

## REPORT ON MACHINERY

No. 69608

WED. 14 FEB. 1917

Received at London Office

Date of writing Report 10th Feb 1917 When handed in at Local Office 10th Feb 1917 Port of Newcastle on Tyne

No. in Survey held at Farron &amp; Shields Date, First Survey Last Survey 9th Feb 1917

Reg. Book. 25 on the S S Lumina (Number of Vents 5856)

Master Built at Newcastle By whom built Palmers &amp; Co Tons Gross 3732

Engines made at Sunderland By whom made G. Clark &amp; Co when made 1917

Boilers made at do By whom made G. Clark &amp; Co when made 1917

Registered Horse Power Owners H. E. Moss &amp; Co Port belonging to Liverpool

Nom. Horse Power as per Section 28 498 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

MACHINES, &amp;c.—Description of Engines Triple Expansion No. of Cylinders No. of Cranks

Dia. of Cylinders Length of Stroke Revs. per minute Dia. of Screw shaft as per rule as fitted Material of screw shaft

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

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

bearers are fitted, is the shaft lapped or protected between the liners Length of stern bush

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

rollers 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 Sizes of Pumps No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room In Holds, &amp;c. Oil tanks

No. of Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room &amp; size

Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible

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 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

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

Dates of examination of completion of fitting of Sea Connections 15/8/16 of Stern Tube Screw shaft and Propeller

Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door worked from

MILERS, &amp;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 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

Ing. 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 bottom Thickness of plates crown bottom 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 Diameter 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

Diameter 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 Superheater or Steam chest; how connected to boiler Can the superheater be shut off, and the boiler worked

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

Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear



IS A DONKEY BOILER FITTED? *No*  
 SPARE GEAR. State the articles supplied:— *2 top & 2 bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of valves & seats for bilge & fuel pumps & Heiss pumps, assorted bolts & nuts a few bars of iron, one propeller, one propeller shaft, 1 Eccentric Strap, one set of bottom end bushes, one main valve spindle etc.*

The foregoing is a correct description,

Manufacturer.

|   |   |                  |                 |           |
|---|---|------------------|-----------------|-----------|
| Dates of Survey while building  | During progress of work in shops - -                              | 1916             | 1917            |           |
|   | During erection on board vessel - - -                             | Aug. 15, Dec. 12 | Jan. 16, 17, 22 | Feb. 7, 9 |
|   | Total No. of visits   | 7 at Newcastle   |                 |           |
|   | Is the approved plan of main boiler forwarded herewith <i>yes</i> |                  |                 |           |
| " " " donkey " " " <i>yes</i>   |   |                  |                 |           |
| Dates of Examination of principal parts—Cylinders Slides Covers Pistons Rods<br>Connecting rods Crank shaft Thrust shaft Tunnel shafts Screw shaft Propeller<br>Stern tube Steam pipes tested Engine and boiler seatings <i>15/8/16</i> Engines holding down bolts<br>Completion of pumping arrangements <i>9/2/17</i> Boilers fixed Engines tried under steam<br>Main boiler safety valves adjusted Thickness of adjusting washers<br>Material of Crank shaft Identification Mark on Do. Material of Thrust shaft Identification Mark on Do.<br>Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Identification Marks on Do.<br>Material of Steam Pipes Test pressure<br>Is an installation fitted for burning oil fuel Is the flash point of the oil to be used over 150°F.<br>Have the requirements of Section 49 of the Rules been complied with <i>yes</i><br>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. *As recommended by the Surveyor Sunderland the requirements of Section 49 have now been complied with, the Ballast & oil fuel pumping arrangement have been completed and gutter holes 4" x 3" in the Lumber side have been cut. (The furnaces are now fitted for coal burning.) The machinery having been constructed & fitted on board under special survey in my opinion the vessel is now eligible for record: LMC 2.17 (in red) in the register book.*

*Sunderland 1st entry report on machinery, plan of oil fuel suction pipes, Boiler plan & stud mirrors & 2 forging reports now attached.*

|                                |                   |
|--------------------------------|-------------------|
| The amount of Entry Fee ... £  | When applied for, |
| Special ... £                  | 19                |
| Donkey Boiler Fee ... £        | When received,    |
| Travelling Expenses (if any) £ | 19                |

*George Hurdock*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE. 20 FEB. 1917  
 Assigned *+ LMC 2.17*

Date of writing  
 No. in Sur Reg. Book.  
 Supp 25 on  
 Master  
 Engines made  
 Boilers made  
 Registered  
 Nom. Horse  
 ENGINES  
 Dia. of Cylinders  
 Is the screw  
 in the prop  
 between the  
 liners are fi  
 Dia. of Tunnel  
 collars 1/4  
 No. of Feed  
 No. of Bilge  
 No. of Donk  
 In Engine  
 No. of Bilge  
 Are all the bi  
 Are all conn  
 Are they fixe  
 Are they each  
 What pipe  
 Are all Pip  
 Are the Bilg  
 Dates of ex  
 Is the Screw  
 BOILERS  
 Total Heat  
 Working  
 Can each bo  
 each boiler  
 Smallest dist  
 Thickness  
 long. seams  
 Per centages  
 Size of comp  
 Length of p  
 Working pr  
 Pitch of sta  
 Material of  
 Material of  
 Diameter a  
 Thickness  
 Diameter of  
 Pitch acro  
 thickness of  
 Working p  
 separately  
 holes  
 If stiffened  
 Working p