

# REPORT ON MACHINERY.

Date of writing Report 13<sup>th</sup> Nov. 1920 at London Port of MIDDLESBRO  
 No. in Survey held at Middlesbrough Date, First Survey 24<sup>th</sup> Sept 1919 Last Survey 18<sup>th</sup> Nov. 1920  
 Reg. Book 48084(S) on the SS "Citta di Messina" (Gurness SBC No 2. R.B. Co. Engrs. 2036)  
 Master Andrea Giacomina Built at Haverton Hill on Tees By whom built Gurness Shipbuilding Co. Ltd  
 Engines made at Middlesbrough By whom made Richardsons Westgarth & Co. Ltd when made 1920  
 Boilers made at do By whom made do when made 1920  
 Registered Horse Power 543 Owners Paice Bros. Port belonging to Naples  
 Nom. Horse Power as per Section 28 543 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

**ENGINES, &c.**—Description of Engines Inverted Triple Expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 24" 42" 42" Length of Stroke 51" Revs. per minute 73 Dia. of Screw shaft 12" Material of screw shaft Iron  
 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 one length 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 5'-2"  
 Dia. of Tunnel shaft 13.64 Dia. of Crank shaft journals 14.35 Dia. of Crank pin 15" Size of Crank webs 29" x 9 3/4" Dia. of thrust shaft under collars 15 1/4" Dia. of screw 14'-9" Pitch of Screw 18'-0" No. of Blades 4 State whether moveable No Total surface 100 sq ft  
 No. of Feed pumps 2 Diameter of ditto 8" x 10 1/2" Stroke 21" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 4 1/4" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 3 Sizes of Pumps 8" x 6" x 8" 10" x 12" x 10" 4" x 7" x 8" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 2 of 3 1/2" and 2 of 3 1/2" direct In Holds, &c. 2 of 3 1/2" in each hold and 1 of 2 1/2" to Tunnel Well.  
 No. of Bilge Injections 1 sizes 8" Connected to condenser, or to circulating pump Condenser a separate Donkey Suction fitted in Engine room & size 3 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 Yes  
 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 stowhold plates Yes Are the Discharge Pipes above or below the deep water line Above  
 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  
 Dates of examination of completion of fitting of Sea Connections 12.4.20 of Stern Tube 4.9.20 Screw shaft and Propeller 12.9.20  
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top Platform

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel John Spencer & Sons Ltd  
 Total Heating Surface of Boilers 8580 Is Forced Draft fitted Yes No. and Description of Boilers 3 Multitubular Cylindrical  
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 14.5.20 No. of Certificate 6123  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 62.5 sq ft No. and Description of Safety Valves to each boiler Two direct Spring loaded Area of each valve 12.66 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 15'-6 1/2" Length 2'-1 1/8" Material of shell plates Steel  
 Thickness 1 1/4" Range of tensile strength 28/32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams BR lap  
 long. seams BR BR Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 14 1/2"  
 Per centages of strength of longitudinal joint: rivets 86.88 Working pressure of shell by rules 181 lbs Size of manhole in shell 16 1/2" x 13"  
 Size of compensating ring 30 1/2" x 29" No. and Description of Furnaces in each boiler 3 Deightous Material Steel Outside diameter 49 3/4"  
 Length of plain part 19 1/2" Thickness of plates: crown 19 1/2" Description of longitudinal joint Weld No. of strengthening rings 3  
 Working pressure of furnace by the rules 190 lbs Combustion chamber plates: Material Steel Thickness: Sides 19 1/2" Back 11/16" Top 19 1/2" Bottom 23/32"  
 Pitch of stays to ditto: Sides 4 1/2" x 6 7/8" Back 8 3/8" x 8" Top 4 1/4" x 6 7/8" If stays are fitted with nuts or riveted heads Riveted Heads Working pressure by rules 180 lbs  
 Material of stays Steel Diameter at smallest part 1 3/8" Area supported by each stay 49 sq in Working pressure by rules 193 lbs End plates in steam space  
 Material Steel Thickness 1 1/8" Pitch of stays 19 1/2" x 15 3/4" How are stays secured Hub & Washer Working pressure by rules 192 lbs Material of stays Steel  
 Diameter at smallest part 6.1 Area supported by each stay 31.6 Working pressure by rules 206 lbs Material of Front plates at bottom Steel  
 Thickness 15/16" Material of Lower back plate Steel Thickness 13/16" Greatest pitch of stays 13 3/4" x 8" Working pressure of plate by rules 181 lbs  
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/4" Material of tube plates Steel Thickness: Front 15/16" Back 13/16" Mean pitch of stays 10 3/8"  
 Pitch across wide water spaces 13 1/2" Working pressures by rules 185 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 3/4" x 1 1/2" Length as per rule 32 3/16" Distance apart 4 1/16" Number and pitch of stays in each 3 - 6 5/8"  
 Working pressure by rules 198 lbs Superheater or Steam chest; how connected to boiler Yes Can the superheater be shut off and the boiler worked separately Yes  
 Diameter Yes Length 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 Diameter of flue Yes Material of flue plates Yes Thickness Yes  
 If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes  
 Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - Propeller and screw shaft. 2 Top end bolts + nuts, 2 Bottom end bolts + nuts. 2 Main bearing bolts + nuts. 1 set of Coupling bolts. Centrifugal pump impeller shaft. 16 Condenser tubes. 1 set of Feed pump valves. 1 set of Air pump valves. 1 set of valves and seats for Bilge pumps. 1 main and 1 Auxiliary check valve. 1 Filter basket. 3 Safety valve springs. 1 pair of bottom end bushes. 2 pair of Top end bushes. Assorted bolts + nuts. Rod + sheet steel

The foregoing is a correct description,

For and on behalf of RICHARDSONS, WESTGARTH & Co., Ltd.

*William G. ...*

Manufacturer.

Dates of Survey while building: During progress of work in shops - 1919. Sep 24. 29. Oct 1. 7. 13. 16. 28. Nov 4. 10. 14. 17. 20. 24. Dec 1. 9. 17. 19. 24. 1920. Jan 5. 12. 16. 19. 21. 26. 30. Feb 4. 16. 19. 20. 23. 27. March 1. 3. 5. 8. 13. 17. 20. 29. Apr 1. 5. 12. 16. 20. 26. 30. May 5. 13. 14. 18. 21. June 2. 8. 11. 16. 18. 22. 28. 29. July 2. 6. 7. 13. 15. 19. 24. 27. 29. Aug 4. 11. 13. 24. Sep 2. 6. 7. 8. 15. 31. 29. Oct 4. 8. 13. 15. 20. 27. Nov 2. 4. 8. 16. 18. Total No. of visits *90*

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts - Cylinders 29. 4. 20. Slides 24. 8. 20. Covers 13. 4. 20. Pistons 4. 8. 20. Rods 29. 4. 20. Connecting rods 29. 6. 20. Crank shaft 12. 12. 19. Thrust shaft 11. 6. 20. Tunnel shafts 2. 6. 20. Screw shaft 23. 4. 20. Propeller 4. 8. 20. Stern tube 4. 8. 20. Steam pipes tested 15. 10. 20. Engine and boiler seatings 15. 4. 20. Engines holding down bolts 4. 10. 20. Completion of pumping arrangements 8. 11. 20. Boilers fixed 4. 10. 20. Engines tried under steam 2. 11. 20. Main boiler safety valves adjusted 2. 11. 20. Thickness of adjusting washers Port  $2\frac{1}{4}$  SV  $1\frac{1}{2}$   $2\frac{1}{4}$   $2\frac{1}{4}$  Centre  $2\frac{1}{4}$   $2\frac{1}{4}$  Material of Crank shaft *Steel* Identification Mark on Do. *6141 AB* Material of Thrust shaft *Steel* Identification Mark on Do. *4287 C* Material of Tunnel shafts *Steel* Identification Marks on Do. *4244 B. C* Material of Screw shafts *Iron* Identification Marks on Do. *6142 AB* Material of Steam Pipes *Steel* Renewed in steel *superheated* Test pressure *550 lbs.* Is an installation fitted for burning oil fuel *No* Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with  Is this machinery duplicate of a previous case *No* If so, state names of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been built under Special Survey; the workmanship and materials are good. It has been efficiently fitted on board and proved satisfactory under working conditions.

The vessel is eligible in my opinion to have the notation of *L.M.C. 11.20* made in the Register Book.

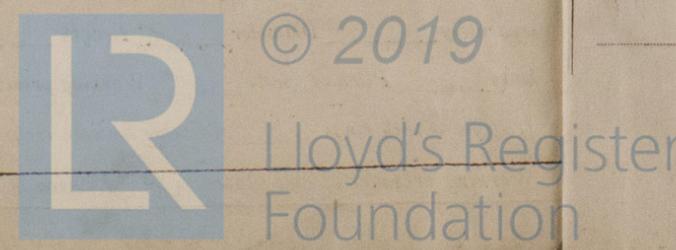
It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 11.20. FH

*ReM*  
*10/12/20*  
*FRK*

The amount of Entry Fee ... £ 3 : 0 : When applied for, 3/12/20  
Special ... £ 48 : 13 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : : When received, 16/12/20

*Wm Lewis + Wm Morrison*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute  
Assigned *+ L.M.C. 11.20*  
*L.D.*



Rpt. 13.  
Port of  
No. in Reg. Book  
45054 (S)  
Owners  
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DESCRIP  
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Where is  
Position of  
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Branch cab  
Branch cab  
Leads to lan  
Cargo light  
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Are there a  
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The Surveyors are required not to certify on or behalf the agents for Committee's Minutes.