

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

-6 JUL 1932

Date of writing Report 19 10 32 When handed in at Local Office 17 7 10 32 Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 29 9 31 Last Survey 24 6 1932  
 Reg. Book. on the new steel 35" HARMANTEN"  
 Built at Port Glasgow By whom built Lithgows Ltd Yard No. 854 When built 1932  
 Engines made at Glasgow By whom made David Rowan & Co Ltd Engine No. 943 When made 1932  
 Boilers made at Glasgow By whom made David Rowan & Co Ltd Boiler No. 943 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, &amp;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. 15 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" 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 3/4" (Mishell)  
 Tube Shafts, diameter as per Rule 15.06" as fitted 15 1/4" Is the tube screw shaft fitted with a continuous liner yes  
 Screw Shaft, diameter as per Rule 15 1/4" as fitted 15 1/4"  
 Bronze Liners, thickness in way of bushes as per Rule 1 7/16" Thickness between bushes as per Rule 1 5/16" 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 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' 3 1/2"  
 Propeller, dia. 18' 6" Pitch 17' 9 1/2" 19' 3" 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 4 1/2" Stroke 2 1/2" 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 2 1/2" Can one be overhauled while the other is at work yes  
 Feed Pumps No. and size 20 1" 9 1/2" x 2 1/2" How driven steam 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 2 1/2" 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"  
 In Pump Room In Holds, &c. Fitted at Gk. Plan sizes as below. Not verified at Gk.

N°1-2 @ 3" N°2-2 @ 3 1/2" N°3-2 @ 3 1/2" N°4-2 @ 3" Tunnel well-1 @ 2 1/2"

## Main Water Circulating Pump Direct Bilge Suctions, No. and size

No. and size 1 @ 4 3/4"

## Independent Power Pump Direct Suctions to the Engine Room Bilges,

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 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 bridge deck

## MAIN BOILERS, &amp;c.—(Letter for record)

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

IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes Also on auxiliary boilers.

IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? yes

Is the donkey boiler intended to be used for domestic purposes only yes

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 -

## SPARE GEAR.

Has the spare gear required by the Rules been supplied as per Rules.

State the principal additional spare gear supplied two cast iron propeller blades. one propeller shaft.

one spindle for centrifugal circulating pump.

For Andrews & 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 cam rollers.

The foregoing is a correct description,

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

Manufacturer.



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Lloyd's Register

W523-0193



For S.S.O.F. please see S.S. "Harmatrus" F.E. Rpt Grk 19411

GLASGOW

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

1931 Sep. 29 Oct. 1. 16 Nov. 11. 12. 17. 20. 23. 24. 26. 27. 30 Dec. 3. 4. 7. 8. 9. 10. 17. 21. 24. 28 (1932)

Dates of Survey while building

During progress of work in shops -

During erection on board vessel -

Total No. of visits - 87 -

Dates of Examination of principal parts - Cylinders 27-4-32 Slides 11-5-32 Covers 21-3-32

Pistons 3-2-32 Piston Rods 13-5-32 Connecting rods 27-1-32

Crank shaft 28-4-32 Thrust shaft 11-5-32 Intermediate shafts 15-3-32

Tube shaft - Screw shaft 11-5-32 Propeller 13-5-32

Stern tube 4-5-32 Engine and boiler seatings Grk Engines holding down bolts 3-6-32

Completion of fitting sea connections Grk

Completion of pumping arrangements 8-6-32 Boilers fixed 7-6-32 Engines tried under steam 27-6-32

Main boiler safety valves adjusted 9-6-32 Thickness of adjusting washers all 3/8"

Crank shaft material I. steel Identification Mark LLOYDS NO 4193 28-4-32 Thrust shaft material I. steel Identification Mark LLOYDS NO 4193 11-5-32

Intermediate shafts, material I. steel Identification Marks LLOYDS NO 4193 15-3-32 Tube shaft, material - Identification Mark -

Screw shaft, material I. steel Identification Mark LLOYDS NO 4193 11-5-32 Steam Pipes, material steel Test pressure 660 Date of Test 16-5-32

Is an installation fitted for burning oil fuel - 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 - 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 yes If so, state name of vessel Harmatrus. Grk Rpt. 52530

General Remarks (State quality of workmanship, opinions as to class, &c.)

Cann operated HP valve gear fitted. Approved plan forwarded with Grk Rpt. 52530

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 6,32

11/7/32

The amount of Entry Fee ... £ 6 : : When applied for, 4 JUL 1932

Special ... £ 100 : 2 : : When received, 8 July 1932

Donkey Boiler Fee ... £ : : : : : Engineer Surveyor to Lloyd's Register of Shipping.

Travelling Expenses (if any) £ : : : : : L.S. Davis.

Committee's Minute GLASGOW 6-JUL 1932

Assigned + L.M.C. 6,32