

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Date of writing Report 19 24-5-1932 When handed in at Local Office 24-5-1932 Port of Glasgow Received at London Office 1 JUN 1932

No. in Survey held at Glasgow Date, First Survey 29-9-31 Last Survey 23-5-1932
 Reg. Book. on the new steel S/S "HARMATRIS" (Number of Visits 100)

Built at Port: Glasgow By whom built Lithgows Ltd Yard No. 853 Tons Gross 5395 Net 3195
 Engines made at Glasgow By whom made Davie Rowan & Co Ltd Engine No. 942 When built 1932
 Boilers made at Glasgow By whom made Davie Rowan & Co Ltd Boiler No. 942 when made 1932
 Registered Horse Power Owners J & C. Harrison Ltd Port belonging to London
 Nom. Horse-Power as per Rule 502 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 Revs. per minute 73
 Dia. of Cylinders 25"-43"-72" Length of Stroke 48" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 14.196 Crank pin dia. 14 3/4" Crank webs Mid. length breadth 23" Thickness parallel to axis 9 1/4"
 as fitted 14 3/4" Mid. length thickness 9 1/4" shrunk Thickness around eye-hole 6 3/4"
 Intermediate Shafts, diameter as per Rule 13.52" Thrust shaft, diameter at collars as per Rule 14.196"
 as fitted 14" as fitted 14 3/4" (Michell) ✓
 Tube Shafts, diameter as per Rule 15.06" Screw Shaft, diameter as per Rule 15 3/4" Is the tube screw shaft fitted with a continuous liner? yes ✓
 as fitted 15 3/4" as fitted 15 3/4" Is the after end of the liner made watertight in the propeller boss? yes ✓
 Bronze Liners, thickness in way of bushes as per Rule .76" Thickness between bushes as per Rule .57" Is the after end of the liner made watertight in the propeller boss? yes ✓
 as fitted 13" as fitted 3/4" 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 ✓
 Propeller, dia. 18'6" Pitch 17'9 1/2" No. of Blades 4 Material Bronze whether Moveable yes Total Developed Surface 92.5 sq. feet
 Feed Pumps worked from the Main Engines, No. none Diameter - Stroke - Can one be overhauled while the other is at work? -
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4 1/2" Stroke 24" Can one be overhauled while the other is at work? yes ✓
 Feed Pumps No. and size 2 @ 7'-9 1/2" x 21" Pumps connected to the Main Bilge Line (No. and size Ballast pump How driven steam ✓
 Ballast Pumps, No. and size one @ 12'-10 1/2" x 24" 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" Hold suction fitted at G.B. Plan sizes as below. Not verified at Gls
 In Holds, &c. N°1 hold - 2 @ 3" N°2 hold - 2 @ 3 1/2" N°3 hold 4 @ 2 1/2" N°4 hold - 2 @ 3" Tunnel well - 1 @ 2 1/2"

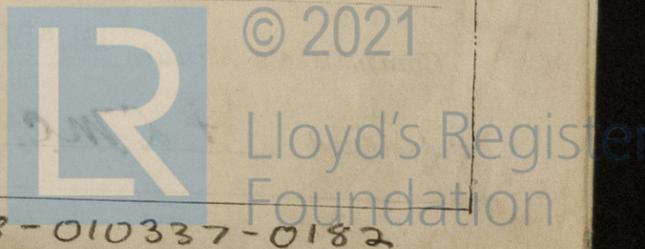
Main Water Circulating Pump Direct Bilge Suctions, No. and size one @ 8" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size one @ 4 3/4" Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes? yes ✓
 Are the Bilge Suctions in the Machinery Space led 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 stowhold 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 wood casing ✓
 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 Bridge Decks

MAIN BOILERS, &c.—(Letter for record (X)(R)) Total Heating Surface of Boilers 6850 sq. ft.
 Is Forced Draft fitted? yes ✓ No. and Description of Boilers 2 SB & 1 aux Working Pressure 220 lbs ✓
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes ✓ also on auxiliary boiler.
 IS A DONKEY BOILER FITTED? no ✓ If so, is a report now forwarded? -

PLANS. Are approved plans forwarded herewith for Shafting? no ✓ Main Boilers? yes ✓ Auxiliary Boilers? yes ✓ Donkey Boilers? -
 Superheaters? no ✓ (If not state date of approval) General Pumping Arrangements? no ✓ Oil fuel Burning Piping Arrangements? ✓

SPARE GEAR. State the articles supplied:— As per Rules and in addition - two cast iron propeller blades, one propeller shaft complete, one spindle for centrifugal circulating pump.
 Also for the Andrew & Cameron HP valve gear - one steam valve rod, one exhaust valve rod, two crosshead blocks for valve rods, two crosshead pins for valve rods, four steel and four bronze cam rollers and two cams.

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



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

1931 Sep: 29 Oct: 1 2 6 7 8 9 12 14 16 19 21 22 23 26 30 Nov: 2 3 4 5 9 11 12 17 18 19 20
 During progress of work in shops - 23 24 26 27 30 Dec: 2 3 4 7 8 9 10 21 24 25 (1932) Jan: 13 15 21 25 26 27 Feb: 2 3 4 8
 Dates of Survey while building - 10 11 17 18 22 23 24 25 26 Mar: 2 3 8 10 11 14 15 16 18 21 22 24 25 30 Apr: 1 2 4 7 11 14
 During erection on board vessel - 15 19 22 23 26 27 29 May: 1 3 4 5 10 11 12 13 17 18 19 23
 Total No. of visits - 100 -

Dates of Examination of principal parts - Cylinders 3-2-32 Slides 25-3-32 Covers 27-11-32
 Pistons A-2-32 Piston Rods 21-3-32 Connecting rods 24-11-31
 Crank shaft 24-2-32 Thrust shaft 2-3-32 Intermediate shafts 15-3-32
 Tube shaft ✓ Screw shaft 22-3-32 Propeller 8-3-32
 Stern tube 30-3-32 Engine and boiler seatings erk Engines holding down bolts 4-5-32
 Completion of fitting sea connections erk
 Completion of pumping arrangements 11-5-32 Boilers fixed 5-5-32 Engines tried under steam 23-5-32
 Main boiler safety valves adjusted 12-5-32 Thickness of adjusting washers 1/16" both 1/32" Starb'd bh - P 1/2" S 5/16" Anyly both 5/32"
 Crank shaft material J. steel Identification Mark LLOYD'S N24192 L.C.D. 24-2-32 Thrust shaft material J. steel Identification Mark LLOYD'S N24192 L.C.D. 2-3-32
 Intermediate shafts, material J. steel Identification Marks LLOYD'S N24192 L.C.D. 15-3-32 Tube shaft, material - Identification Mark -
 Screw shaft, material J. steel Identification Mark LLOYD'S N24192 L.C.D. 22-3-32 Steam Pipes, material steel Test pressure 660 Date of Test 25-3-32
 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 -
 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.)
 The materials and workmanship are good.
 The machinery has been constructed under special survey in accordance with the Rules, satisfactorily fitted in the vessel, tried under steam and found good.
 It is eligible in my opinion for Classification and the Record -
 + LMC 5, 32.

Cam operated HP valve gear fitted. Approved plan herewith.

24/5/32

Certificate to be sent to Glasgow.

The amount of Entry Fee ... £ 6 : - :
 Special ... £ 100 : 2 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for 25 MAY 1932
 When received 27.5.32

Schavis
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 1 MAY 1932

Assigned + L.M.C. 5, 32

CERTIFICATE WRITTEN 2.6.32



NOTE - The words which do not apply should be deleted. If not, state whether, and when, one will be sent.