

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office. 124 DEC 1942

Date of writing Report 19 21. 12. 1942 Port of GLASGOW

No. in Survey held at GLASGOW Date, First Survey 8 Dec 1941 Last Survey 7 Dec 1942

Reg. Book "EMPIRE GERANT" (Number of Visits 53)

on the S/S

Built at GLASGOW By whom built C. CONNELL & CO. LD. Yard No. 439 When built 1942

Engines made at GLASGOW By whom made DAVID ROWAN & CO. LD. Engine No. 1097 When made 1942

Boilers made at CLYDEBANK By whom made JOHN BROWN & CO. LD. Boiler No. 58 When made 1942

Registered Horse Power 558 Owners MINISTRY OF WAR TRANSPORT Port belonging to GLASGOW

Nom. Horse Power as per Rule 558 Is Refrigerating Machinery fitted for cargo purposes YES Is Electric Light fitted YES

Trade for which vessel is intended

ENGINES, &c.—Description of Engines **TRIPLE EXPANSION** Revs. per minute

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

as per Rule **14"** Crank pin dia. **14 3/4"** Crank webs Mid. length breadth **27 1/2"** Thickness parallel to axis **9"**

Crank shaft, dia. of journals as fitted **14 1/4"** as per Rule **14"** Mid. length thickness **9"** shrunk Thickness around eye-hole **6 3/8"**

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

as fitted **13 5/8"**

Tube Shafts, diameter as per Rule **14.85"** Is the **tube** shaft fitted with a continuous liner **YES**

as fitted **15 1/4"** as per Rule **9/16"** Is the after end of the liner made watertight in the

Bronze Liners, thickness in way of bushes as per Rule **3/4"** Thickness between bushes as fitted **3/4"**

as fitted **13/16"**

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

at **NO** If so, state type **YES** 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.S.** whether Moveable **NO** Total Developed Surface **110** sq. feet

Feed Pumps worked from the Main Engines, No. **2** Diameter **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"** 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 Main Bilge Line No. and size **BALLAST PUMP 200 TONS/HR. G. SERVICE PUMP 30 TONS/HR.**

How driven **STEAM** How driven **STEAM**

Ballast Pumps, No. and size **1 @ 9" x 12" x 12"** Lubricating Oil Pumps, including Spare Pump, No. and size **1**

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 @ 3"**

In Pump Room **YES** In Holds, &c. **Nº 1, 3 & 4 Holds 2 @ 3" Nº 2 Hold 2 @ 2 1/2"**

CROSSBUNKER HOLD 2 @ 2 1/2" TUNNEL WELL 1 @ 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** 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 **YES** How are they protected **YES**

What pipes pass through the deep tanks **YES** 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 **NO** worked from **YES**

MAIN BOILERS, &c.—(Letter for record **S**) Total Heating Surface of Boilers **8336 sq. ft.**

Which Boilers are fitted with Forced Draft **ALL** Which Boilers are fitted with Superheaters **NONE**

No. and Description of Boilers **3 SINGLE-ENDED 2 SB & 1 OA SB** Working Pressure **220 LBS/IN²**

IS A REPORT ON MAIN BOILERS NOW FORWARDED? **YES**

IS A DONKEY BOILER FITTED? **NO** If so, is a report now forwarded? **YES**

Can the donkey boiler be used for domestic purposes only **YES**

PLANS. Are approved plans forwarded herewith for Shafting Main Boilers Auxiliary Boilers Donkey Boilers

(If not state date of approval)

Superheaters **YES** General Pumping Arrangements Oil fuel Burning Piping Arrangements

SPARE GEAR.

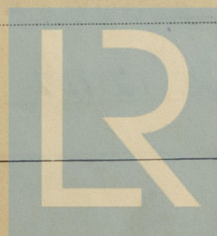
Has the spare gear required by the Rules been supplied **YES**

State the principal additional spare gear supplied **LIST ATTACHED**

The foregoing is a correct description.

For David Rowan & Co. Ltd. Manufacturer.

Archd. N. Grierson



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002038 003045-0026

Dates of Survey while building
During progress of work in shops - - 1941 Dec 8 25 1942 Jan 7 Feb 6 24 26 Mar 2 3 9 16 19 31 Apr 15 17 22 27 May 7 8 11 19 21 28 Jun 1 4 11 12 18
During erection on board vessel - - -
Total No. of visits 53.

Dates of Examination of principal parts—Cylinders 9-6-42 Slides 8-5-42 Covers 9-6-42
Pistons 4-6-42 Piston Rods 4-6-42 Connecting rods 4-6-42
Crank shaft 22-4-42 Thrust shaft 27-4-42 Intermediate shafts 8-5-42
Tube shaft - Screw shaft 17-8-42 Propeller 17-8-42
Stern tube 5-8-42 Engine and boiler seatings 31-8-42 Engines holding down bolts 15-9-42
Completion of fitting sea connections 31-8-42
Completion of pumping arrangements 27-11-42 Boilers fixed 15-9-42 Engines tried under steam 27-11-42
Main boiler safety valves adjusted 23-10-42 Thickness of adjusting washers P 13/32" p 10 C 3/8" p 1/4" S 3/8" p 1/4"
Crank shaft material SM. steel Identification Mark 11207 TPG Thrust shaft material SM. steel Identification Mark 11207 FD
Intermediate shafts, material SM. steel Identification Marks 11207 AFB Tube shaft, material - Identification Mark -
Screw shaft, material SM. steel Identification Mark 11207 AFB Steam Pipes, material O.H. steel Test pressure 660 lb. Date of Test -
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 LANCER" GLS. RPN 66336

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 efficiently installed in the vessel, tested under working conditions and found satisfactory and, in my opinion, is eligible to be classed in the Register Book with read + LMC 12, 42 and notation Ch.

The specification requirements have been carried out satisfactorily.

The following steam pipes are made of Bessemer steel and the flanges have been stamped accordingly:-

- 5 - 4" O.D. 6 W G N^o 117, 117A, 118, 118A + 119
- 6 - 3 1/2" O.D. 6 W G N^o 119A, 119B + 119C

All these pipes are for steam to refrigerating machinery.

21/12/42

The amount of Entry Fee	£ 6 - -	When applied for,
BALANCE Special + SPEC ^l FEE	£ 88 : 6/6d	22 DEC 1942
Donkey Boiler Fee	£ : :	When received,
Travelling Expenses (if any)	£ : :	19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 22 DEC 1942

Assigned - LMC 12.42 7D