

# REPORT ON MACHINERY.

No. 82891

Received at London Office

Date of writing Report

19

When handed in at Local Office

24 OCT 1921

Port of Liverpool

WED. 26 OCT. 1921

No. in Survey held at Liverpool & Garston  
Reg. Book. 78263 on the s/s Carpio

Date, First Survey 14<sup>th</sup> Oct/1920 Last Survey 21<sup>st</sup> Oct. 1921  
(Number of Visits 29)

Master                      Built at Garston By whom built H. & C. Grayson, Ltd.  
Tons { Gross 2436  
      Net 1508  
When built 1921

Engines made at Glasgow By whom made McAlister & Baxter when made 1921

Boilers made at Birkenhead By whom made Sammell, Laird & Co. Ltd. when made 1921

Registered Horse Power 188 Owners MacAndrews & Co. Ltd. Port belonging to London

Nom. Horse Power as per Section 28 252 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

## ENGINES, &c.—Description of Engines Triple Expansion Reciprocating No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders                      Length of Stroke                      Revs. per minute 95 Dia. of Screw shaft as per rule 11.75" Material of screw shaft Steel  
as fitted 12"

Is the screw shaft fitted with a continuous liner the whole length of the stern tube                      Is the after end of the liner made water tight in the propeller boss                       
If the liner is in more than one length are the joints burned                      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                      If two liners are fitted, is the shaft lapped or protected between the liners                      Length of stern bush                     

Dia. of Tunnel shaft as per rule Dia. of Crank shaft journals as per rule Dia. of Crank pin                      Size of Crank webs                      Dia. of thrust shaft under collars                       
as fitted as fitted

Dia. of screw                      Pitch of Screw                      No. of Blades                      State whether moveable                      Total surface                     

No. of Feed pumps                      Diameter of ditto                      Stroke                      Can one be overhauled while the other is at work                     

No. of Bilge pumps                      Diameter of ditto                      Stroke                      Can one be overhauled while the other is at work                     

No. of Donkey Engines 3 Sizes of Pumps 8x8x8, 9x6x10, 8x6x12 No. and size of Suctions connected to both Bilge and Donkey pumps                     

In Engine Room 3 - 2 1/2" In Holds, &c. Fore Hold 2-2 1/2", After Hold 4-2 1/2", Tunnel 1-2 1/2"

No. of Bilge Injections One sizes 8" Connected to condenser, or to circulating pump                      Is a separate Donkey Suction fitted in Engine room & size Yes - 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 None

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Valves and Cocks

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 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                     

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 Yes Is it fitted with a watertight door Yes worked from Top Platform of Engine Room

## BOILERS, &c.—(Letter for record                     ) Manufacturers of Steel

Total Heating Surface of Boilers                      Is Forced Draft fitted                      No. and Description of Boilers                     

Working Pressure                      Tested by hydraulic pressure to                      Date of test                      No. of Certificate                     

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

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

Smallest distance between boilers or uptakes and bunkers or woodwork 1'8" Mean dia. of boilers                      Length                      Material of shell plates                     

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

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

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

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

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

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

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

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

Material                      Thickness                      Pitch of stays                      How are stays secured                      Working pressure by rules                      Material of stays                     

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

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

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

Pitch across wide water spaces                      Working pressures by rules                      Girders to Chamber tops: Material                      Depth and thickness of girder at centre                      Length as per rule                      Distance apart                      Number and pitch of stays in each                     

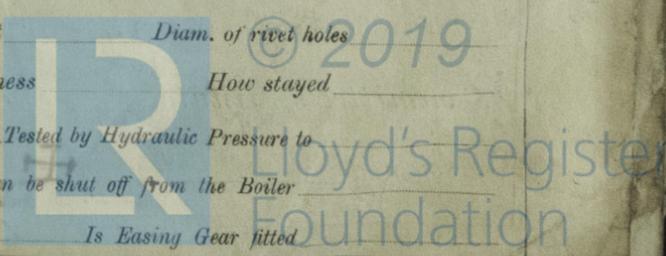
Working pressure by rules                      Steam dome: description of joint to shell                      % of strength of joint                     

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

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

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

Date of Test                      Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler                      Diameter of Safety Valve                      Pressure to which each is adjusted                      Is Easing Gear fitted                     



IS A DONKEY BOILER FITTED? Yes

If so, is a report now forwarded? Yes

SPARE GEAR. State the articles supplied:— 1 CI propeller, 2 connecting rod top end and 2 bottom end bolts and nuts, 2 main bearing bolts and nuts, 1 set of coupling bolts and nuts, 1 set each feed and bilge pump valves, main and donkey check valves, joint ring studs and nuts, assorted bolts and nuts, assorted iron and brass studs, 2 safety valve springs, condenser tubes and ferrules, boiler tubes and stoppers, gauge glasses, iron of various sizes.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1920 Oct. 14, 26. Nov. 7, 19. Dec. 9, 17. 1921 Jan. 6, 21. Feb. 11, 22. Mar. 21, 22, 24. Apr. 4, 22, 27. May. 9, 10, 19. June 7, 23. July. 13. Aug. 7, 24. Sep. 14. Oct. 7, 17, 18, 21. Total No. of visits 29.

Is the approved plan of main boiler forwarded herewith

“ “ “ donkey “ “ “

Dates of Examination of principal parts—Cylinders Slides Covers Pistons Rods

Connecting rods Crank shaft Thrust shaft Tunnel shafts Screw shaft Propeller

Stern tube Steam pipes tested 22/3/21 Engine and boiler seatings 21/3/21 Engines holding down bolts 27/4/21

Completion of pumping arrangements 10/5/21 Boilers fixed 27/4/21 Engines tried under steam 10/5/21

Completion of fitting sea connections 6/1/21 Stern tube 6/1/21 Screw shaft and propeller 6/1/21

Main boiler safety valves adjusted 9/5/21 Thickness of adjusting washers Port = 5.1/2 P = 5/8 Donkey Bl. F 3/4, A 7/8

Material of Crank shaft Identification Mark on Do. Material of Thrust shaft Identification Mark on Do.

Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Identification Marks on Do.

Material of Steam Pipes Copper Test pressure 360 lbs

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 s/s 'Lelves' t.

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

The Engines and Boilers of this vessel have been securely fitted on board and when tried under working conditions were found satisfactory in every respect.

In my opinion, the Machinery is eligible to be classed with record in the Register Book of L.M.C. 10, 21

It is submitted that this vessel is eligible for THE RECORD. L.M.C. - 10.21. C.L. Fitted for Oil Fuel 10.21. F.P. above 150°F.

L.Y. 29/10/21 [Signature]

MACHINERY CERTIFICATE WRITTEN 4/11/21 (Excluded 26/10/21)

The amount of Entry Fee ... £ : : Special (45.) ... £ 12-11-3 Donkey Boiler Fee ... £ : : Travelling Expenses (if any) £ : :

When applied for, 24 OCT 1921

When received, 29.10.21

B. G. Oxford

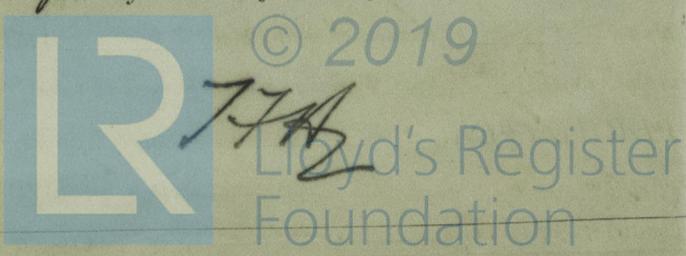
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL.

25 OCT 1921

Assigned H L M C 10: 21.

When fee is paid



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