

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office NOV 28 1940

Date of writing Report 19 25 When handed in at Local Office 25 11. 1040 Port of GLASGOW
 No. in Survey held at Reg. Book. APP. Date, First Survey 22nd Dec. 1939 Last Survey 11th Nov. 1940
 on the s/s. "EMPIRE VOICE" (Number of Visits 37) Tons { Gross 6828 Net 3977
 Built at Glasgow By whom built Barclay Curle & Co. Ltd. Yard No. 678 When built 1940
 Engines made at do. By whom made do. Engine No. 678 When made 1940
 Boilers made at do. By whom made do. Boiler No. 678 When made 1940
 Registered Horse Power - Owners Ministry of Shipping Port belonging to Glasgow
 Nom. Horse Power as per Rule 630 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 with Bauer Neck exhaust turbine Revs. per minute 90
 Dia. of Cylinders 22 1/2" - 37 1/2" - 63" Length of Stroke 45" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule App. Crank pin dia. 14 1/4" Crank webs Mid. length breadth 2 1/2" Thickness parallel to axis 8 3/4"
 as fitted 13 7/8" Mid. length thickness 8 3/4" Thickness around eye-hole 6 1/8"
 Intermediate Shafts, diameter as per Rule App. Thrust shaft, diameter at collars as per Rule App.
 as fitted 14" as fitted 3 6/8"
 Tube Shafts, diameter as per Rule - Screw Shaft, diameter as per Rule App. Is the tube shaft fitted with a continuous liner Yes
 as fitted - as fitted 15 1/8" Is the screw shaft fitted with a continuous liner Yes
 Bronze Liners, thickness in way of bushes as per Rule App. Thickness between bushes as per Rule App. Is the after end of the liner made watertight in the propeller boss Yes
 as fitted 3/4" as fitted 5/8" 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 -
 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'-0"
 Propeller, dia. 18'-0" Pitch 14'-4" No. of Blades 4 Material M. B. BLADES whether Moveable Yes Total Developed Surface 110 sq. feet
 Feed Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 24" Can one be overhauled while the other is at work Yes
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 24" Can one be overhauled while the other is at work Yes
 Feed Pumps { No. and size 2 @ 9 1/2" x 7" x 21" Pumps connected to the { No. and size 1 @ 10" x 11" x 10" 1 @ 8" x 6" x 8"
 How driven Steam Main Bilge Line { How driven Steam
 Ballast Pumps, No. and size 1 @ 10" x 11" x 10" Lubricating Oil Pumps, including Spare Pump, No. and size 2 @ 8" x 9" x 18"
 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 4 @ 3 1/2" 2 @ 2 1/2" 2-3" HOSE SUCTIONS 1 @ 2 1/2" TUNNEL WELL
 In Pump Room - In Holds, &c. N^{os} 1, 2, 4 & 5 Holds 3" P-S N^o 3 Hold 2 1/2" P-S

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 11" 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 BELOW
 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 8344 sq. ft.
 Which Boilers are fitted with Forced Draft Yes Which Boilers are fitted with Superheaters None
 No. and Description of Boilers 4 Single-ended Working Pressure 250 lbs.
 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 10/5/39 Main Boilers Yes 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 See attached list. (With approved plans)



The foregoing is a correct description.
 FOR BARCLAY, CURLE & CO., LTD
 Alexander Macneill.
 Chief Draughtsman

Manufacturer.



1939 Dec: 22 (1940) Jan: 12 19 Feb: 1 Mar: 22 May 6 10 June: 14 19 21 25 27 July 3 8 17 19 26
 During progress of work in shops -- Aug 12 5 8 12 16 22 28 29 30 Sep: 1 9 12 17 20 25 Oct: 10 23 Nov 5 11
 Dates of Survey while building {
 During erection on board vessel ---
 Total No. of visits 37

Dates of Examination of principal parts—Cylinders 22-8-40 Slides 16-8-40 Covers 22-8-40
 Pistons 29-8-40 Piston Rods 29-8-40 Connecting rods 9-9-40
 Crank shaft 29-8-40 Thrust shaft 9-9-40 Intermediate shafts 22-8-40
 Tube shaft - Screw shaft 12-8-40 Propeller 12-8-40
 Stern tube 2-8-40 Engine and boiler seatings 30-8-40 Engines holding down bolts 10-10-40
 Completion of fitting sea connections 30-8-40
 Completion of pumping arrangements 5-11-40 Boilers fixed 10-10-40 Engines tried under steam 11-11-40
 Main boiler safety valves adjusted 5-11-40 Thickness of adjusting washers PORT F-A 3/8" P-S 3/8" SIA 3/8" A 1 1/2" P 3/8"
 Crank shaft material S.M. Steel Identification Mark Thrust shaft material S.M. Steel Identification Mark 793 AJB 9-9-40
 Intermediate shafts, material S.M. Steel Identification Marks Tube shaft, material - Identification Mark -
 Screw shaft, material S.M. Steel Identification Mark 940 E.H. 5812-8-40 Steam Pipes, material Steel Test pressure 750 lbs. Date of Test Oct. Nov. 1940
 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 -
 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 LIGHT" G.L.S. REG. 62783

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 at full load and found to be efficient and, in my opinion, is eligible to be classed in the Register Book with record + LMC 11, 40 and notation C.L. The requirements of the Ministry of Shipping Specification have been carried out satisfactorily.

CRANKSHAFT IDENTIFICATION MARKS:- 1284 H.M.C. 1308 H.A.B. 1401 F.H. 1328 H.D.B. 1329 W.M. A.J.B. 29-8-40.
 INTERMEDIATE SHAFTS:- 788 E.H. 728 E.H. 167 W.H.B. W.H. 178 W.T. W.H. 5016 T.P.C. A.J.B. 29-8-40

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

23/11/40
 The amount of Entry Fee ... £ 6 : - :
 Special ... £ 106 : 10 :
 Donkey Boiler Fee ... £
 Travelling Expenses (if any) £ 26 : 12/6 :
 When applied for, 26 NOV 1940
 When received, 2-1-1941
 Committee's Minute GLASGOW 26 NOV 1940
 Assigned + L.M.C. 11.40 Y.A.

A.J.B. Brown
 Engineer Surveyor to Lloyd's Register of Shipping.