

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 14.10.27 When handed in at Local Office 4th November 1927 Port of Bremer
 No. in Survey held of Bremer Date, First Survey 9th March 1926 Last Survey 4/11/1927
 Reg. Book. on the S/S "Quercus" (Number of Visits 80)
 Built at Greenock By whom built Lithgow & Co. Yard No. 793 When built 1927
 Engines made at Greenock By whom made Rankin & Blackmore Ltd Engine No. 419 when made 1927
 Boilers made at ditto By whom made ditto Boiler No. 419 when made 1927
 Registered Horse Power Owners Arbor Shipping Co Ltd Port belonging to London
 Nom. Horse Power as per Rule 477 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 65
 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 as fitted 13.3/4 Crank pin dia. 13.3/4 Crank webs Mid. length breadth shrunk Thickness parallel to axis 8.3/4 Mid. length thickness Thickness around eye-hole 6.1/8
 Intermediate Shafts, diameter as per Rule 13.05 as fitted 13.1/8 Thrust shaft, diameter at collars as per Rule 13.404 as fitted 13.5/4
 Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 14.52 as fitted 14.3/4 Is the yes screw shaft fitted with a continuous liner Yes
 Bronze Liners, thickness in way of bushes as per Rule 7/16 as fitted 7/16 Thickness between bushes as per Rule 5/16 as fitted 5/16 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 Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft Yes
 Propeller, dia. 41.9 Pitch 18.6 No. of Blades 4 Material C9 whether Movable Yes Total Developed Surface 100 sq. feet
 Feed Pumps worked from the Main Engines, No. 2 Diameter 3.3/4 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 (5.8 Dupl) + (3.3/4 + 6 Dupl) Pumps connected to the Main Bilge Line No. and size one 12x12 Dupl How driven Steam How driven Steam
 Ballast Pumps, No. and size one 12x12 Dupl Lubricating Oil Pumps, including Spare Pump, No. and size —
 Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room Eng R. 3.2 1/2 Boiler Room 2 2 1/2
 In Holds, &c. 2 at 3 No 1 4 at 3 1/4 No 2 2. 3 1/2 No 3 Tunnel Drill 1. 2 1/4

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-6 **Independent Power Pump Direct Suctions to the Engine Room Bilges,** No. and size 1-4 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 stakehold 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 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 Upper Platform

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 6489
 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 Yes 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 connecting bolts
one set of Field Bilge valves, a quantity of worked bolts, nuts, iron of various sizes

The foregoing is a correct description,
 RANKIN & BLACKMORE, LTD.

W. J. Smith Director. Manufacturer.



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 Foundation
 W1359 6648

Dates of Survey while building

During progress of work in shops - - - (1926) Mar. 9. 12. 14. 19. 31. Apr. 4. 11. 24. 30. May 4. 13. 14. 20. 26. June 4. 16. 23. July 21. 28. Aug. 3. 5. 11. 18. 30. Sept. 3. 4. 13. 22. 28. Oct. 11. 20. 24. Nov. 8. 14. 22. 29. Dec. 2. 6. 10. 11. 21. (1927) Jan. 10. 12. 14. 24. Feb. 2. 16. Mar. 3. 22. 30. Apr. 1. 4. 8. 15. 19. 21. May 10. 13. 19. 24. 30. June 8. 23. 25. July 15. 21. 25. 26. Aug. 1. 4. 5. 25. Sept. 15. Oct. 4. 11. 13. 21. 26. Nov. 1. 4.

During erection on board vessel - - -

Total No. of visits 80

Dates of Examination of principal parts—Cylinders 23. 6. 26 Slides 20. 10. 26 Covers 23. 6. 27

Pistons 18. 8. 26 Piston Rods 3. 8. 26 Connecting rods 18. 8. 27

Crank shaft 3. 8. 26 Thrust shaft 24. 1. 27 Intermediate shafts 8. 6. 27

Tube shaft ✓ Screw shaft 21. 7. 27 Propeller 23. 6. 27

Stern tube 6. 4. 27 Engine and boiler seatings 19. 4. 27 Engines holding down bolts 15. 9. 27

Completion of pumping arrangements 4-11-27 Boilers fixed 25. 8. 27 Engines tried under steam 4-11-27

Main boiler safety valves adjusted 1-11-27 Thickness of adjusting washers P 3/8 S 3/8 P 3/8 S 3/8 P 5/16 S 5/16

Crank shaft material \$ Identification Mark LR 419. WGM Thrust shaft material \$ Identification Mark LR 719 WGM

Intermediate shafts, material \$ Identification Marks 1766, 1780, 1728, 7160 7129, 7192, WGM Tube shaft, material ✓ Identification Mark ✓

Screw shaft, material \$ Identification Mark LR 7130 WGM Steam Pipes, material \$ ✓ Test pressure 600 ✓ Date of Test 18. 10. 27

Is an installation fitted for burning oil fuel 9/10 ✓ 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 for ✓ If so, state name of vessel "Ligovale" ✓

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 LMC 11-27

It is submitted that this vessel is eligible for THE RECORD. + LMC 11. 27. FD. CL.

J.W.D.
7/11/27

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

The amount of Entry Fee ... £ 5 : - : When applied for,
Special ... £ 96 : 11. : 7th NOVEMBER 1927.
Donkey Boiler Fee ... £ : : :
Travelling Expenses (if any) £ : : : 8th NOVEMBER 1927.

Committee's Minute GLASGOW 15 NOV 1927

Assigned + L.M.C. 11. 27.

Date of writing
No. in Reg. Book.
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Boilers ma
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(Letter for
Boilers
No. of Cert
safety valve
Are they fit
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L...
rules 20
boiler 34
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Top 10 3/16 + 8
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GREENOCK.
Certificate to be sent to
The Surveyors are requested not to write on or below the space for Committee's Minute.