

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 10 FEB 1937

Date of writing Report 10 1937 When handed in at Local Office 10 1937 Port of Glasgow  
 No. in Survey held at Reg. Book. Date, First Survey 24. 4. 36 Last Survey 27-1-1937  
 (Number of Visits 77) Gross 5205 Tons Net 3126  
 on the new steel S/S "DARLENY"  
 Built at Port Glasgow By whom built Wm Hamilton & Co Ltd Yard No. 427 When built 1937  
 Engines made at Glasgow By whom made David Rowan & Co Ltd Engine No. 1001 When made 1937  
 Boilers made at Glasgow By whom made David Rowan & Co Ltd Boiler No. 1001 When made 1937  
 Registered Horse Power 422 Owners Douglas & Ramsey Port belonging to Glasgow  
 Nom. Horse Power as per Rule 422 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes  
 Trade for which Vessel is intended 455 For R.B.

**ENGINES, &c.**—Description of Engines Triple expansion Revs. per minute  
 Dia. of Cylinders 22-36-65 Length of Stroke 48" No. of Cylinders 3 No. of Cranks 3  
 Crank shaft, dia. of journals as per Rule 13.083 Crank pin dia. 13 1/2" Crank webs Mid. length breadth 20 1/2" Thickness parallel to axis 8 5/8"  
 as fitted 13 1/2" Mid. length thickness 8 5/8" shrunk Thickness around eye-hole 6 3/8"  
 Intermediate Shafts, diameter as per Rule 12.46 Thrust shaft, diameter at collars as per Rule 13.083  
 as fitted 12 3/4" as fitted 13 1/2" Michell  
 Tube Shafts, diameter as per Rule 14 Screw Shaft, diameter as per Rule 14 1/2" Is the {tube screw} shaft fitted with a continuous liner { yes }  
 as fitted 12 3/4" as fitted 14 1/2"  
 Bronze Liners, thickness in way of bushes as per Rule .126 Thickness between bushes as per Rule .54 Is the after end of the liner made watertight in the  
 as fitted 3/4" as fitted 1/16" 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 yes  
 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 yes  
 shaft no If so, state type - Length of Bearing in Stern Bush next to and supporting propeller 4-10"  
 Propeller, dia. 18-6 Pitch 19-6 No. of Blades 4 Material Bronze whether Moveable no Total Developed Surface 110 sq. feet  
 Feed Pumps worked from the Main Engines, No. 1 Diameter 4 1/2" Stroke 27" Can one be overhauled while the other is at work -  
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4 1/2" Stroke 27" Can one be overhauled while the other is at work yes  
 Feed Pumps { No. and size one @ 9 1/2" - 7 x 21" Pumps connected to the { No. and size Ballast pump  
 How driven steam Main Bilge Line { How driven steam  
 Ballast Pumps, No. and size one @ 10 & 12 x 12 Lubricating Oil Pumps, including Spare Pump, No. and size none  
 Are two independent means arranged for circulating water through the Oil Cooler - Suctions, connected to both Main Bilge Pumps and Auxiliary  
 Bilge Pumps;—In Engine and Boiler Room 3 @ 2 3/4"  
 In Pump Room - In Holds, &c. N°1 hold - 2 @ 3 1/2". N°2 hold & N°3 hold combined - 2 @ 3 3/4"  
N°4 hold - 4 @ 3 1/4". N°5 hold - 4 @ 3 1/4". Tunnel well - 1 @ 2 1/2". All fitted at Eye.  
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 10" Independent Power Pump Direct Suctions to the Engine Room Bilges,  
 No. and size 1 @ 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 stakehold 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 limber boards  
 What pipes pass through the deep tanks no 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 deck

**MAIN BOILERS, &c.**—(Letter for record (S) ) Total Heating Surface of Boilers 6140 sq ft  
 Is Forced Draft fitted yes (M.B. only) and Description of Boilers 2 S.B. & 1 aux Working Pressure 220  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes  
 IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? -  
 Is the donkey boiler intended to be used for domestic purposes only -

**PLANS.** Are approved plans forwarded herewith for Shafting no Main Boilers yes Auxiliary Boilers yes Donkey Boilers -  
 (If not state date of approval)  
 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 screw shaft and one propeller.

11/2/37  
 The foregoing is a correct description,  
For David Rowan & Co. Ltd  
Arch. W. Grierson Manufacturer.



1936 Apr.: 24. 29 May.: 8. 13. 21. 27. 29 June.: 2. 5. 17. 23. 29 July.: 6. 14 Aug.: 5. 7. 12.  
 During progress of work in shops --- 13. 17. 18. 19. 24. 26. 27 Sep.: 1. 4. 8. 10. 11. 14. 18. 23. 24. 30 Oct.: 1. 5. 6. 8. 12. 14. 16. 19. 20  
 21. 22. 28. 29. 30 Nov.: 2. 4. 5. 6. 11. 12. 18. 20. 30 Dec.: 2. 4. 7. 8. 11. 14. 15. 17. 21. 22. 26. 30. 31  
 During erection on board vessel --- 1937 Jan.: 8. 9. 11. 19. 20. 25. 27  
 Total No. of visits 77

Dates of Examination of principal parts—Cylinders 5-10-36 Slides 2-11-36 Covers 30-9-36  
 Pistons 24-8-36 Piston Rods 29-10-36 Connecting rods 11-9-36  
 Crank shaft 8-9-36 Thrust shaft 18-9-36 Intermediate shafts 14-9-36  
 Tube shaft — Screw shaft 22-10-36 29-10-36 Propeller 16-10-36 29-10-36  
 Stern tube 30-11-36 Engine and boiler seatings ENR Engines holding down bolts 30-12-36  
 Completion of fitting sea connections ENR  
 Completion of pumping arrangements 19-1-37 Boilers fixed 30-12-36 Engines tried under steam 27-1-37  
 Main boiler safety valves adjusted 19-1-37 Thickness of adjusting washers main boiler—all 5/16" any boiler both 11/32"  
 Crank shaft material J. Steel Identification Mark \* LLOYD'S NO 6184 P.F. 8-9-36 Thrust shaft material J. Steel Identification Mark \* LLOYD'S NO 6184 L.C.D. 18-9-36  
 Intermediate shafts, material J. Steel Identification Marks \* LLOYD'S NO 6184 L.C.D. 14-9-36 Tube shaft, material — Identification Mark —  
 Screw shafts material J. Steel Identification Mark \* LLOYD'S NO 6184 L.C.D. 22-10-36 W 29-10-36 S Steam Pipes, material Steel Test pressure 660 Date of Test 30-10-36  
 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.)  
 \* Each forging is stamped with its original number as per forging reports hereunto - in addition to the marks shown above.  
 The machinery is fitted with a Rowan Götavaken Turbo Compressor (T.C. 61) for particular of turbo compressor see separate report on form 10, copy hereunto.  
 The following data was obtained during the trial trip.

	HP Exhaust press <sup>o</sup>	HP Exhaust Temp	MP Steam press <sup>o</sup>	MP Steam Temp	LP Steam press <sup>o</sup>	Condens. Vac	Revs
Without Turbo compressor	55 lbs	293°	55 lbs	293°	12 lbs	28.75"	64
With Turbo compressor in action	48 lbs	285°	82 lbs	355°	16 lbs	28.75"	71

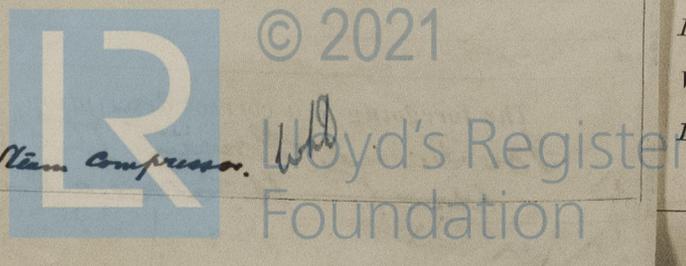
The materials and workmanship are good.  
 The machinery has been constructed under Special Survey. It is eligible in my opinion for classification with Record + LMC 1,37 and notation "Exhaust turbine driving Steam compressor".

The amount of Entry Fee ... £ 5 :  
 Special ... £ 88 : 6 :  
 Donkey Boiler Fee ... £ :  
 Travelling Expenses (if any) £ :  
 When applied for, 9-FEB 1937  
 When received, 13-2 37 15/2

Schwan's  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 9-FEB 1937

Assigned + L.M.C. 1,37 Exhaust Turbine driving Steam Compressor.



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