

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 27 APR 1949

Date of writing Report 12<sup>th</sup> APRIL 1949 When handed in at Local Office 20<sup>th</sup> APRIL 1949 Port of GREENOCK.

No. in Survey held at GREENOCK. Date, First Survey 29<sup>th</sup> DECEMBER 1947. Last Survey 28<sup>th</sup> MARCH 1949.

Reg. Book 91446 on the STEEL SC. "COULGARVE" (Number of Visits 88) Tons {Gross 2946.49 Net 1612.80

Built at PORT GLASGOW. By whom built LITHGOWS, LTD. Yard No. 1049. When built 1949.

Engines made at GREENOCK. By whom made RANKIN & BLACKMORE, LTD. Engine No. 523. When made 1949.

Boilers made at GREENOCK. By whom made RANKIN & BLACKMORE, LTD. Boiler No. 523. When made 1949.

Registered Horse Power Owners DORNOCH SHIPPING CO. LTD. (LAMBERT BROS. LTD. MGRS.) Port belonging to GLASGOW.

Nom. Horse Power as per Rule 427. = MN Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted YES.

Trade for which vessel is intended INTERNATIONAL.

ENGINES, &c.—Description of Engines DOUBLE COMPOUND RECIPROCATING ENGINE - FREDRIKSSTAD TYPE. Revs. per minute 97.

Dia. of Cylinders 2 HP @ 425 MM = 16 3/4" Length of Stroke 330 MM = 13 1/8" No. of Cylinders 4 No. of Cranks 4

Crank shaft, dia. of journals as per Rule APPROVED as fitted 315 MM Crank pin dia. 318 MM Mid. length breadth 518 MM Thickness parallel to axis 198 MM

Intermediate Shafts, diameter as per Rule APPROVED WITH CUT OFF H.P. CYL. NOT LATER THAN 55% OF STROKE. as fitted 11 1/2" Thrust shaft, diameter at collars as per Rule APPROVED as fitted 315 MM

Tube Shafts, diameter as per Rule APPROVED as fitted 1 3/4" Screw Shaft, diameter as per Rule APPROVED as fitted 1 3/4" Is the shaft fitted with a continuous liner YES.

Bronze Liners, thickness in way of bushes as per Rule 22/32 as fitted 3/4" Thickness between bushes as per Rule 32/64 as fitted 3/4" Is the after end of the liner made watertight in the propeller boss 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 at No. If so, state type VAR.

Propeller, dia. 15'-6" Pitch 14'-0" No. of Blades 4 Material MANG. BRONZE whether Moveable No. Total Developed Surface 80 sq. feet

Feed Pumps worked from the Main Engines, No. NONE. Diameter Stroke Can one be overhauled while the other is at work YES.

Bilge Pumps worked from the Main Engines, No. NONE. Diameter Stroke Can one be overhauled while the other is at work YES.

Feed Pumps No. and size 2 @ 6" x 3 1/2" x 18" & 1 @ 8" x 6" x 18" Pumps connected to the Main Bilge Line {No. and size 1 DUPLEX 9" x 11" x 12" - 1 DUPLEX 6" x 6" x 6" - 1 SIMPLEX 7" x 8" x 15"

How driven INDEPENDENT STEAM - INDEPENDENT STEAM How driven INDEPENDENT STEAM - INDEPENDENT STEAM - INDEPENDENT STEAM.

Ballast Pumps, No. and size 1 DUPLEX @ 9" x 11" x 12" Lubricating Oil Pumps, including Spare Pump, No. and size NONE.

Are two independent means arranged for circulating water through the Oil Cooler NONE. Suctions, connected to both Main Bilge Pumps and Auxiliary

Bilge Pumps:—In Engine and Boiler Room 3 @ 3" DIA. (E.R. BILGES) 3 @ 2 1/2" DIA. (OILY BILGES) & 1 @ 2 1/2" (TUNNEL WELL). FW COFFDM. 1 @ 2" DIA. AT 2ND DECK.

In Pump Room NONE In Holds, &c. No. 1 HOLD. 2 @ 3" DIA. No. 2 HOLD. 2 @ 3" DIA. CROSS BUNKER. 2 @ 2 1/2" DIA. - No. 4 HOLD. 2 @ 3" DIA. - No. 5 HOLD. 2 @ 3" DIA.

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 8" DIA. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 4 1/2" DIA.

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 OR ON FABRICATED STEEL BOXES. Are they fitted with Valves or Cocks YES - 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 ALL ABOVE - EXCEPT MAIN DISCHARGE BELOW

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 YES.

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 YES. Is it fitted with a watertight door YES worked from UPPER DECK.

MAIN BOILERS, &c.—(Letter for record (S)) Total Heating Surface of Boilers 4912 sq. ft. + 2240 sq. ft. = 7152 Total

Which Boilers are fitted with Forced Draft BOTH (P & S). Which Boilers are fitted with Superheaters BOTH (P & S).

No. and Description of Boilers 2 SINGLE ENDED MULTITUBULAR CYLINDRICAL. Working Pressure 220 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.

Can the donkey boiler be used for domestic purposes only CRANK SHAFT. YES APD 16.6.48

PLANS. Are approved plans forwarded herewith for Shafting YES APD 16.6.48 Main Boilers YES APD 8.3.48 Auxiliary Boilers YES Donkey Boilers YES

(If not state date of approval) Superheaters MANCHESTER CERTS. C.6757 & 8. General Pumping Arrangements YES APD 6.8.48 Oil fuel Burning Piping Arrangements YES APD 18.8.48.

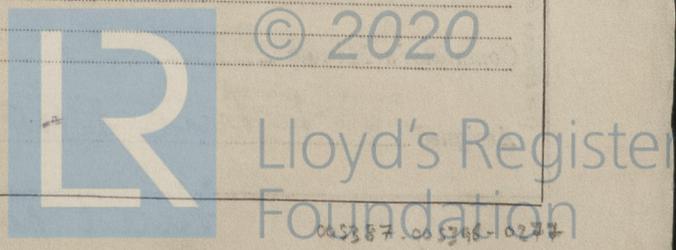
SPARE GEAR.

Is the spare gear required by the Rules been supplied YES.

What is the principal additional spare gear supplied PLEASE REFER TO LIST ATTACHED HERETO.

The foregoing is a correct description.

RANKIN & BLACKMORE, LTD., James Rankin MANAGING DIRECTOR, Manufacturer.



Dates of Survey while building

During progress of work in shops - - (1947) DEC. 29 (1948) JAN. 15 FEB. 9. 13. 20. MAR. 2. 22. APR. 13. MAY 11. 21. JUNE 17. 26. 30. JULY 20. 23. 26. 28. AUG. 2. 18. 24. 31. SEPT. 1. 9. 16. 17. 18. 20. 23. 25. 29. OCT. 11. 12. 14. 18. 19. 20. 22. 25. 26. 27. NOV. 4. 9. 10. 18. 24. DEC. 1. 2. 8. 10. 13. 14. 23. 24. 28.

During erection on board vessel - - - (1949) JAN. 4. 11. 12. 14. 23. FEB. 2. 3. 8. 10. 11. 15. 16. 18. 21. 24. 26. 28. MAR. 1. 2. 4. 7. 9. 11. 12. 14. 18. 21. 22. 23. 24. 25. 28.

Total No. of visits 88.

Dates of Examination of principal parts - Cylinders 26.6.48 & 30.6.48. Slides 10.9.48. Covers 25/30.6.48.

Pistons 10.9.48. Piston Rods 11.10.48. Connecting rods 11.10.48.

Crank shaft 29.9.48. Thrust shaft 23.12.48. Intermediate shafts 2.12.48.

Tube shaft ✓ Screw shaft (S) 18.11.48 (W) 1.12.48. Propeller 18.11.48.

Stern tube 14.12.48 & 14.10.48. Engine and boiler seatings 14.12.48. Engines holding down bolts 7.3.49.

Completion of fitting sea connections 14.12.48

Completion of pumping arrangements 22/28.3.49. Boilers fixed 24.2.49. Engines tried under steam 23/28.3.49 SEA TRIALS.

Main boiler safety valves adjusted 21.3.49. Thickness of adjusting washers PB. PV = 11/32. SV = 11/32. SB. PV = 25/64. SV = 3/8.

Crank shaft material OPEN HEARTH INGOT STEEL. Identification Mark LR.17313. 26.8.48.HAI. 29.9.48.OJT. Thrust shaft material O.H.I. STEEL. Identification Mark LR.17313. 27.10.48.HAI. 23.12.48.OJT.

Intermediate shafts, material O.H.I. STEEL. Identification Marks LR.17313. 2.12.48.OJT. Tube shaft, material ✓ Identification Mark ✓ 11.1.49-26.2.4

Screw shaft, material O.H.I. STEEL. Identification Mark (S) 18.11.48.OJT (W) 1.12.48.OJT. Steam Pipes, material H.F. SEAMLESS STEEL. Test pressure 660 lbs/sq. in. Date of Test 9.11.12/3.49.

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 the use of oil as fuel been complied with YES.

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo No. If so, have the requirements of the Rules been complied with ✓

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with No.

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 Engines & Boilers herein described have been built under Special Survey in accordance with the Rules & the Approved Plans, & have been securely & efficiently installed in the vessel, tested under full working conditions on sea trials & found satisfactory.

The materials as far as could be determined are sound & free from visible defects & the workmanship is good.

The Machinery, boilers & screw shaft are eligible in my opinion to be classed in the Register Book with records & notation \*L.M.C. 3.49. 2 SB(SPT) F.D. 220 lbs/sq. in. CL. Fitted for Oil Fuel 3.49. F.P. above 150° F.

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

MN = 427	The amount of Entry Fee	£ 153. 2. 0.	When applied for, 22 <sup>ND</sup> APR 1949
Special	£ :	When received, 19	
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

*J. Frechman*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 26 APR 1949

Assigned - L.M.C. 3.49

Fitted for oil fuel 3.49 F.P. above 150° F.

