

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 19 When handed in at Local Office 27. 8. 1938 Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 28. 9. 37 Last Survey 18-8-1938  
 Req. Book on the new steel S/S "SCIENTIST" (Number of Visits 80) Gross Tons 6199  
 Net Tons 3794  
 Built at Port Glasgow By whom built Lithgows Ltd Yard No. 911 When built 1938  
 Engines made at Glasgow By whom made Daine Rowan & Co Ltd Engine No. 1023 When made 1938  
 Boilers made at Glasgow By whom made Daine Rowan & Co Ltd Boiler No. 1023 When made 1938  
 Registered Horse Power Owners T & J Harrison Port belonging to Liverpool  
 Nom. Horse Power as per Rule 867 (including exhaust tank) 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 with Bauer Wash exhaust tank geared and vulcan clutch Revs. per minute 85  
 Dia. of Cylinders 29-47-81 Length of Stroke 54" No. of Cylinders 3 No. of Cranks 3  
 Crank shaft, dia. of journals as per Rule 16.117" as fitted 16 1/4" Crank pin dia. 16 1/4" Mid. length breadth 26" Thickness parallel to axis 10 3/4"  
 Crank webs as fitted 16 1/4" Mid. length thickness 10 3/4" shrunk Thickness around eye-hole 7 3/4"  
 Intermediate Shafts, diameter as per Rule 15.62" as fitted 15 3/4" Thrust shaft, diameter at collars as per Rule 16.117" as fitted 4.25 m/m (16.7326")  
 Tube Shafts, diameter as per Rule 17.161" as fitted 17 1/4" Is the tube shaft fitted with a continuous liner yes  
 Screw Shaft, diameter as per Rule 17.161" as fitted 17 1/4" Is the screw shaft fitted with a continuous liner yes  
 Bronze Liners, thickness in way of bushes as per Rule 8.25" as fitted 7/8" Thickness between bushes as per Rule 6.18" as fitted 3/4" 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 no  
 Propeller, dia. 18-6" Pitch 20-0" No. of Blades 4 Material C.I. 300 whether Moveable yes Length of Bearing in Stern Bush next to and supporting propeller 6-0"  
 Total Developed Surface 125 sq. feet  
 Feed Pumps worked from the Main Engines, No. none Diameter - Stroke - Can one be overhauled while the other is at work no  
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 5 1/2" Stroke 24" Can one be overhauled while the other is at work yes  
 Feed Pumps { No. and size 2 @ 12-9x24" Pumps connected to the { No. and size Ballast pump & General service - 1 @  
 How driven steam Main Bilge Line { How driven steam 12-9x24 & 1 @  
 Ballast Pumps, No. and size 1 @ 10 1/2-13x24" Lubricating Oil Pumps, including Spare Pump, No. and size 1 @ 12-9x24"  
 Are two independent means arranged for circulating water through the Oil Cooler no Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 2 @ 3 1/2" in engine room. 2 @ 3" in stokehold  
 In Pump Room In Holds, &c. N°1 hold - 2 @ 3 1/2". N°2 hold - 2 @ 3 1/2". N°3 hold - 2 @ 3 1/2".  
Deep tank - 2 @ 3 1/2". Thrust recess - 2 @ 2". N°5 hold - 2 @ 3 1/2". N°6 hold well - 1 @ 3".  
 Main Water Circulating Pump Direct Bilge Suctions, No. and size one @ 14" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size one @ 5"  
 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 both  
 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 hold suction How are they protected under timber boards  
 What pipes pass through the deep tanks none Have they been tested as per Rule no  
 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 top platform

**MAIN BOILERS, &c.**—(Letter for record Y) Total Heating Surface of Boilers 13205 sq. ft.  
 Is Forced Draft fitted no No. and Description of Boilers 2 DB & 1 SB Working Pressure 215 lb  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes  
 IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? no  
 Is the donkey boiler intended to be used for domestic purposes only no  
 PLANS. Are approved plans forwarded herewith for Shafting no Main Boilers yes Auxiliary Boilers no Donkey Boilers no  
 Superheaters no General Pumping Arrangements no Oil fuel Burning Piping Arrangements no

### SPARE GEAR.

Has the spare gear required by the Rules been supplied yes  
 State the principal additional spare gear supplied one propeller shaft, one propeller boss, three cast iron and one bronze propeller blades, two valve spindles, one Thomson coupling.

The foregoing is a correct description,  
 For David Rowan & Co. Ltd  
 Archd. H. Grierson Manufacturer.



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Lloyd's Register Foundation

W77-0011

1937 Sep: 28 Oct: 8 Nov: 16 Dec: 9. 24. 29 (1938) Jan: 14. 27 Feb: 7. 14. 18. 23. 25  
 During progress of work in shops -- Mar: 2. 7. 8. 18. 21. 22. 23. 25. 28. 30. 31 Apr: 1. 5. 6. 7. 8. 12. 13. 15. 19. 25. 27. 28 May  
 Dates of Survey while building During erection on board vessel --- 2. 3. 4. 5. 9. 11. 12. 13. 16. 17. 18. 20. 21. 24. 27. 30. 31 June: 2. 3. 4. 6. 7. 8. 10. 13. 15. 16. 17. 20. 2  
 27. 29. 30 July: 1. 4. 5. 6. 8. 11. 12 Aug: 9. 10. 12. 18  
 Total No. of visits 80

Dates of Examination of principal parts—Cylinders 12-4-38 Slides 18-5-38 Covers 18-3-38  
 Pistons 28-4-38 Piston Rods 16-5-38 Connecting rods 27-4-38  
 Crank shaft 15-4-38 Thrust shaft 7-4-38 <sup>see Baines Wash</sup> <sup>turb Rpt (No 59888)</sup> Intermediate shafts 30-5-38  
 Tube shaft — Screw shaft 20-5-38 Propeller 16-5-38  
 Stern tube 24-5-38 Engine and boiler seatings ENK Engines holding down bolts 12-7-38  
 Completion of fitting sea connections ENK  
 Completion of pumping arrangements 9-8-38 Boilers fixed 12-7-38 Engines tried under steam 18-8-38  
 Main boiler safety valves adjusted 9-8-38 Thickness of adjusting washers PORT DE. STAR DE. FORD SE.  
 Crank shaft material J. Steel Identification Mark \* LLOYDS No 7755 Thrust shaft material J. Steel Identification Mark \* LLOYDS No 17 GA  
 Intermediate shafts, material J. Steel Identification Marks \* LLOYDS No 7755 Tube shaft, material — Identification Mark —  
 Screw shafts material J. Steel Identification Marks \* LLOYDS No 59888 & 26004 LCO 30-5-38 Steam Pipes, material Steel Test pressure 645 Date of Test  
 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.)

\* In addition to these marks each shaft is stamped with its original forge numbers as per forging reports herewith.  
 Walschaert Valve gear is fitted to all three cylinders.

The materials and workmanship are good  
 The machinery has been constructed under Special Survey satisfactorily fitted in the vessel tried under steam and found good.  
 It is eligible in my opinion for classification and the record + LMC 8, 38 also notation "LP turbine with DR gearing & hydraulic coupling".

For particulars of L.P. turbine see Gls Rpt No. 59888.

Job  
 24/8/38

The amount of Entry Fee ... £ 6 : - : When applied for,  
 Special (721..NHP).. £ III : II : 25-8-1938  
 Donkey Boiler Fee ... £ : : When received,  
 Travelling Expenses (if any) £ : : 1/9/38  
 Committee's Minute GLASGOW 30 AUG 1938

*S. H. Davis*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Assigned + due 8.38

