

## 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. "Dr. Gondim"

(Number of Voids 24)

Tons Gross 431 Net 196

Master Built at Greenock By whom built G. Brown N<sup>o</sup> 143 When built 1924Engines made at Glasgow By whom made Ross & Duncan N<sup>o</sup> 1130 when made 1924Boilers 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 as per rule 6.61 as fitted 6 5/8 Material of screw shaft No 0.9.

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 as per rule 6.07 as fitted 6 1/2 Dia. of Crank shaft journals as per rule 6.382 as fitted 6 1/2 Dia. of Crank pin 6 5/8 Size of Crank webs 12 1/2 x 4 1/2 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 2 1/2"

Are all the bilge suction pipes fitted with mudlows Are the mudlows 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 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 None Is it fitted with a watertight door 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 1/2 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 welded 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 Area supported by each stay 82 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 Area supported by each stay 208 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 Jan 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 24 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" S 13"

Material of Crank shaft 8 Identification Mark on Do. HC Material of Thrust shaft 8 Identification Mark on Do. HC

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts 8 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.

JWD 16/6/24 END

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

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

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Foundation