

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 6 DEC 1944

Date of writing Report 2/12/1944 When handed in at Local Office 5/12/1944 Port of WEST HARTLEPOOL
 No. in Survey held at WEST HARTLEPOOL Date, First Survey 27-3-44 Last Survey 25-12-1944
 Reg. Book _____ (Number of Visits 55)
 on the STEEL SCREW STEAMER EMPIRE BERMUDA Tons { Gross 3538.56
 Net 2257.09
 Built at WEST HARTLEPOOL By whom built W.M. GRAY & CO. LTD Yard No. 1173 When built 1944
 Engines made at WEST HARTLEPOOL By whom made CENTRAL MARINE ENG. WORKS Engine No. 1173 When made 1944
 Boilers made at WEST HARTLEPOOL By whom made CENTRAL MARINE ENG. WORKS Boiler No. 1173 When made 1944
 Registered Horse Power _____ Owners MINISTRY OF WAR TRANSPORT Port belonging to WEST HARTLEPOOL
 Nom. Horse Power as per Rule 299 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES
 Trade for which vessel is intended OCEAN GOING

ENGINES, &c.—Description of Engines INVERTED TRIPLE EXPANSION Revs. per minute 85
 Dia. of Cylinders 20 x 31 x 55 Length of Stroke 39 No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 11.0 as fitted 11 1/4 Crank pin dia. 11 1/4 Crank webs Mid. length breadth 16 1/4 Mid. length thickness 6 3/8 Thickness parallel to axis 6 3/8 Thickness around eye-hole 4 3/8
 Intermediate Shafts, diameter as per Rule _____ as fitted _____ Thrust shaft, diameter at collars as per Rule 11.0 as fitted 11 1/4
 Tube Shafts, diameter as per Rule _____ as fitted _____ Screw Shaft, diameter as per Rule 11.75 as fitted 12 1/4 Is the { tube screw } shaft fitted with a continuous liner { Yes }
 Bronze Liners, thickness in way of bushes as per Rule 657 as fitted 1 1/16 Thickness between bushes as per Rule 492 as fitted 7/32 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 One length
 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 at NO If so, state type _____ Length of Bearing in Stern Bush next to and supporting propeller 4-3 3/8
 Propeller, dia. 15-3 Pitch 15-3 No. of Blades 4 Material CAST IRON whether Moveable NO Total Developed Surface 67 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 1/2 Stroke 26 Can one be overhauled while the other is at work Yes
 Feed Pumps { No. and size 2 @ 8 x 6 x 15 SINGLEX Pumps connected to the Main Bilge Line { No. and size 2 @ 4 1/2 x 26 | 1 @ 10 x 11 x 10 | 1 @ 6 x 6 1/2 x 6 DUPLEX }
 How driven INDEPENDENT STEAM How driven MAN ENGINE | INDEPENDENT STEAM
 Ballast Pumps, No. and size 1 @ 10 x 11 x 10 DUPLEX 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" 1 @ 4" OIL BILGE 2 @ 2"
 In Pump Room 1 @ 2" In Holds, &c. M.1. 2 @ 2 1/2" M.2. 2 @ 2 1/2" M.3. 2 @ 3"
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 6" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 4" 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 On remains Are they fitted with Valves or Cocks Both
 Are they sized 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 None Is it fitted with a watertight door _____ worked from _____

MAIN BOILERS, &c.—(Letter for record S. A) Total Heating Surface of Boilers 4546 sq
 Which Boilers are fitted with Forced Draft Yes Which Boilers are fitted with Superheaters Both
 No. and Description of Boilers 2 single ended cylindrical Working Pressure 200 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 _____

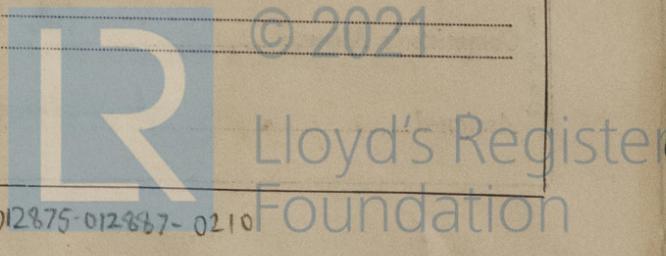
PLANS. Are approved plans forwarded herewith for Shafting 16/21/43 Main Boilers 16/9/43 Auxiliary Boilers _____ Donkey Boilers _____
 (If not state date of approval)
 Superheaters _____ General Pumping Arrangements _____ Oil fuel Burning Piping Arrangements 13/11/43

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes
 State the principal additional spare gear supplied _____

The foregoing is a correct description.
 FOR THE CENTRAL MARINE ENGINE WORKS
 (W. Gray & Co. Ltd)
J. H. Seames
 GENERAL MANAGER

Manufacturer.



During progress of work in shops -- 1944 - Mar 27. Apr 29. July 19. Aug 2. 3. 4. 16. 21. 26. 29. 30. Sept 4. 6. 7. 9. 11. 12. 13.
 15. 18. 19. 20. 21. 22. 25. 26. 30. Oct 6. 11. 12. 14. 30. 31. Nov 1. 3. 11. 13.
 Dates of Survey while building { During erection on board vessel -- Sept 18. 26. Oct 3. 5. 13. 16. 19. Nov 7. 10. 14. 19. 20. 21. 22. 23. 24. 25.
 Total No. of visits 55

Dates of Examination of principal parts—Cylinders 11-8-44 - 15-9-44 Slides 15-9-44 Covers 15-9-44
 Pistons 15-9-44 Piston Rods 15-9-44 Connecting rods 15-9-44
 Crank shaft 29-8-44 - 15-9-44 Thrust shaft 26-8-44 - 9-9-44 Intermediate shafts —
 Tube shaft — Screw shaft 3-8-44 - 9-9-44 Propeller 9-9-44
 Stern tube 9-9-44 Engine and boiler seatings 19-9-44 Engines holding down bolts 16-10-44
 Completion of fitting sea connections 26-9-44
 Completion of pumping arrangements 21-11-44 Boilers fired 16-10-44 Engines tried under steam 22-11-44
 Main boiler safety valves adjusted 21-11-44 Thickness of adjusting washers 1 1/32" 3/16" 3/8" 23/64" (13628)
 Crank shaft material Sugot Steel Identification Mark N° 3635 CP Thrust shaft material Sugot Steel Identification Mark N° 3629 CP
 Intermediate shafts, material — Identification Marks — Tube shaft, material — Identification Mark —
 Screw shaft, material Sugot Steel Identification Mark N° 3627 CP Steam Pipes, material S.D. Steel Test pressure 600 lbs Date of Test 12-10-44
 Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150° F. Yes
 Have the requirements of the Rules for the use of oil as fuel been complied with Yes
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo Yes If so, have the requirements of the Rules been complied with Yes
 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 S.S. EM. LABRADOR RPT N° 18594

General Remarks (State quality of workmanship, opinions as to class, &c.) The engines and boilers of this vessel have been constructed under Special Survey and in accordance with the approved plans and specification. The workmanship and materials have been found good. Upon completion they were tried under full working conditions and found satisfactory. It is recommended that the machinery of this vessel be classed in the Register Book as LMC 11.44. 2SB (SH) FD. CH. Note: - Fitted for Oil Fuel 11.44. F.P. above 150° F.

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

The amount of Entry Fee	£ 4 : 0 :	When applied for,
Special	£ 69 : 17 :	5/12/1944
SUPERVISION Donkey Boiler Fee	£ 17 : 9 :	When received,
Travelling Expenses (if any)	£ : : :	19

Edward W. Oxford
 Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 15 DEC 1944

Committee's Minute
 Assigned + LMC 11.44 FD CH

