

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 23 OCT 1929

Date of writing Report 3-10-1929 When handed in at Local Office 14th October 1929 Port of Greenock
 No. in Survey held at Greenock Date, First Survey 13th March 1929 Last Survey 14th October 1929
 Reg. Book. S/S "Barrowhrie" (Number of Vols. 44)
 on the S/S "Barrowhrie" Tons { Gross 1998.21 Net 2940.40
 Built at Greenock By whom built Greenock Dockyard Co. Ltd. Yard No. H14 When built 1929
 Engines made at Greenock By whom made Rankine Blackmore & Co. Ltd. Engine No. H41 when made 1929
 Boilers made at ditto By whom made ditto Boiler No. H41 when made 1929
 Registered Horse Power 100 Owners The Barr Shipping Co. Ltd. Port belonging to Glasgow
 Nom. Horse Power as per Rule 100 100 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 40
 Dia. of Cylinders 23 1/2" - 40" - 66" Length of Stroke 45" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals 12.84 as per Rule 13" Crank pin dia. 13" Crank webs shrunk Mid. length breadth 8 1/4" Thickness parallel to axis 5 7/8"
 as fitted 13" Mid. length thickness shrunk Thickness around eye-hole 5 7/8"
 Intermediate Shafts, diameter 12.26 as per Rule 12 3/8" Thrust shaft, diameter at collars 12.84 as per Rule 12.99 as fitted 12.99
 Tube Shafts, diameter 13.426 as per Rule 14" Is the tube shaft fitted with a continuous liner Yes
 as fitted 14" as fitted 14" Is the screw shaft fitted with a continuous liner Yes
 Bronze Liners, thickness in way of bushes 408 as per Rule 3/4" Thickness between bushes 531 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 Yes
 Propeller, dia. 14' 0" Pitch 16' 3" No. of Blades 4 Material Blow whether Moveable No Total Developed Surface 90 sq. feet
 Feed Pumps worked from the Main Engines, No. 2 Diameter 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 24" Can one be overhauled while the other is at work Yes
 Feed Pumps { No. and size 4 (2.7 x 2.1) (1.5 x 8 Dupl) (1.4 x 6 Dupl) Pumps connected to the { No. and size one 12 x 12 Dupl
 How driven Steam Main Bilge Line { How driven Steam
 Ballast Pumps, No. and size one 12 x 12 Lubricating Oil Pumps, including Spare Pump, No. and size 2 (4 x 15)
 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 at 23 1/4" 2. 2 1/2" 1-2"
 In Holds, &c. 90.1. 2. 3" 90.2. 2. 3 1/2" Deep Tank 2. 2 1/2" 90.4. 2. 3" 90.5. 2. 3"
 Tunnel Well 1. 2 1/2"
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1. 4 1/2" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1- 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 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 None How are they protected Yes
 What pipes pass through the deep tanks Bilge Suctions 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 PLATFORM

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 6051 #
 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single Ended Working Pressure 200
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes
 IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? Yes
 PLANS. Are approved plans forwarded herewith for Shafting Yes Main Boilers Yes Auxiliary Boilers Yes Donkey Boilers Yes
 Superheaters Yes General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements Yes

SPARE GEAR. State the articles supplied:— 2 connecting rod bolts & nuts for top end, ditto for bottom end, 2 main bearing bolts one set of coupling bolts one set of feed & bilge pump valves & a quantity of assorted bolts & nuts. Iron of various sizes

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

[Signature]

Director.

Manufacturer.



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170041/420041

Dates of Survey while building

(1929) Mar. 13, 19, 22, 24 April 1, 10, 19, 25, 30 May 4, 11, 21, 23, 28 June 1, 4, 10, 14, 20 July 2, 14, 19, 25 August 1, 2, 4, 8, 13, 15, 16, 20, 21, 26, 29 Sept 1, 13, 16

During progress of work in shops - - 19, 23, 24, 26 Oct 1, 2, 4, 9, 14

During erection on board vessel - - -

Total No. of visits 44

Dates of Examination of principal parts - Cylinders 19, 4, 29 Slides 1- 8- 29 Covers 19, 4, 29

Pistons 1- 8- 29 Piston Rods 16- 8- 29 Connecting rods 1- 8- 29

Crank shaft 21- 8- 29 Thrust shaft see sketch Intermediate shafts 29, 8- 29

Tube shaft ✓ Screw shaft 13- 8- 29 Propeller 4, 8- 29

Stern tube 13- 8- 29 Engine and boiler seatings 15- 8- 29 Engines holding down bolts 24- 9- 29

Completion of fitting sea connections 15- 8- 29

Completion of pumping arrangements 4, 10, 29 Boilers fixed 13- 9- 29 Engines tried under steam 14- 10- 29

Main boiler safety valves adjusted 4- 10- 29 Thickness of adjusting washers P 5/16 S 13/32 P 1/2 S 5/16 P 3/8 S 1/2

Crank shaft material S Identification Mark LR 1418 WGM Thrust shaft material S Identification Mark see sketch

Intermediate shafts, material S Identification Marks 2002, 1901, 1949, 1919, 1949 Tube shaft, material ✓ Identification Mark ✓

Screw shaft, material S Identification Mark LR 1931 WGM Steam Pipes, material Iron Test pressure 600 Date of Test 26.9.29

Is an installation fitted for burning oil fuel 910 Is the flash point of the oil to be used over 150°F. -

Have the requirements of the Rules for carrying and burning oil fuel been complied with -

Is this machinery duplicate of a previous case 910 If so, state name of vessel -

General Remarks (State quality of workmanship, opinions as to class, &c. *These engines & boilers have been built under special survey in accordance with the approved plans & the workmanship & material are of good quality they are now securely fitted on board, tried under steam & found satisfactory also the Bauer track L.P. turbine etc. Ref. 910 + 91589 The machinery is eligible in my opinion for the record ✕ L.M.C. 10-29*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10.29. CL. F.D.

T304, 23 1/2, 40 + 66 - 45 + L.P. turbine with DR. Gearing & hydraulic coupling. NHP. 473.

[Signature] 25/10/29

[Signature] Gordon-Maclean
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 5 : - : When applied for,
Special ... £ 88 : - : 15th Oct. 1929
Donkey Boiler Fee ... £ ✓ : ✓ : When received,
Travelling Expenses (if any) £ - : - : 16th Oct. 1929

Committee's Minute GLASGOW 22 OCT 1929 *[Signature]*

Assigned + L.M.C. 10 29 *[Signature]*

CERTIFICATE WRITTEN. *[Signature]*

Greenock Office

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



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