

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office OCT 10 1940

Date of writing Report 19 10 When handed in at Local Office 7.10.1940 Port of GLASGOW  
 No. in Survey held at Glasgow Date, First Survey 4th July 1940 Last Survey 27th Sept. 1940  
 Reg. Book. 87256 on the S/S "BENALBANACH" (Number of Visits 78) Tons } Gross 7200  
 } Net  
 Built at Glasgow By whom built Chas. Connell & Co. Ltd. Yard No. 429 When built 1940  
 Engines made at -do- By whom made David Rowan & Co. Ltd. Engine No. 1042 when made 1940  
 Boilers made at -do- By whom made -do- Boiler No. 1042 when made 1940  
 Registered Horse Power - Owners Ben Line Steamers, Ltd. Port belonging to Leith  
 Nom. Horse Power as per Rule 700 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
 Trade for which Vessel is intended -

**ENGINES, &c.**—Description of Engines Quadruple expansion Revs. per minute  
 Dia. of Cylinders 27 1/2"-38"-54"-77" Length of Stroke 51" No. of Cylinders 4 No. of Cranks 4  
 Crank shaft, dia. of journals as per Rule 15.383" as fitted 15 3/4" Crank pin dia. 15 3/4" Crank webs Mid. length breadth 2'-1" Thickness parallel to axis 10 1/2"  
 as fitted 15 3/4" Crank webs Mid. length thickness 10 1/2" shrunk Thickness around eye-hole 7 1/2"  
 Intermediate Shafts, diameter as per Rule 14.65" as fitted 14 7/8" Thrust shaft, diameter at collars as per Rule 15.383" as fitted 15 3/4"  
 Tube Shafts, diameter as per Rule - as fitted - Screw Shaft, diameter as per Rule 16.15" as fitted 16 7/8" Is the tube shaft fitted with a continuous liner Yes  
 as fitted - as fitted 16 7/8" Is the screw shaft fitted with a continuous liner Yes  
 Bronze Liners, thickness in way of bushes as per Rule .793" as fitted 13/16" Thickness between bushes as per Rule .595" 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 -  
 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 shaft No If so, state type - Length of Bearing in Stern Bush next to and supporting propeller 5'-8"  
 Propeller, dia. 18'-0" Pitch 18'-0" No. of Blades 4 Material Brass whether Moveable No Total Developed Surface 114 sq. feet  
 Feed Pumps worked from the Main Engines, No. 2 Diameter 4 1/4" Stroke 27" Can one be overhauled while the other is at work Yes  
 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 @ 12"-9" x 24" Pumps connected to the Main Bilge Line { No. and size Balanced Pump, Sanitary Pump 7"-7" x 8"  
 { How driven steam { How driven steam  
 Ballast Pumps, No. and size one 10"-10" x 10" Lubricating Oil Pumps, including Spare Pump, No. and size -  
 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 @ 3" one @ 2"  
 In Holds, &c. Nº 1 Hold 2 @ 3"; Nº 2 Hold 2 @ 4" Nº 3 Hold 2 @ 4"; Nº 4 Hold 2 @ 3"; Nº 5 Hold 2 @ 2 3/4"  
 Tunnel hole one @ 2 1/2"  
 Main Water Circulating Pump Direct Bilge Suctions, No. and size one @ 12" 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 none How are they protected -  
 What pipes pass through the deep tanks - Have they been tested as per Rule -  
 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 10,486 sq. ft.  
 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single-ended Working Pressure 220 lb.  
 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 Main Boilers Yes Auxiliary Boilers - Donkey Boilers -  
 (If not state date of approval)  
 Superheaters - General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements Yes  
 SPARE GEAR. State the articles supplied:— As per attached list

The foregoing is a correct description,

For David Rowan & Co. Ltd.  
Arch. W. Grierson

Manufacturer.



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W150-0030

NOTE.—The words which do not apply should be deleted.

1940 Jan: 4. 12. 25. 30 Feb: 15. 23. 27 Mar: 11. 21. 26 Apr: 3. 11. 16. 17. 26. 30 May: 8. 9. 17. 20. 22  
 During progress of work in shops -- 23. 24. 27. 28. 29 June: 3. 6. 7. 10. 11. 12. 13. 14. 17. 20. 22. 24. 25. 26. 27. 28 July: 1. 2. 5. 8. 9. 11. 12. 16. 17  
 Dates of Survey while building { During erection on board vessel --- 22. 24. 25. 29. 31 Aug: 5. 6. 7. 8. 9. 12. 13. 14. 16. 20. 22. 23. 27. 28. 30 Sep: 2. 4. 5. 6. 12. 25. 27  
 Total No. of visits 78

Dates of Examination of principal parts—Cylinders 12-6-40 Slides 24-6-40 Covers 12-6-40  
 Pistons 24-6-40 Piston Rods 6-6-40 Connecting rods 6-6-40  
 Crank shaft 17-6-40 Thrust shaft 10-6-40 Intermediate shafts 7-6-40  
 Tube shaft - Screw shaft 27-5-40 Propeller 31-7-40  
 Stern tube 20-5-40 Engine and boiler seatings 17-6-40 Engines holding down bolts 30-8-40  
 Completion of fitting sea connections 17-6-40  
 Completion of pumping arrangements 27-9-40 Boilers fixed 30-8-40 Engines tried under steam 27-9-40  
 Main boiler safety valves adjusted 12-9-40 Thickness of adjusting washers P 3/8" 7/16" C 7/16" 3/8" S 3/8" 7/16"  
 Crank shaft material S.M. Steel Identification Mark 8968 H.A.I. Thrust shaft material S.M. Steel Identification Mark 8968 H.A.I.  
 Intermediate shafts, material S.M. Steel Identification Marks 8968 H.A.I. Tube shaft, material - Identification Mark -  
 Screw shaft, material S.M. Steel Identification Mark 8968 H.A.I. Steam Pipes, material Steel Test pressure 660 lbs. Date of Test July & Aug. 1940  
 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 -  
 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. This machinery has been built under special survey in accordance with the Rules and approved plans, and the materials and workmanship are good. It has been satisfactorily installed in the vessel, tested under working conditions at full load and found efficient and, in my opinion, is eligible to be classed in the Register Book with record + LMC 9, 40 and notation CL  
 10.40

G.S.B.  
 7/10/40

The amount of Entry Fee ... £ 6 : - : When applied for,  
 Special ... £ 110 : - : 8 - OCT 1940  
 Donkey Boiler Fee ... £ : : When received,  
 Travelling Expenses (if any) £ : : 14-10- 1940

J.B. Brown  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 8 - OCT 1940  
 Assigned -/- LMC 19, 40 J.D.



The Surveys are requested not to write on or below the space for Committee's Minute.