

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 19 21.12.1942 When handed in at Local Office 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 GERAIN" (Number of Visits 53)
 on the B/S Tons { Gross _____ Net _____
 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
 Crank shaft, dia. of journals as per Rule 1 1/4" Crank pin dia. 1 3/4" Crank webs Mid. length breadth 27 1/2" Thickness parallel to axis 9"
 as fitted 1 1/4" 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 per Rule 1 1/4"
 as fitted 13 5/8" as fitted 1 1/4"
 Tube Shafts, diameter as per Rule _____ Screw Shaft, diameter as per Rule 14.85" Is the screw shaft fitted with a continuous liner YES
 as fitted _____ as fitted 15 1/4" as per Rule 9/16" Is the after end of the liner made watertight in the
 propeller boss YES Thickness between bushes as per Rule 3/4" 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
 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.S. 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 Main Bilge Line { No. and size BALLAST PUMP 200 TONS/HR. G. SERVICE PUMP
 How driven STEAM How driven STEAM 30 TONS/HR.
 Ballast Pumps, No. and size 1 @ 9" x 12" x 12" 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. 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 _____ 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 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 OR 85 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? _____
 Can the donkey boiler be used for domestic purposes only _____
 PLANS. Are approved plans forwarded herewith for Shafting Main Boilers _____ Auxiliary Boilers _____ Donkey Boilers _____
 (If not state date of approval)
 Superheaters _____ 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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Lloyd's Register Foundation

002033 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, Jun 24, 30, Jul 3, 13, 17, 23, 27, 30, Aug 3, 17, 18, 24, 31, Sep 3, 8, 10, 15, 17, 21, 30, Oct 2, 8, 23, Nov 10, 27, Dec 7

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 2

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. R.M. 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.

Signature: *W.B.*

The amount of Entry Fee ... £ 6 : - : When applied for, 22 DEC 1942

BALANCE Special + SPEC^l FEE ... £ 88 : 6/6 : When received, 19

Donkey Boiler Fee ... £ : : 19

Travelling Expenses (if any) £ : : 19

Signature: *W.B.*
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute ... GLASGOW 22 DEC 1942

Assigned ... LMC 12.42 FD

