

Rpt. 4.

## REPORT ON MACHINERY.

FRI. 27 APR 1923  
No. 41784

Received at London Office **15 1922**

Date of writing Report **10/3/22** When handed in at Local Office **10/3/22** Port of **Glasgow** **Genoa** **Mar 30 1922**

No. in Survey held at **Glasgow** Date, First Survey **22/9/1920** Last Survey **10/3/1922**

Reg. Book. **6396** on the **S.S. Vigor** (Number of Visits **101**)

Master **Genoa** Built at **Genoa** By whom built **Canheri Mighetta** Tons **6650**

Engines made at **Glasgow** By whom made **McKie & Baxter. N° 1008** when made **1922**

Boilers made at **do** By whom made **Alex. Stephen & Sons J27** when made **1921**

Registered Horse Power **399** Owners **La Columbia Soc. Marit. del. Genoa.** Port belonging to **Genoa.**

Nom. Horse Power as per Section 28 **399** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

**ENGINES, &c.—Description of Engines** **Quadruple Expansion** No. of Cylinders **4** No. of Cranks **4**

Dia. of Cylinders **21-29 1/2-43-62** Length of Stroke **45** Revs. per minute **13.5** Dia. of Screw shaft **13.75** Material of screw-shaft **5**

Is the screw shaft fitted with a continuous liner the whole length of the stern tube **yes** Is the after end of the liner made water tight

in the propeller boss **yes** If the liner is in more than one length are the joints burned **yes** If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive **yes** If two

liners are fitted, is the shaft lapped or protected between the liners **yes** Length of stern bush **4'-7"**

Dia. of Tunnel shaft **11.87** as per rule **12.46** Dia. of Crank shaft journals **12.5** as per rule **12.75** Dia. of Crank pin **12 3/4** Size of Crank webs **23x8** Dia. of thrust shaft under

collars **12 3/4** Dia. of screw **17-0** Pitch of Screw **15'-6"** No. of Blades **4** State whether moveable **yes** Total surface **884**

No. of Feed pumps **2** Diameter of ditto **4"** Stroke **22** Can one be overhauled while the other is at work **yes**

No. of Bilge pumps **2** Diameter of ditto **4"** Stroke **22** Can one be overhauled while the other is at work **yes**

No. of Donkey Engines **13** Sizes of Pumps **1. Centrifugal - 2 Engines** No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room **3-90 1/2** **3-54** **1. Ballast 8x9x8 Duplex** **1. Transfer 250x150x250** **1. Dry Bl. feed 7x5x6** **1. Aux. Air 11x6x15x15** **1. Aux. Oil 11x6x15x15** **1. Fresh water 3x2x5** **1. 70° Bilge 8x9x8** **1. Fresh water 3x2x5**

No. of Bilge Injections **1** sizes **10"** Connected to condenser, or to circulating pump **yes** Is a separate Donkey Suction fitted in Engine room & size **4 1/2-125 1/2**

Are all the bilge suction pipes fitted with roses **yes** Are the roses in Engine room always accessible **yes** Are the sluices on Engine room bulkheads always accessible **none**

Are all connections with the sea direct on the skin of the ship **yes** Are they Valves or Cocks **both**

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates **yes** Are the Discharge Pipes above or below the deep water line **below**

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel **yes** Are the Blow Off Cocks fitted with a spigot and brass covering plate **yes**

What pipes are carried through the bunkers **none** How are they protected **yes**

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times **yes**

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges **yes**

Is the Screw Shaft Tunnel watertight **none** Is it fitted with a watertight door **yes** worked from **yes**

**BOILERS, &c.—(Letter for record)** Manufacturers of Steel **3SB.**

Total Heating Surface of Boilers **5679** Is Forced Draft fitted **yes** No. and Description of Boilers **3 S.E. return tube**

Working Pressure **230 lb.** Tested by hydraulic pressure to **yes** Date of test **yes** No. of Certificate **yes**

Can each boiler be worked separately **yes** Area of fire grate in each boiler **yes** No. and Description of Safety Valves to

each boiler **yes** Area of each valve **yes** Pressure to which they are adjusted **yes** Are they fitted with easing gear **yes**

Smallest distance between boilers or uptakes and bunkers or woodwork **yes** Mean dia. of boilers **yes** Length **yes** Material of shell plates **yes**

Thickness **yes** Range of tensile strength **yes** Are the shell plates welded or flanged **yes** Descrip. of meeting: cir. seams **yes**

long. seams **yes** Diameter of rivet holes in long. seams **yes** Pitch of rivets **yes** Lap of plates or width of butt straps **yes**

Per centages of strength of longitudinal joint **yes** Working pressure of shell by rules **yes** Size of manhole in shell **yes**

Size of compensating ring **yes** No. and Description of Furnaces in each boiler **yes** Material **yes** Outside diameter **yes**

Length of plain part **yes** Thickness of plates **yes** Description of longitudinal joint **yes** No. of strengthening rings **yes**

Working pressure of furnace by the rules **yes** Combustion chamber plates: Material **yes** Thickness: Sides **yes** Back **yes** Top **yes** Bottom **yes**

Pitch of stays to ditto: Sides **yes** Back **yes** Top **yes** If stays are fitted with nuts or riveted heads **yes** Working pressure by rules **yes**

Material of stays **yes** Area at smallest part **yes** Area supported by each stay **yes** Working pressure by rules **yes** End plates in steam space: **yes**

Material **yes** Thickness **yes** Pitch of stays **yes** How the stays secured **yes** Working pressure by rules **yes** Material of stays **yes**

Area at smallest part **yes** Area supported by each stay **yes** Working pressure by rules **yes** Material of Front plates at bottom **yes**

Thickness **yes** Material of Lower back plate **yes** Thickness **yes** Greatest pitch of stays **yes** Working pressure of plate by rules **yes**

Diameter of tubes **yes** Pitch of tubes **yes** Material of tube plates **yes** Thickness: Front **yes** Back **yes** Mean pitch of stays **yes**

Pitch across wide water spaces **yes** Working pressures by rules **yes** Girders to Chamber tops: Material **yes** Depth and

thickness of girder at centre **yes** Length as per rule **yes** Distance apart **yes** Number and pitch of stays in each **yes**

Working pressure by rules **yes** Steam dome: description of joint to shell **yes** % of strength of joint **yes**

Diameter **yes** Thickness of shell plates **yes** Material **yes** Description of longitudinal joint **yes** Diam. of rivet holes **yes**

Pitch of rivets **yes** Working pressure of shell by rules **yes** Crown plates **yes** Thickness **yes** How stayed **yes**

**SUPERHEATER.** Type **yes** Date of Approval of Plan **yes** Tested by Hydraulic Pressure to **yes**

Date of Test **yes** Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler **yes**

Diameter of Safety Valve **yes** Pressure to which each is adjusted **yes** Is Easing Gear fitted **yes**

W141-0209



IS A DONKEY BOILER FITTED?

Yes.

If so, is a report now forwarded?

Yes.

SPARE GEAR.

State the articles supplied:

As per rules plus 1-2 throw length crankshaft, 1 tail shaft, 2 propeller blades, 9 propeller studs & nuts, 1 set top and bottom end braces, 2 back pump links, 1 valve spindle, 2 main bearing braces, 1 air pump rod & bucket, 3 sets check & stop valve spindles, steam chest, piston & pump rod for Lewis pump, centrifugal pump impeller & shaft, complete set of piston and pump rings for all auxiliary engines, 3 main & auxiliary check valves, quantity boiler tubes, tube stoppers, and miscellaneous bolts, studs and set pins.

The foregoing is a correct description,

Mackie & Baxter

Manufacturer.

J. J. Smith

Dates of Survey while building: During progress of work in shops - 1920 Sep 22 Oct 26 29 Nov 3 22 Dec 2 6 7 13 16 27 28 (1921) Jan 12 17 20 24 25 27 31 Feb 1 2 3 8 9 14 16 21 22 23 Mar 2 3 7 9 14. During erection on board vessel - 17 21 22 30 Apr 5 11 13 18 21 25 28 May 2 10 11 12 17 19 27 30 Jun 1 2 3 6 9 10 14 16 22 29 Jul 1 4 6 8 Aug 4 8 9 11 17 24 29 Sep 5. Total No. of visits: 101. Is the approved plan of main boiler forwarded herewith: Yes.

Dates of Examination of principal parts: Cylinders 3.11.21 - 6.12.21 Slides 4.7.21 Covers 4.7.21 Pistons 4.7.21 Rods 21.11.21 Connecting rods 27.9.21 Crank shaft 1.6.21 Thrust shaft 1.6.21 Tunnel shafts 9.2.21 Screw shaft 17.3.21 Propeller 17.3.21 Stern tube 5.4.21 Steam pipes tested 7/1/23. Engine and boiler seatings 19.4.22 Engines holding down bolts 24.10.22 Completion of pumping arrangements 12/3/23. Boilers fixed 24.10.22. Engines tried under steam 13/3/23 Completion of fitting sea connections 18/2/23. Stern tube 11.9.22. Screw shaft and propeller 11.9.22. Main boiler safety valves adjusted 13/3/23. Thickness of adjusting washers S.M.B. 7.2 9.5 - C.M.B. 8.2 9.6 - P.M.B. 7.6 7.1. Material of Crank shaft S Identification Mark on Do. P.M.B. 1.6.21 Material of Thrust shaft S Identification Mark on Do. P.M.B. 1.6.21 Material of Tunnel shafts S Identification Marks on Do. P.M.B. 9.2.21 Material of Screw shafts S Identification Marks on Do. P.M.B. 17.3.21 Material of Steam Pipes Steel Test pressure 48 kg/cm<sup>2</sup> 682

Is an installation fitted for burning oil fuel Yes. Is the flash point of the oil to be used over 150°F. Yes. Have the requirements of Section 49 of the Rules been complied with Yes. Is this machinery duplicate of a previous case yes If so, state name of vessel N. Zulgori. G.S. N° 415114. General Remarks (State quality of workmanship, opinions as to class, &c.)

This machinery has been built under special survey, and in accordance with the terms of the specification supplied. The materials and workmanship are good, and when the engines and boilers have been fitted on board the vessel for which they are intended, they will be eligible in my opinion for record of +LMC (with date). The machinery is being despatched to Spezzia.

This machinery has been securely fitted aboard, tried satisfactorily under steam, and is, in my opinion such as to entitle the vessel to the Record + LMC 3.23.

It is submitted that this vessel is eligible for THE RECORD + LMC 3.23. FD. CL.

Fitted for oil fuel 3.23 FP above 150°F.

Survey Fees: 16-19-6 to Builders = 1600 x pd 4/5/22 16-19-6 to Owners = 1600 x pd 3/5/22 Travelling Expenses = 2500 x pd 7/10/22 The amount of Entry Fee ... £ 5 : - When applied for, Special 4/5 Fee ... £ 67 : 18 14/3 1922 Donkey Boiler Fee ... £ 4 : 4 When received 4/5/22 Spec. fee payable by builders - see L.M.C. 3.23 5 : 0 pd 4/5/22 Travelling Expenses (if any) £ 72 : 2 pd 3/5/22

M. Ra. Marchant Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute Assigned Deferred

FRIDAY 4 1923 + L.M.C. 3.23 F.D. C.L. Fitted for oil fuel 3.23 FP above 150°F.

Glasgow

Certificate (if required) to be sent to The Surveyors are requested not to write on or below the space for Committee's Minute.