

REPORT ON MACHINERY.

No. 38564.

Received at London Office

WED. 12 MAR. 1919

of writing Report 19 When handed in at Local Office 19 Port of Glasgow
 in Survey held at Glasgow Date, First Survey 4th April 1918 Last Survey 27th Feb 1919
 Book on the S.S. "LAPLACE" (Number of Visits H8)
 Gross Tons }
 Net Tons }
 Built at Dumbarton By whom built A. McMillan & Son (No 468) When built 1919
 Engines made at Glasgow By whom made Rowan & Co (No 676) when made 1919
 Movers made at do. By whom made do. (No 676) when made 1919
 Registered Horse Power 666 Owners (Lampson & Holth.) Port belonging to Liverpool
 Net Horse Power as per Section 28 666 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

GINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 No. of Cylinders 29-47-78 Length of Stroke 54 Revs. per minute 76 Dia. of Screw shaft as per rule 15.8 Material of screw shaft 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
 the propeller boss yes 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 yes If two
 liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 5-6
 Dia. of Tunnel shaft as per rule 14.522 Dia. of Crank shaft journals as per rule 15.248 Dia. of Crank pin 15 3/4 Size of Crank webs 30 1/2 x 10 Dia. of thrust shaft under
 bars 16 Dia. of screw 18-6 Pitch of Screw 18-0 No. of Blades 4 State whether moveable no Total surface 118 ft
 No. of Feed pumps 2 Diameter of ditto 4 1/2 Stroke 27 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 27 Can one be overhauled while the other is at work yes
 No. of Donkey Engines 4 Sizes of Pumps (1) 10 1/2 x 14 x 24 No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room Four of 3 1/2 (2) 9 1/2 x 7 x 18 In Holds, &c. no Two of 3 1/2 no Two of 3 1/2 no Two of 3 1/2
 No. of Bilge Injections 1 sizes 10 Connected to condenser, or to circulating pump 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 no
 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 —
 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 5-12-18 of Stern Tube 5-12-18 Screw shaft and Propeller 5-12-18
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Cylinder Platform

MILLERS, &c.—(Letter for record 3) Manufacturers of Steel W. Beardmore & Co. Ltd. Lamark Street S 60th
 Total Heating Surface of Boilers 10224 Is Forced Draft fitted yes No. and Description of Boilers 4 Single ended
 Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 14-11-18 No. of Certificate 14524
 Can each boiler be worked separately yes Area of fire grate in each boiler 60.5 ft No. and Description of Safety Valves to
 each boiler Two Spring loaded Area of each valve 9.620 Pressure to which they are adjusted 185 lb Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 2-4 Mean dia. of boilers 15-6 Length 11-6 Material of shell plates Steel
 Thickness 1 1/4 Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams no lap
 g. seams T.R.O.B.S. Diameter of rivet holes in long. seams 1 5/16 Pitch of rivets 9 1/8 Lap of plates or width of butt straps 19 1/2
 Percentages of strength of longitudinal joint rivets 88.3 Working pressure of shell by rules 183 Size of manhole in shell 16 x 12
 plate 85.6 No. and Description of Furnaces in each boiler 3 Corrugated Material Steel Outside diameter 50 3/16
 Length of plain part top 19 Thickness of plates crown 19 Description of longitudinal joint weld No. of strengthening rings —
 bottom 3.2 Working pressure of furnace by the rules 188 Combustion chamber plates: Material Steel Thickness: Sides 3/32 Back 1/16 Top 3/32 Bottom 3/32
 Pitch of stays to ditto: Sides 10 5/8 x 9 1/4 Back 10 1/4 x 8 3/4 Top 10 5/8 x 9 1/4 If stays are fitted with nuts or riveted heads no Working pressure by rules 180
 Material of stays Steel Diameter at smallest part 2.340 Area supported by each stay 980 Working pressure by rules 219 End plates in steam space:
 Material Steel Thickness 1 3/16 Pitch of stays 2 1/4 x 20 1/2 How are stays secured no Working pressure by rules 151 Material of stays Steel
 Diameter at smallest part 2.940 Area supported by each stay 4580 Working pressure by rules 187 Material of Front plates at bottom Steel
 Thickness 7/8 Material of Lower back plate Steel Thickness 27 Greatest pitch of stays 13 5/8 x 8 3/4 Working pressure of plate by rules 187
 Diameter of tubes 2 3/4 Pitch of tubes 4 x 3 7/8 Material of tube plates Steel Thickness: Front 3/16 Back 3/4 Mean pitch of stays 9 7/8
 Pitch across wide water spaces 13 5/8 Working pressures by rules 181 Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10 x 7/8 (2) Length as per rule 35 9/16 Distance apart 10 5/8 Number and pitch of stays in each Three 9 1/4
 Working pressure by rules 188 Superheater or Steam chest; how connected to boiler None 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
 plates 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



VERTICAL DONKEY BOILER— Manufacturers of Steel

| | | | | |
|--------------------------------------|--|---------------------------|-------------------------------------|----------------------------------|
| No. | Description | | When made | Where fixed |
| Made at | By whom made | | | |
| Working pressure | tested by hydraulic pressure to | Date of test | No. of Certificate | Fire grate area |
| Valves | No. of Safety Valves | Area of each | Pressure to which they are adjusted | Date of adjustment |
| If fitted with easing gear | If steam from main boilers can enter the donkey boiler | | Dia. of donkey boiler | Length |
| Material of shell plates | Thickness | Range of tensile strength | Descrip. of riveting long. seams | |
| Dia. of rivet holes | Whether punched or drilled | Pitch of rivets | Lap of plating | Per centage of strength of joint |
| Working pressure of shell by rules | Thickness of shell crown plates | Radius of do. | No. of stays to do. | Dia. of stays |
| Diameter of furnace Top | Bottom | Length of furnace | Thickness of furnace plates | Description of joint |
| Working pressure of furnace by rules | Thickness of furnace crown plates | | Radius of do. | Stayed by |
| Diameter of uptake | Thickness of uptake plates | Thickness of water-tubes | Dates of survey | |

SPARE GEAR. State the articles supplied:— 2 5/8" end bolts & nuts, 2 bottom end bolts and nuts, 2 main bearing bolts & nuts, 1 set coupling bolts and nuts, feed and bilge pump valves, Iron, assortment bolts and nuts, Propeller and shaft.

The foregoing is a correct description,

David Rowan & Co Ltd Manufacturer.

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|--------------------------------|-------------------------------------|--|
| Dates of Survey while building | During progress of work in shops -- | 1918 Apr 14. 10. May 2 June 5. 14. 24. 29. Aug 5. 15. 19. Sept 2. 11. 26. Oct. 1. 4. 18. 30. Nov. 4. 5. 8. 11. 13. |
| | During erection on board vessel -- | 18. 19. Dec 3. 4. 5. 11. 12. 13. 16. 18. 24. (1919) Jan 6. 15. 17. 20. 22. 21. 24. Feb 10. 18. 20. 25. 27. |
| | Total No. of visits | 48 |

Is the approved plan of main boiler forwarded herewith **Yes**
 " " " donkey " " " "

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|---|----------|--------------------------------|---|---------------------------|------------------|-----------------------------|----------|----------------------------|----------|
| Dates of Examination of principal parts—Cylinders | 2.9.18 | Slides | 2.9.18 | Covers | 2.9.18 | Pistons | 4.10.18 | Rods | 4.10. |
| Connecting rods | 4.10.18 | Crank shaft | 30.10.18 | Thrust shaft | 3.12.18 | Tunnel shafts | 18.11.18 | Screw shaft | 15.11.18 |
| Propeller | 15.11.18 | Stern tube | 15.11.18 | Steam pipes tested | 26.9.18 21.1.19 | Engine and boiler seatings | 22.1.19 | Engines holding down bolts | 22.1.19 |
| Completion of pumping arrangements | 10.2.19 | Boilers fixed | 15.1.19 | Engines tried under steam | 24.1.19. 20.2.19 | | | | |
| Main boiler safety valves adjusted | 24.1.19 | Thickness of adjusting washers | all 3/8" | | | | | | |
| Material of Crank shaft | Steel | Identification Mark on Do. | 30.10.18 STM | Material of Thrust shaft | Steel | Identification Mark on Do. | 1931 | | |
| Material of Tunnel shafts | Steel | Identification Marks on Do. | 2158-2173-2172-2032-2202-2174-2157-18-11-18 JE. | Material of Screw shafts | Steel | Identification Marks on Do. | 1930 | | |
| Material of Steam Pipes | Iron | Test pressure | 540 lb | | | | | | |

General Remarks (State quality of workmanship, opinions as to class, &c.) The Machinery of this Vessel has been constructed under special survey in accordance with the Rules and approved Plans, and has been seen satisfactorily working under steam. Materials and workmanship are good.

The Machinery is eligible in my opinion to be **Classed LMC 2.19.**

It is submitted that this vessel is eligible for **THE RECORD + LMC 2.19. F.D.**

JWD
13/3/19
JFR

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|------------------------------|----------|-------------------|
| The amount of Entry Fee | £ 3 : 0 | When applied for, |
| Special | £ 53 : 6 | 14-3-1919 |
| Donkey Boiler Fee | £ : | When received, |
| Travelling Expenses (if any) | £ : | 10-3-1919 |

James Aschrope
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute **GLASGOW 11 MAR 1919**

Assigned + LMC 2.19

Certificate (if required) to be sent to Glasgow.

The Surveyors are requested not to write on or below the space for Committee's Minute.

