

## REPORT ON MACHINERY.

No. 17427.

Received at London Office

12 JUL 1928

Date of writing Report 11 July 1928 When handed in at Local Office 11 July 1928 Port of Leith  
No. in Survey held at Leith Date, First Survey May 17<sup>th</sup> 1927 Last Survey 3 July 1928  
Reg. Book. on the S. S. "Oporto" (Number of Visits 36)

Master Built at Leith By whom built Donaghy & Ferguson Ltd 365 Tons Gross Net 1928  
Engines made at Leith By whom made Donaghy & Ferguson Ltd (No 365) when made 1928  
Boilers made at Glasgow By whom made Barclay Currie & Co Ltd (R.F. 4) when made 1928  
Registered Horse Power Owners The Ellerman Lines Ltd Port belonging to Liverpool  
Nom. Horse Power as per Section 28 269 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Type Expansion No. of Cylinders 3 No. of Cranks 3  
Dia. of Cylinders 17 $\frac{1}{2}$ " 30" 52" Length of Stroke 36 Revs. per minute 102 Dia. of Screw shaft as per rule 10 $\frac{1}{2}$ " Material of steel  
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 4-5"  
Dia. of Tunnel shaft as per rule 9 $\frac{1}{2}$ " Dia. of Crank shaft journals as per rule 10 $\frac{1}{2}$ " Dia. of Crank pin 10 $\frac{3}{4}$ " Size of Crank webs 6 $\frac{1}{2}$ " x 10 $\frac{1}{2}$ " Dia. of thrust shaft under  
collars 10 $\frac{1}{2}$ " Dia. of screw 13 $\frac{1}{2}$ " Pitch of Screw 12-3" No. of Blades 4 State whether moveable No Total surface 62 sq ft  
No. of Feed pumps 2 Diameter of ditto 3 $\frac{1}{2}$ " Stroke 20" Can one be overhauled while the other is at work Yes  
No. of Bilge pumps 2 Diameter of ditto 3 $\frac{1}{2}$ " Stroke 20" Can one be overhauled while the other is at work Yes  
No. of Donkey Engines 2 Sizes of Pumps 8"x9"x18" 6"x4"x6" No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room 3-2 $\frac{1}{2}$ " & 1 special 3 $\frac{1}{2}$ " In Holds, &c. No 1-2-2 $\frac{1}{4}$ " No 2-2-2 $\frac{1}{4}$ "  
No 4-2-2 $\frac{1}{2}$ " No 5-2-2" Tunnel Well 1-2 $\frac{1}{4}$ "  
No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes-3 $\frac{1}{2}$ "  
Are all the bilge suction pipes fitted with M. B. Are the 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 Box  
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 bilge pipes How are they protected steel sheathing  
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 upper deck

BOILERS, &c.—(Letter for record 5.) Manufacturers of Steel Wm Beardmore  
Total Heating Surface of Boilers 4026 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 2 Right Order 25B  
Working Pressure 220 lbs Tested by hydraulic pressure to 350 lbs Date of test 22.2.28 No. of Certificate 17790  
Can each boiler be worked separately Yes Area of fire grate in each boiler 53.6 sq ft No. and Description of Safety Valves to  
each boiler Double Spring Loaded Area of each valve 5.9 sq ft Pressure to which they are adjusted 225 lbs Are they fitted with easing gear Yes  
Smallest distance between boilers or uptakes and bunkers or woodwork abt 9" 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 rivets. plate 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 top Thickness of plates crown 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

W280-0158



IS A DONKEY BOILER FITTED?

None.

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— 2 connecting rod top end bolts & nuts: 2 connecting rod bottom end bolts & nuts: 2 main bearing bolts: 1 set of coupling bolts: 1 set of feed & bilge pump valves: a quantity of assorted bolts & nuts: iron of various sizes: 1 spare cast iron propeller: 1 set of ram bottom rings for H. P. I. & S.C.P. pistons: 2 safety valve springs:

The foregoing is a correct description,

*Chas. Vewast*

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1927 May 17. June 9. July 21. Aug. 3. 17. Sept. 2. Oct. 5. 19. Nov. 3. 7. 15. 21. 34 Dec. 1. 7. 8. 22. Jan. 11 to May 18 1928  
During erection on board vessel --- May 35. June 7. 12. 18. 25. July 2. 3.  
Total No. of visits 36.

Is the approved plan of main boiler forwarded herewith ☒

" " " donkey " " " ☒

Dates of Examination of principal parts—Cylinders 7. 11. 27 Slides 30. 1. 28 Covers 30. 1. 28 Pistons 8. 12. 27 Rods 30. 1. 28  
Connecting rods 11. 1. 28 Crank shaft 7. 11. 27 Thrust shaft 7. 11. 27 Tunnel shafts 27. 3. 28 Screw shaft 26. 3. 28 Propeller 9. 4. 28  
Stern tube 27. 3. 28 Steam pipes tested 30. 5. 28 Engine and boiler seatings 26. 4. 28 Engines holding down bolts 18. 6. 28  
Completion of pumping arrangements 3. 7. 28 Boilers fixed 18. 6. 28 Engines tried under steam 3. 7. 28  
Completion of fitting sea connections 16. 5. 28 Stern tube 16. 5. 28 Screw shaft and propeller 16. 5. 28  
Main boiler safety valves adjusted 2. 7. 28 Thickness of adjusting washers Plate BL { 1 1/2" Port BL { 1 1/2" B.  
Material of Crank shaft steel Identification Mark on Do. 1661 Material of Thrust shaft steel Identification Mark on Do. 1660  
Material of Tunnel shafts steel Identification Marks on Do. 1659 A.B.C. Material of Screw shafts steel Identification Marks on Do. 1658  
Material of Steam Pipes steel Test pressure 660 lbs per sq. in.

Is an installation fitted for burning oil fuel ☒

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 ☒ If so, state name 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 material & workmanship being good and proved satisfactory on steam trial

It is submitted that this vessel will be eligible for a record of + L. M. C. 7. 28 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD.

Take 7.28 CL. F.D.

*E.A.*

16/7/28 *ARK*

The amount of Entry Fee ... £ 4 : -  
Special ... £ 39 : - 9  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
The amount of Special ... £ 25 : - 18

When applied for,

11-7-1928

When received,

19-7-1928

*A. T. Thomas*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUES. 24 JUL 1928

Assigned

*+ J. M. C. 7. 28*

CERTIFICATE WRITTEN.



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