

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

NOV -8 1940

Date of writing Report 30<sup>th</sup> Oct. 1940. When handed in at Local Office 2<sup>nd</sup> Nov. 1940. Port of Greenock

No. in Survey held at Greenock Date, First Survey 11<sup>th</sup> Dec. 1939. Last Survey 28<sup>th</sup> Oct. 1940.  
 Reg. Book. on the AIRCREST. (Number of Visits 46.)

Tons { Gross 5237  
 Net 3076

Built at Port Glasgow By whom built Messrs Lithgows Ltd Yard No. 936 When built 1940

Engines made at Greenock By whom made Messrs Rankin & Blackmore Ltd Engine No. 470 When made 1940

Boilers made at Greenock By whom made Messrs Rankin & Blackmore Ltd Boiler No. 470 When made 1940

Registered Horse Power 436 Owners Crest Shipping Co. Ltd. Port belonging to London

Nom. Horse Power as per Rule 436 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.

Dia. of Cylinders 23 1/2 - 37 1/2 - 68 Length of Stroke 48 No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule 13 3/4 Crank pin dia. 13 3/4 Crank webs Mid. length breadth 8 3/4 Thickness parallel to axis 8 3/4

Intermediate Shafts, diameter as per Rule 13 Thrust shaft, diameter at collars as per Rule 13 3/4 Thickness around eye-hole 6 1/8

Tube Shafts, diameter as per Rule 14 5/8 Is the tube shaft fitted with a continuous liner Yes

Screw Shaft, diameter as per Rule 14 3/4 Is the screw shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 3/4 Thickness between bushes as per Rule 5/8 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 No. If so, state type Oil Gland

Length of Bearing in Stern Bush next to and supporting propeller 59 1/2

Propeller, dia. 18 1/2 Pitch 17 3/4 No. of Blades 4 Material C.I. whether Moveable No. Total Developed Surface 108 sq. feet

Feed Pumps worked from the Main Engines, No. Two Diameter 4 Stroke 24 Can one be overhauled while the other is at work Yes

Bilge Pumps worked from the Main Engines, No. Two Diameter 4 Stroke 24 Can one be overhauled while the other is at work Yes

Feed Pumps { No. and size 1 @ 8" x 8", 1 @ 6" x 4" x 6", 1 @ 9 1/2" x 2 1/2" (Twin) Pumps connected to the { No. and size One 10" x 12" x 12"

How driven Steam Main Bilge Line How driven Steam

Ballast Pumps, No. and size One 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 Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 3 - 2 3/4" diam.

In Pump Room 1 @ 2" Tunnel for End. 1 @ 2" N° 3. 2 @ 3" N° 4. 2 @ 3" Tunnel Well. 1 @ 2 1/2"

Main Water Circulating Pump Direct Bilge Suctions, No. and size One - 4 3/4" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size One - 4 3/4"

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 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 Main below others 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 — How are they protected —

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 No. worked from Access door to trunk above Upper Deck.

**MAIN BOILERS, &c.**—(Letter for record 5) Total Heating Surface of Boilers 5830 sq. ft.

Which Boilers are fitted with Forced Draft Both main Which Boilers are fitted with Superheaters Main

No. and Description of Boilers 2 S.E. "SCOTCH" 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? —

Can the donkey boiler be used for domestic purposes only —

**PLANS.** Are approved plans forwarded herewith for Shafting Yes Main Boilers Yes Auxiliary Boilers — Donkey Boilers —

(If not state date of approval)

Superheaters Yes General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements —

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied —

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

*H. J. Smith*

Managing Director.

Manufacturer.



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Lloyd's Register  
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Rpt. 5a  
Date of writ  
No. in Reg. Book.  
Master  
Engines m  
Boilers m  
Nominal B  
MULTI  
Manufact  
Total Hea  
No. and I  
Tested by  
Area of I  
Area of e  
In case of  
Smallest  
Smallest  
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(1939) DEC. 11. 14. 19. (1940) JAN. 22. 30. FEB. 16. 20. 23. MAR. 4. 26. 28. APR. 3. 9. 11. 18. 22. 24. 26. 30. MAY 4. 10.  
During progress of work in shops - - - 13. 14. 16. 20. 22. 24. 28. JUNE 3. 5. 4. 10. 12. 14. 18. 20. 21. 26. 28. JULY 1. 3. 8. 9. 10. 15. 16. 18. 19. 22. 23. 25. 26.  
Dates of Survey while building During erection on board vessel - - - AUG. 6. 7. 12. 14. 20. 30. SEPT. 6. 12. 16. 17. 24. 26. 27. 30. OCT. 1. 4. 9. 11. 14. 15. 16. 18. 25. 28.  
Total No. of visits 46.

Dates of Examination of principal parts—Cylinders 20/6/40 Slides 25/7/40 Covers 7/8/40  
Pistons 25/7/40 Piston Rods 14/8/40 Connecting rods 3/7/40  
Crank shaft 21/6/40 Thrust shaft 12/8/40 Intermediate shafts 2-24/7/40. 5-12/8/40  
Tube shaft / Screw shaft 18/7/40 Propeller 18/7/40  
Stern tube 15/7/40 Engine and boiler seatings 6/8/40 Engines holding down bolts 14/10/40  
Completion of fitting sea connections 22/7/40  
Completion of pumping arrangements 25/10/40 Boilers fixed 20/8/40 Engines tried under steam 28/10/40  
Main boiler safety valves adjusted 18/10/40 Thickness of adjusting washers Port. 5 11/32" Stand. 5 5/16" No. 9258  
Crank shaft material Steel Identification Mark MC. 21/6/40 Thrust shaft material Steel Identification Mark MC. 12/8/40  
Intermediate shafts, material Steel Identification Marks No. 9258 MC. 24/7/40. 12/8/40 Tube shaft, material / Identification Mark /  
Screw shaft, material Steel Identification Mark MC. 18/7/40 Steam Pipes, material S.D. Steel Test pressure 660/lb. Date of Test 1/10/40  
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 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 /  
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.) These engines and boilers have been built under Special Survey in accordance with the approved plans. The materials and workmanship are good. They have been securely fitted in the Vessel, tried under steam and found satisfactory.  
The machinery is eligible, in my opinion, for the Record of.  
+ L.M.C. 10.40 T.S. C.L. and the Notation 2.S.B. (Spf).

The amount of Entry Fee ... £ 5 : 0 : When applied for,  
Special ... £ 90 : 8 : 2<sup>nd</sup> Nov. 1940.  
Donkey Boiler Fee ... £ : : When received,  
Travelling Expenses (if any) £ : : 9. 11. 1940

Committee's Minute GLASGOW 15 NOV 1940

Assigned -/- dmc 10.40

M. Caldwell  
Engineer Surveyor to Lloyd's Register of Shipping.



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