

# REPORT ON MACHINERY

No. 43690

Received at London Office

WFO. 11 JUN. 1924

Date of writing Report 26<sup>th</sup> May 1924 when handed in at Local Office 26.5.24 Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 25th June 1923 Last Survey 24<sup>th</sup> May 1924  
 Reg. Book. S.S. "D<sup>e</sup> Gordon" (Number of Voids 24)  
 Master G. Brown Built at Greenock By whom built G. Brown N<sup>o</sup> 143 When built 1924  
 Engines made at Glasgow By whom made Ross & Duncan N<sup>o</sup> 1130 when made 1924  
 Boilers made at do By whom made do N<sup>o</sup> 1690 when made 1924  
 Registered Horse Power \_\_\_\_\_ Owners The Ministerio Marinha, Brazil Port belonging to Rio de Janeiro  
 Nom. Horse Power as per Section 28 48 Is Refrigerating Machinery fitted for cargo purposes \_\_\_\_\_ Is Electric Light fitted no

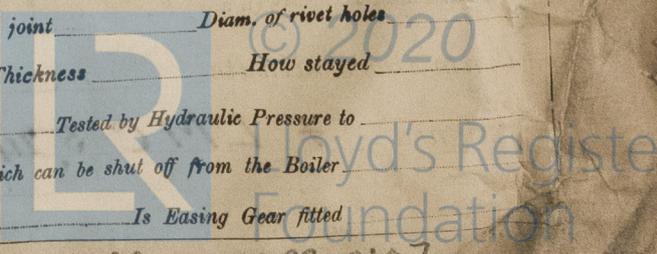
**ENGINES, &c.**—Description of Engines Compound No. of Cylinders 2 No. of Cranks 2  
 Dia. of Cylinders 14 1/2 - 30 Length of Stroke 22 Revs. per minute 120 Dia. of Screw shaft 6 5/8 Material of screw shaft no O.S.  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube 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 26 1/2  
 Dia. of Tunnel shaft 6 1/2 Dia. of Crank shaft journals 6 3/8 Dia. of Crank pin 6 5/8 Size of Crank webs 12 1/2 x 4 3/8 Dia. of thrust shaft under collars 6 1/2 Dia. of screw 7-9 Pitch of Screw 9-6 No. of Blades 4 State whether moveable no Total surface 24 sq  
 No. of Feed pumps 1 Diameter of ditto 2 1/4 Stroke 11 Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 1 Diameter of ditto 2 1/4 Stroke 11 Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 2 Sizes of Pumps F.W.P. Dup 9" x 10" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps \_\_\_\_\_  
 In Engine Room Ann 2 1/2 In Holds, &c. none

No. of Bilge Injections 1 sizes 2 1/2 Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room of size 7 1/2  
 Are all the bilge suction pipes fitted with no Are the no 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 yes  
 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 Fresh water pipes How are they protected wood ceiling  
 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 no Is it fitted with a watertight door yes worked from yes

**BOILERS, &c.**—(Letter for record S.) Manufacturers of Steel D. Colville & Sons  
 Total Heating Surface of Boilers 901 sq Is Forced Draft fitted no No. and Description of Boilers one horizontal  
 Working Pressure 130 Tested by hydraulic pressure to 245 Date of test 22-4-24 No. of Certificate 16488  
 Can each boiler be worked separately yes Area of fire grate in each boiler 29.8 sq No. and Description of Safety Valves to each boiler plain spring loaded Area of each valve 3.97 sq Pressure to which they are adjusted 135 Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 4-9 Mean dia. of boilers 10-0 Length 10-0 Material of shell plates S  
 Thickness 2 1/32 Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R.  
 long. seams D.R. D.B.S. Diameter of rivet holes in long. seams 7/8 Pitch of rivets 4 5/8 Lap of plates or width of butt straps 9 1/8  
 Per centages of strength of longitudinal joint rivets 91.5 Working pressure of shell by rules 131 Size of manhole in shell 16" x 12"  
 Size of compensating ring 30 1/2 x 26 1/2 x 2 1/2 and Description of Furnaces in each boiler 2 plain Material S Outside diameter 37"  
 Length of plain part top 6-3 1/2 bottom 6-1 1/2 Thickness of plates crown 5/8 Description of longitudinal joint weld No. of strengthening rings 1-3 x 2 x 5/8  
 Working pressure of furnace by the rules 142 Combustion chamber plates: Material S Thickness: Sides 9/16 Back 9/16 Top 9/16 Bottom 9/16  
 Pitch of stays to ditto: Sides 9 x 8 3/4 Back 9 1/4 x 8 3/4 Top 9 x 8 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 134  
 Material of stays S Area at smallest part 1.48 sq Area supported by each stay 82 sq Working pressure by rules 154 End plates in steam space: Material S Thickness 3/4 Pitch of stays 16 x 13 How are stays secured D.N.L.W. Working pressure by rules 131 Material of stays S  
 Area at smallest part 3.03 sq Area supported by each stay 208 sq Working pressure by rules 145 Material of Front plates at bottom S  
 Thickness 3/4 Material of Lower back plate S Thickness 3/4 Greatest pitch of stays 18 Working pressure of plate by rules 139  
 Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 3/8 Material of tube plates S Thickness: Front 3/4 Back 5/8 Mean pitch of stays 8 1/2 x 8 3/4  
 Pitch across wide water spaces 13 3/4 Working pressures by rules 133 Girders to Chamber tops: Material S Depth and thickness of girder at centre 6 5/8 x 1 1/4 Length as per rule 28.8 Distance apart 8 1/2 Number and pitch of stays in each 2-9  
 Working pressure by rules 134 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 \_\_\_\_\_

009481-009492-0107



IS A DONKEY BOILER FITTED? **no**

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— **Six condenser tubes, six boiler tubes, one set fire bars for one furnace, one main, & one donkey check valve, and as per Rules.**

The foregoing is a correct description,

Ross & Duncan

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1923 Jun 25 Jul 25 Aug 15 Sep 3 19 Oct 9 Nov 27 28 Dec 10 13 17 20 1924 Mar 36 28 Apr 3 10 14 22 34 29 May  
{ During erection on board vessel - - - } 1-9-24  
Total No. of visits **24**

Is the approved plan of main boiler forwarded herewith **yes**

" " " donkey " " " "

Dates of Examination of principal parts—Cylinders **28-11-23** Slides **3-4-24** Covers **28-11-23** Pistons **3-4-24** Rods **3-4-24**  
Connecting rods **3-4-24** Crank shaft **15-8-23** Thrust shaft **10-4-24** Tunnel shafts **None** Screw shaft **3-4-24** Propeller **3-4-24**  
Stern tube **3-4-24** Steam pipes tested **2-5-24** Engine and boiler seatings **29-4-24** Engines holding down bolts **29-4-24**  
Completion of pumping arrangements **12-5-24** Boilers fixed **29-4-24** Engines tried under steam **24-5-24**  
Completion of fitting sea connections **Grk.** Stern tube **Grk.** Screw shaft and propeller **Grk.**  
Main boiler safety valves adjusted **12-5-24** Thickness of adjusting washers **P 11/32 S 13/32**  
Material of Crank shaft **S** Identification Mark on Do. **HC** Material of Thrust shaft **S** Identification Mark on Do. **HC**  
Material of Tunnel shafts **✓** Identification Marks on Do. **✓** Material of Screw shafts **S** Identification Marks on Do. **HC**  
Material of Steam Pipes **Copper** Test pressure **250 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 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 in accordance with the Society's Rules, requirements, and approved plans, the materials, and workmanship are good, the machinery has been satisfactorily tried under steam, and in my opinion is eligible for the records + L.M.C. 5-24.**

It is submitted that this vessel is eligible for THE RECORD. + LMC 5.24. CL.

*J.W.D.* 16/6/24 *C.M.S.*

**Jas. Cairns,**  
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ **2** : -  
Special ... £ **15** : -  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, **9.6.24**  
When received, **19.6.24**

Committee's Minute **GLASGOW 10 JUN 1924**  
Assigned **+ LMC 5.24**

TUES. 19 AUG 1924

CERTIFICATE WRITTEN 25-6-24



GLASGOW

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