

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 19 11. 5. 1943 When handed in at Local Office 11. 5. 1943 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 5th Oct 1942 Last Survey 29th Oct 1943  
Reg. Book (Number of Visits 41)

on the S/S "EMPIRE MIRANDA" Tons { Gross  
Net

Built at P.A. Glasgow By whom built Liddons & Co. Yard No. 983 When built 1943

Engines made at Glasgow By whom made J. Brown & Co. Ltd. Engine No. 1123 When made 1943

Boilers made at Barrow By whom made Vickers Armstrongs Boiler No. 848 When made 1943

Registered Horse Power Owners Ministry of War Transport Port belonging to Greenock

Nom. Horse Power as per Rule 509 510 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 76

Dia. of Cylinders 24 1/2" 39" 70" Length of Stroke 48" No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule 14" as fitted 14 1/4" Crank pin dia. 14 3/4" Mid. length breadth 27 1/2" Thickness parallel to axis 9" shrunk  
as fitted 14 1/4" Crank webs Mid. length thickness 9" Thickness around eye-hole 6 3/8"

Intermediate Shafts, diameter as per Rule 13.33" as fitted 13 5/8" Thrust shaft, diameter at collars as per Rule 14" as fitted 14 1/4"

Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 14.85" as fitted 15 1/4" Is the { tube screw } shaft fitted with a continuous liner { Yes

Bronze Liners, thickness in way of bushes as per Rule 3/4" as fitted 13/16" Thickness between bushes as per Rule 9/16" 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 at No If so, state type — Length of Bearing in Stern Bush next to and supporting propeller 5' 1"

Propeller, dia. 18' 3" Pitch 16' 6" No. of Blades 4 Material C.B. whether Moveable No Total Developed Surface 110 sq. feet

Feed Pumps worked from the Main Engines, No. — Diameter — Stroke — Can one be overhauled while the other is at work —

Bilge Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 27" Can one be overhauled while the other is at work Yes

Feed Pumps { No. and size 2 @ 10 1/2" x 8" x 22" Pumps connected to the { No. and size Ballast pump 20 tons/hr. G. S. pump  
How driven steam Main Bilge Line { How driven steam 30 tons/hr.

Ballast Pumps, No. and size 1 @ 20 tons/hr. 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 4 @ 3" 1 @ 2 1/2" in cofferdam

In Pump Room — In Holds, &c. Nos. 1, 2 and 3 holds 2 @ 3" 1 @ 2" hold 2 @ 3 1/2" Tunnel well 1 @ 2 1/2" Cross bunker 2 @ 2 1/2"

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. Main inlet on reserve 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 — 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 No worked from —

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 7248 sq. ft.

Which Boilers are fitted with Forced Draft all Which Boilers are fitted with Superheaters all

No. and Description of Boilers 3 S.E. 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? —

Can the donkey boiler be used for domestic purposes only —

PLANS. Are approved plans forwarded herewith for Shafting Yes Main Boilers No Auxiliary Boilers — Donkey Boilers —

(If not state date of approval)

Superheaters — General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements —

## SPARE GEAR.

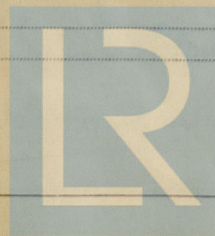
Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied List attached

The foregoing is a correct description.

For David Rowan & Co. Ltd.  
Archd. N. Grierson

Manufacturer.



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Lloyd's Register  
Foundation

003298-003306-0282



1942 Oct 5, 30 Nov 6, 13 20. Dec 8, 11, 15, 18, 23, 29, 30 1943 Jan 8, 11, 14, 20, 25, 27, 29 Feb 3, 4, 12, 17, 24  
Mar 1, 5, 8, 9, 11, 12, 15, 16, 17, 19, 23 Apr 2, 6, 7, 8, 19, 29

Dates of Survey while building

During progress of work in shops - - -

During erection on board vessel - - -

Total No. of visits 41

Dates of Examination of principal parts—Cylinders 11-1-43 Slides 30-12-42 Covers 11-1-43

Pistons 11-1-43 Piston Rods 11-1-43 Connecting rods 20-1-43

Crank shaft 21-1-43 Thrust shaft 20-1-43 Intermediate shafts 12-2-43

Tube shaft - Screw shaft 29-1-43 Propeller 29-1-43

Stern tube 4-2-43 Engine and boiler seatings 4-3-43 GRK. Engines holding down bolts 6-4-43

Completion of fitting sea connections 4-3-43 GRK.

Completion of pumping arrangements 19-4-43 Boilers fixed 6-4-43 Engines tried under steam 29-4-43

Main boiler safety valves adjusted 19-4-43 Thickness of adjusting washers P 3/8" 9/16" C 1 1/32" 5 1/2" 3/8" Substanced 15/64" 1/4" 7/16"

Crank shaft material S.M. steel Identification Mark 11922 AJB Thrust shaft material S.M. steel Identification Mark 11922 AJB

Intermediate shafts, material S.M. steel Identification Marks Not attached Tube shaft, material - Identification Mark -

Screw shaft, material S.M. steel Identification Mark 11922 AJB Steam Pipes, material O.H. steel Test pressure 660 lb. Date of Test March 1943

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 - 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 "EMPIRE CELIA" G.S. No. 66952

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 and, in my opinion, is eligible to be classed with record + LMC 4, 43 and notation CL.

The specification requirements have been carried out satisfactorily.

The amount of Entry Fee ... £ 6 : : When applied for, 12 MAY 1943

3/5 Special ... £ 60 : 5 : : When received, 19

Donkey Boiler Fee ... £ 15 : 1 : : 19

3/6 SPEC. H. FEE Travelling Expenses (if any) £ : : : 19

Committee's Minute GLASGOW 11 MAY 1943

Assigned - RMC 4.43 20

Engineer Surveyor to Lloyd's Register of Shipping.