

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Date of writing Report 23. 3. 1929 When handed in at Local Office 23. 3. 1929 Port of MIDDLESBROUGH.  
 No. in Survey held at STOCKTON Date, First Survey 29 Oct/28 Last Survey 20. 3. 1929.  
 Reg. Book. 90936. on the s. "LLANARTH"  
 Built at Sunderland By whom built Barham & Sons. Yard No. 265 Tons Gross Net  
 Engines made at Stockton By whom made Blair & Co (1926) Ltd. Engine No. 1981. When built 1929.  
 Boilers made at s. d. By whom made s. d. Boiler No. 1981 when made 1929.  
 Registered Horse Power Owners Pictou S.S. Co Ltd. Port belonging to London.  
 Nom. Horse Power as per Rule 460.4 Is Refrigerating Machinery fitted for cargo purposes no. Is Electric Light fitted Yes.  
 Trade for which Vessel is intended

ENGINES, &c.—Description of Engines Triple Expansion Revs. per minute 62.  
 Dia. of Cylinders 27" 44½" 73" Length of Stroke 48" No. of Cylinders 3 No. of Cranks 3  
 Crank shaft, dia. of journals as per Rule 13.86" Crank pin dia. 15" Crank webs Mid. length breadth 24.0½" Thickness parallel to axis 9¾"  
 as fitted 14½" Mid. length thickness 9¾" shrunk Thickness around eye-hole 6¾"  
 Intermediate Shafts, diameter as per Rule 13.2" Thrust shaft, diameter at collars as per Rule 13.86"  
 as fitted 14" as fitted 15"  
 Tube Shafts, diameter as per Rule 14.7" Screw Shaft, diameter as per Rule 16½" Is the tube shaft fitted with a continuous liner Yes.  
 as fitted 14" as fitted 16½"  
 Bronze Liners, thickness in way of bushes as per Rule ¾" Thickness between bushes as per Rule ¾" 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.  
 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.  
 If two liners are fitted, is the shaft lapped or protected between the liners. Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft.  
 Propeller, dia. 18' 0" Pitch 18' 0" No. of Blades 4 Material Bronze whether Moveable no Total Developed Surface 102 sq. feet  
 Feed Pumps worked from the Main Engines, No. 2. Diameter 3½" Stroke 34" Can one be overhauled while the other is at work Yes.  
 Bilge Pumps worked from the Main Engines, No. 2. Diameter 5" Stroke 34" Can one be overhauled while the other is at work Yes.  
 Feed Pumps { No. and size 2-7½" x 5½" x 8" MUMFORD DUPLEX Pumps connected to the { No. and size 1-8" x 9" x 8" LAMONT DUPLEX  
 How driven 1-6" x 4" x 6" STEAM. Main Bilge Line How driven STEAM.  
 Ballast Pumps, No. and size 1-10" x 12" x 12" 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 3-3", 1-2½" in Tunnel Well. Suctions, connected to both Main Bilge Pumps and Auxiliary  
 In Holds, &c. No. 1: 2-3"; No. 2: 2-3½"; No. 3: 2-3"; No. 4: 2-3"  
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-8" Independent Power Pump Direct Suctions to the Engine Room Bilges,  
 No. and size 1-4½" 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 pass through the bunkers Forward Bilge Suctions How are they protected Wood casing  
 What pipes pass through the deep tanks 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 E.R. Top Platform

MAIN BOILERS, &c.—(Letter for record s.) Total Heating Surface of Boilers 7917 sq. ft.  
 Is Forced Draft fitted no No. and Description of Boilers 35.0. Working Pressure 180 lbs.  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes.  
 IS A DONKEY BOILER FITTED? Yes. If so, is a report now forwarded? Yes.  
 PLANS. Are approved plans forwarded herewith for Shafting Yes Main Boilers Yes. Auxiliary Boilers Yes. Donkey Boilers Yes.  
 Superheaters General Pumping Arrangements 29.8.28 (T.S.L.A.) Oil fuel Burning Piping Arrangements

SPARE GEAR. State the articles supplied:—As per Rules + 11 tail shaft, 1 propeller, 4 main check valves.  
 4 Donkey check valves, set air pump valves, 2 feed donkey pump valves, 1 impeller, 1 shaft  
 for circulating pump; quantity piston bolts & nuts, gland & cover bolts & nuts, bolts &  
 condenser tubes, condenser ferrules, firebars & furnace don baffles.

The foregoing is a correct description,

For BLAIR & CO. (1926) LIMITED.

SECRETARY.

Manufacturer.



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Lloyd's Register  
Foundation

W57-0085

Dates of Survey while building  
 During progress of work in shops - 1928 Oct 29 Nov 2 7 12 14 20 27 Dec 3 12 17 21 1929 Jan 4 9 14 16 21 28 Feb 4 7 11 14 20 21 25 27 Mar 4 6  
 During erection on board vessel - 8 12 15 18 19 20  
 Total No. of visits 33

Dates of Examination of principal parts—Cylinders 16. 1. 29. Slides 28. 1. 29. Covers 21. 1. 29.  
 Pistons 28. 1. 29. Piston Rods 28. 1. 29. Connecting rods 4. 1. 29.  
 Crank shaft 25. 2. 29. Thrust shaft 21. 2. 29. Intermediate shafts 28. 1. 29.  
 Tube shaft 22. 1. 29. Screw shaft 14. 2. 29. Propeller 7. 2. 29.  
 Stern tube 22. 1. 29. Engine and boiler seatings 4. 3. 29. Engines holding down bolts 8. 3. 29.  
 Completion of fitting sea connections 19. 3. 29.  
 Completion of pumping arrangements 15. 3. 29. Boilers fixed 15. 3. 29. Engines tried under steam 20. 3. 29.  
 Main boiler safety valves adjusted 15. 3. 29. Thickness of adjusting washers Pat 5/16" x 1/2" Centre 1 1/2" P 5/16" Stan 1 1/2" P 5/16".  
 Crank shaft material Steel Identification Mark No 6013 D Thrust shaft material Steel Identification Mark No 6013 D  
 Intermediate shafts, material Steel Identification Marks No 6013 D Tube shaft, material Steel Identification Mark No 6013 D  
 Screw shaft, material Iron Identification Mark No 1116 Steam Pipes, material Copper Test pressure 360 lbs. Date of Test 8. 3. 29  
 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 the Rules for the use of oil as fuel been complied with ✓  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo ✓ If so, have the requirements of the Rules been complied with ✓  
 Is this machinery duplicate of a previous case No. If so, state name of vessel S.S. 'LLANFAIR' Lab. Rpt 13353.

General Remarks (State quality of workmanship, opinions as to class, &c.)  
 The materials and workmanship are good.  
 This machinery has been built and installed under special survey in accordance with the Rules and approved Plans; it has been tested under working conditions with satisfactory results and is, in my opinion, suitable for classification with Reed + L.M.C. 3. 29.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 3. 29. C.L.

Y.Rm 3. 4. 29.

The amount of Entry Fee ... £ 5-0-0 When applied for,  
 Special ... £ 94-0-0 27. 3. 29 19.  
 Donkey Boiler Fee ... £ : : When received,  
 Travelling Expenses (if any) £ : : 2-10-29 19.

Committee's Minute FRI. 5 APR 1929  
 Assigned Thine 3. 29

P. I. Man.  
 Engineer Surveyor to Lloyd's Register of Shipping.