

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 31 MAY 1929

Date of writing Report 19 When handed in at Local Office 30-5-10 29 Port of Belfast  
 No. in Survey held at Belfast Date, First Survey 20 Dec 1928 Last Survey 29 May 1929  
 Reg. Book. (Number of Visits 54)  
 on the Steel twin Sc. SURINAM  
 Built at Belfast By whom built Harland Wolff Ltd. Yard No. 863 Tons Gross Net When built 1929.  
 Engines made at Belfast By whom made Harland Wolff Ltd. Engine No. 863 when made 1929.  
 Boilers made at Belfast By whom made Harland Wolff Ltd. Boiler No. 863 when made 1929.  
 Registered Horse Power Owners Lago Shipping Co. Ltd (A. Veir & Co. Mgrs) Port belonging to London  
 Nom. Horse Power as per Rule 228 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes  
 Trade for which Vessel is intended Ocean-going.

**ENGINES, &c.**—Description of Engines *Inverted triple expansion* Revs. per minute  
 Dia. of Cylinders  $14\frac{1}{2}$ "  $24$ "  $38\frac{1}{2}$ " Length of Stroke 27" No. of Cylinders Six No. of Cranks Six  
 Crank shaft, dia. of journals as per Rule  $7\frac{1}{2}$ " as fitted  $7\frac{3}{4}$ " Crank pin dia.  $7\frac{3}{4}$ " Crank webs Mid. length breadth  $15\frac{1}{2}$ " Thickness parallel to axis 5" Mid. length thickness 5" shrunk Thickness around eye-hole  $3\frac{1}{2}$ "  
 Intermediate Shafts, diameter as per Rule  $7\frac{1}{8}$ " as fitted Thrust shaft, diameter at collars as per Rule  $7\frac{1}{2}$ " as fitted  
 Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule  $8\frac{1}{2}$ " as fitted Is the <sup>tube</sup> screw shaft fitted with a continuous liner No  
 Bronze Liners, thickness in way of bushes as per Rule  $17\frac{1}{2}$ " as fitted  $18\frac{1}{2}$ " Thickness between bushes as per Rule  $16\frac{1}{2}$ " as fitted  $16\frac{1}{2}$ " 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 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 No Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft Yes Vickers Length of Bearing in Stern Bush next to and supporting propeller  $37\frac{3}{4}$ "  
 Propeller, dia.  $9\frac{1}{2}$ " Pitch  $9\frac{1}{2}$ " No. of Blades 4 Material Man. Ganges whether Moveable No Total Developed Surface each 31 sq. feet  
 Feed Pumps worked from the Main Engines, No. 2 Diameter  $2\frac{1}{2}$ " Stroke  $13\frac{1}{2}$ " Can one be overhauled while the other is at work Yes  
 Bilge Pumps worked from the Main Engines, No. 2 Diameter  $2\frac{1}{2}$ " Stroke  $13\frac{1}{2}$ " Can one be overhauled while the other is at work Yes  
 Feed Pumps { No. and size Two Weir's  $8\frac{1}{2}$ " x  $6$ " x  $18$ " Pumps connected to the { No. and size One  $8\frac{1}{2}$ " x  $6$ " x  $18$ " One  $9$ " x  $10$ " x  $24$ "  
 How driven Steam Main Bilge Line How driven Steam  
 Ballast Pumps, No. and size One  $9$ " x  $10$ " x  $24$ " Lubricating Oil Pumps, including Spare Pump, No. and size None  
 Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room One  $2\frac{1}{2}$ " forward One  $3\frac{1}{2}$ " aft (two  $2\frac{1}{2}$ " Cofferdam suction to oil fuel pumps)  
 In Holds, &c. (Forward pump room one  $2$ " suction to hand pumps. One  $2$ " suction to cargo pumps. After Cofferdam one  $2\frac{1}{2}$ " suction to cargo pumps)  
 Cargo Spaces in way of No. 4 Tank Two  $2\frac{1}{2}$ " suction to cargo pumps. After Cofferdam one  $2\frac{1}{2}$ " suction to cargo pumps)  
 Main Water Circulating Pump Direct Bilge Suctions, No. and size two  $5$ " Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One  $4$ " 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 Yes  
 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 pass through the bunkers. None How are they protected  
 What pipes pass through the deep tanks. None 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 none Is it fitted with a watertight door worked from Yes

**MAIN BOILERS, &c.**—(Letter for record 5) Total Heating Surface of Boilers 4360 square feet  
 Is Forced Draft fitted No. No. and Description of Boilers Two S.E. Cylindrical mult? Working Pressure 180 lbs sq. in.  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes  
 IS A DONKEY BOILER FITTED? No. If so, is a report now forwarded? Yes  
 PLANS. Are approved plans forwarded herewith for Shafting 25.1.29 Main Boilers 13.12.28 Auxiliary Boilers Donkey Boilers  
 (If not state date of approval)  
 Superheaters General Pumping Arrangements 15.4.29 Oil fuel Burning Piping Arrangements 15.4.29  
 SPARE GEAR. State the articles supplied:— In excess of rule requirements — see separate list.

The foregoing is a correct description,  
HARLAND AND WOLFF, LIMITED.

*W. Estebbeck*

Manufacturer.



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Lloyd's Register Foundation

1928  
 Dec 20 Jan 1. 4. 5. 7. 14. 18. 22. 23. 24. 25. 31 Feb 1. 5. 6. 7. 8. 9. 11. 13. 14. 15. 20. 22. 28  
 28 Mar 12. 18. 19. 20 Apr 5. 17. 22. 23. 25. 26. 27. 30 May 1. 2. 4. 6. 7. 8. 9. 13. 14  
 15. 17. 21. 22. 25. 27. 29  
 During progress of work in shops - -  
 During erection on board vessel - - -  
 Dates of Survey while building  
 Total No. of visits 54

Dates of Examination of principal parts—Cylinders 7. 5. 29 Slides 19. 4. 29 Covers 7. 5. 29  
 Pistons 19. 4. 29 Piston Rods 8. 5. 29 Connecting rods 8. 5. 29  
 Crank shaft 3. 5. 29 Thrust shaft 6. 5. 29 Intermediate shafts ✓  
 Tube shaft ✓ Screw shaft 6. 5. 29 Propeller 23. 4. 29  
 Stern tube 8. 5. 29 Engine and boiler seatings 8. 5. 29 Engines holding down bolts 23. 5. 29  
 Completion of fitting sea connections 8. 5. 29  
 Completion of pumping arrangements 27. 5. 29 Boilers fixed 23. 5. 29 Engines tried under steam 29. 5. 29  
 Main boiler safety valves adjusted 27. 5. 29 Thickness of adjusting washers Port Boiler P 2 1/2" S 3/4" Star Boiler P + S 3/8"  
 Crank shaft material S. M. Steel Identification Mark 47 R. L. A. Thrust shaft material S. M. Steel Identification Mark 48 R. L. A.  
 Intermediate shafts, material ✓ Identification Marks Tube shaft, material ✓ Identification Mark  
 Screw shaft, material S. M. Steel Identification Mark 48 R. L. A. Steam Pipes, material S. D. Steel Test pressure 540 lbs Date of Test 15. 5. 29  
 Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150°F. Yes  
 Have the requirements of the Rules for carrying and burning oil fuel been complied with Yes  
 Is this machinery duplicate of a previous case Yes If so, state name of vessel "Jamaré" "Ulé"

General Remarks (State quality of workmanship, opinions as to class, &c.)  
 This machinery has been constructed under special survey. The materials and workmanship are sound and good. The main engines and auxiliaries were tried out under steam at a motored trial & at a sea-trial under fully loaded conditions, with satisfactory results. In my opinion the vessel is eligible for notation in the Society's Register Book + L.M.C. 5. 29 Boiler pressure 180 lbs OG. Fitted for oil fuel F.P. above 150°F

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 5. 29. OG.

Fitted for OIL FUEL 5. 29. F.P. above 150°F.

YRM  
 1-6-29  
 JRM  
 ARK

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

The amount of Entry Fee ... £ 4 : - :  
 Special ... £ 57 : - :  
 Donkey Boiler Fee ... £ - : - :  
 Travelling Expenses (if any) £ - : - :  
 When applied for, 30-5-1929  
 When received, 20-6-29 A.B.N.

R. Lee Annes  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI 7 JUN 1929

Assigned + L.M.C. 5. 29 OG. Fitted for Oil Fuel 5. 29 F.P. above 150°F



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