEE REPT : - : } When applied for, 19

Travelling Expenses (if any) £ 9 : - : } When received, 19

Wm B. Cowin
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute NEW YORK OCT 20 1943

Assigned 2 Aux. B. - 200 lbs

