

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

12 SEP 1928

Date of writing Report 23.7.28 When handed in at Local Office 28th September 28 Port of Lisbon  
 No. in Survey held at Lisbon Date, First Survey 6th September 1924 Last Survey 5th September 1928  
 Reg. Book. on the S/S "Bellorodo" (Number of Visits 64) Tons } Gross 4572.52  
 } Net  
 Built at P. Llangow By whom built Llangow Co. Ltd Yard No. 805 When built 1928  
 Engines made at Lisbon By whom made John & Kincaid Co Engine No. 643 when made 1928  
 Boilers made at ditto By whom made ditto Boiler No. 643 when made 1928  
 Registered Horse Power \_\_\_\_\_ Owners Bell Bros Co Port belonging to Llangow  
 Nom. Horse Power as per Rule 441 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
 Trade for which Vessel is intended Foreign

ENGINES, &c.—Description of Engines Triple Expansion Revs. per minute 40  
 Dia. of Cylinders 25"-42"-40" Length of Stroke 48" No. of Cylinders 3 No. of Cranks 3  
 Crank shaft, dia. of journals as per Rule 13.404 Crank pin dia. 13 3/4" Crank webs shrunk Thickness parallel to axis 8 5/8"  
 Intermediate Shafts, diameter as per Rule 13.06 Thrust shaft, diameter at collars as per Rule 13.404 Thickness around eye-hole 6 1/16"  
 Tube Shafts, diameter as per Rule 14.5 Is the tube shaft fitted with a continuous liner Yes  
 Screw Shaft, diameter as per Rule 14 3/4" Thickness between bushes as per Rule 556 Is the after end of the liner made watertight in the  
 propeller boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Yes  
 If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after  
 end of the tube shaft No Length of Bearing in Stern Bush next to and supporting propeller 59"  
 Propeller, dia. 17.6 Pitch 17.9 No. of Blades 4 Material Bronze whether Moveable No Total Developed Surface 100 sq. feet  
 Feed Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 24" Can one be overhauled while the other is at work Yes  
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 24" Can one be overhauled while the other is at work Yes  
 Feed Pumps } No. and size 2 WEIRS 7" x 9 1/2" x 21" } Pumps connected to the } No. and size one 9" x 13" x 10"  
 } How driven one 5" x 3 1/2" x 6" Harbour Pump } Main Bilge Line } How driven Steam  
 Ballast Pumps, No. and size one 9" x 13" x 10" Lubricating Oil Pumps, including Spare Pump, No. and size \_\_\_\_\_  
 Are two independent means arranged for circulating water through the Oil Cooler \_\_\_\_\_  
 Bilge Pumps;—In Engine and Boiler Room 3 2 1/2" usual well 1. 2 1/4"  
 In Holds, &c. 70 1. 2. 3" 70 0. 2. 2. 3 1/4" Deep Tanks 2. 3 1/2" 70 3. 2 3 1/4"

Main Water Circulating Pump Direct Bilge Suctions, No. and size one 4 1/2" Independent Power Pump Direct Suctions to the Engine Room Bilges,  
 No. and size one 4 1/2" Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Yes  
 Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes  
 Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with 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 Overboard Discharges 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 suction How are they protected coning  
 What pipes pass through the deep tanks suction Have they been tested as per Rule Yes  
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes  
 Is the arrangement of Valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one  
 compartment to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from U E R Platforms

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 6486  
 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single Ended Working Pressure 200  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes  
 IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? \_\_\_\_\_  
 PLANS. Are approved plans forwarded herewith for Shafting Yes Main Boilers Yes Auxiliary Boilers \_\_\_\_\_ Donkey Boilers \_\_\_\_\_  
 Superheaters \_\_\_\_\_ General Pumping Arrangements \_\_\_\_\_ Oil fuel Burning Piping Arrangements \_\_\_\_\_

SPARE GEAR. State the articles supplied:—  
2 connecting Rod bolts, nuts for top end  
ditto for bottom end 2 main bearing bolts, one set  
of coupling bolts, one set of feed, Bilge Pump valves,  
1 quantity of assorted bolts, nuts, & more of various sizes

The foregoing is a correct description,  
 FOR JOHN & KINCAID & COY., LIMITED

*Robert Green*  
 Secretary

Manufacturer.



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 Lloyd's Register  
 Foundation

003513-003524-0294

Dates of Survey while building

During progress of work in shops - - (1924) Sept 6-21-23-30 Oct 12-14-19-24-31 Nov 3-10-15-21 Dec 1-5-9-20-23 (1928) Jan 9-16-19-24-24-31 Feb 4-9-16-24  
 Mar 8-14-15-20-22-26-28-30 April 2-4-10-12-14-19-24 May 1-8 July 14-24-25-24-30-31 August 3-6-8-10-15-14-21-21-23  
 29 Sept 3-4-5

During erection on board vessel - - -

Total No. of visits 64.

Dates of Examination of principal parts - Cylinders 24 10 27 Slides 31 - 10 27 Covers 24 10 27  
 Pistons 16 2 28 Piston Rods 16 2 28 Connecting rods 2 4 28  
 Crank shaft 20 12 27 Thrust shaft 4 4 28 Intermediate shafts 14 4 28  
 Tube shaft ✓ Screw shaft 30 3 28 Propeller 25 7 28  
 Stern tube 20 2 28 Engine and boiler seatings 27 7 28 Engines holding down bolts 6 8 28  
 Completion of pumping arrangements 29 8 28 Boilers fixed 6 8 28 Engines tried under steam 3 9 28  
 Main boiler safety valves adjusted 29 8 28 Thickness of adjusting washers P 11/32 S 11/32 P 11/32 S 11/32  
 Crank shaft material S Identification Mark LR 643 WGM Thrust shaft material S Identification Mark LR 2046 WGM  
 Intermediate shafts, material S Identification Marks 2049 2048 864 WGM Tube shaft, material ✓ Identification Mark ✓  
 Screw shaft, material S Identification Mark 2043 LR WGM Steam Pipes, material L WGM Test pressure 600 Date of Test 6.8.28  
 Is an installation fitted for burning oil fuel 910 Is the flash point of the oil to be used over 150°F. ✓  
 Have the requirements of the Rules for carrying and burning oil fuel been complied with ✓  
 Is this machinery duplicate of a previous case 910 If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. These engines & boilers have been built under special survey in accordance with the approved plans & the workmanship & material are of good quality. They are now securely fitted on board, tried under steam & found satisfactory. The machinery is eligible in my opinion for the record of L.M.C. 9.28

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 9.28 F.D.C.

W. Gordon-Maclaine  
 14/9/28  
 ARK

GREENOCK

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

The amount of Entry Fee ... £ 5: - : When applied for,  
 Special ... £ 95: 13: - : 17th SEPTEMBER 1928.  
 Donkey Boiler Fee ... £ ✓ : - : When received,  
 Travelling Expenses (if any) £ ✓ : - : 6th SEPTEMBER 1928.

W. Gordon-Maclaine  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 11 SEP 1928  
 Assigned + L.M.C. 9.28  
 F.D.

