

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 8/3/1943 When handed in at Local Office 8/3/1943 Port of WEST HARTLEPOOL.

No. in Survey held at WEST HARTLEPOOL Date, First Survey 30th June, 1942 Last Survey 3rd March, 1943
Reg. Book. (Number of Visits 55)

on the STEEL SCREW STEAMER "EMPIRE MORTIMER" Tons { Gross 7050.55
Net 4867.56

Built at WEST HARTLEPOOL By whom built WM. GRAY & CO. LTD Yard No. 1141 When built 1943.

Engines made at WEST HARTLEPOOL By whom made CENTRAL MARINE ENGINE WORKS Engine No. 1141 When made 1943.

Boilers made at BARROW By whom made VICKERS-ARMSTRONG LTD Boiler No. 846 When made 1942.

Registered Horse Power ✓ Owners MINISTRY OF WAR TRANSPORT. Port belonging to WEST HARTLEPOOL

Nom. Horse Power as per Rule 510 ✓ 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 76 ✓

Dia. of Cylinders 24½" x 39" x 70" Length of Stroke 48" No. of Cylinders 3. No. of Cranks 3. ✓

Crank shaft, dia. of journals as per Rule 13.99" as fitted 14¼" Crank pin dia. 14¼" Crank webs Mid. length breadth 21" ✓ Thickness parallel to axis 8¾" ✓

Intermediate Shafts, diameter as per Rule 13.32" as fitted 13 5/8" Thrust shaft, diameter at collars as per Rule 13.99" as fitted 14¼" ✓

Tube Shafts, diameter as per Rule 14.84" as fitted 15¼" Is the { tube } shaft fitted with a continuous liner { Yes. ✓

Bronze Liners, thickness in way of bushes as per Rule 7.53" as fitted 8.12" Thickness between bushes as per Rule 5.56" as fitted 2½" 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 shaft 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 CAST IRON 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 28" ✓ Can one be overhauled while the other is at work Yes ✓

Feed Pumps { No. and size 3 @ 9½" x 7" x 21" ✓ Pumps connected to the { No. and size 2 @ 4" x 28" 1 @ 10" x 11" 1 @ 9½" x 7" x 21" ✓
How driven INDEPENDENT STEAM. Main Bilge Line How driven MAIN 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 4 @ 3" 1 @ 5" In Holds, &c. No. 1. 2 @ 3" No. 2. 2 @ 3" No. 3. 2 @ 3" BLR RH. 2 @ 3" ENGRH. 2 @ 3" No. 4. 2 @ 3" No. 5. 3 @ 3" TUNNEL WELL 1 @ 2½"

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 9" 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 On reservoirs 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 Bilge pipes to Forward Holds How are they protected Wood ceiling ✓

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 steel ✓ Which Boilers are fitted with Superheaters steel ✓

No. and Description of Boilers 3 Single ended. Multitubular Working Pressure 220 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 9-5-41 Main Boilers 19-2-41 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

The foregoing is a correct description.
FOR THE CENTRAL MARINE ENGINE WORKS

(W. Gray & Co. Ltd.)

Manufacturer.

J. H. Graine
GENERAL MANAGER.



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Foundation

1942. June 30. Oct 23. 28. November 4. 11. 12. 19. 20. 25. 26. 27. 28. December 2. 3. 4. 5. 7. 8. 9. 10. 11. 14. 16.
 During progress of work in shops - -
 17. 19. 22. 23. 29. 30. 31. - 1943 - Jan 5. 14. 16. 29. 30. February 1. 2. 3. 4. 6. 8. 11. 12. 13. 17.
 Dates of Survey while building
 During erection on board vessel - - -
 1942. December 10. 1943. Jan 11. 18. 19. 26. 29. February 9. 16. 23. 24. 25. March 3.
 Total No. of visits 57

Dates of Examination of principal parts—Cylinders 23-10-42 - 10-12-42. Slides 3-12-42 Covers 3-12-42.
 Pistons 3-12-42. Piston Rods 3-12-42. Connecting rods 3-12-42.
 Crank shaft 28-10-42 - 3-12-42. Thrust shaft 28-10-42 - 3-12-42. Intermediate shafts 7-12-42 - 23-12-42.
 Tube shaft - Screw shaft 25-11-42 - 23-12-42. Propeller 23-12-42.
 Stern tube 23-12-42. Engine and boiler seatings 10-12-42. Engines holding down bolts 29-1-43.
 Completion of fitting sea connections 10-12-42.
 Completion of pumping arrangements 25-2-43 Boilers fixed 29-1-43 Engines tried under steam 24-2-43
 Main boiler safety valves adjusted 23-2-43. Thickness of adjusting washers $\frac{1}{16}$ " $\frac{3}{16}$ " $\frac{1}{8}$ " $\frac{3}{8}$ " $\frac{1}{4}$ " $\frac{1}{32}$ "
 Crank shaft material INHOT STEEL Identification Mark N° 9265 CSP. Thrust shaft material INHOT STEEL Identification Mark N° 9198 CSP.
 Intermediate shafts, material INHOT STEEL Identification Marks N° 9200, 1, 2, 3, 4 Tube shaft, material - Identification Mark -
 Screw shaft, material INHOT STEEL Identification Mark N° 9199 CSP. Steam Pipes, material SD STEEL Test pressure 660 lbs Date of Test 30-12-42.
 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 S.S. "EMPIRE CATO" PATH. 18365.

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boilers of this vessel have been built under Special Survey and in accordance with the approved plans and specification.
 The workmanship and materials have been found good.
 Upon completion they were examined under full working conditions and found satisfactory.
 It is recommended that the machinery of this vessel be classed in the Register Book of L.M.C. 3-43. 3SB (SK) F.D. C.L.
 Note: Basic Bessemer steel tubes. All auxiliary steam pipes to be submitted for examination after 4 years.

The amount of Entry Fee ... £ 6 : 0 : When applied for,
 3/6 Special ... £ 60 : 6 : 8/3 1943
 SUPERVISION
 Donkey Boiler Fee ... £ 15 : 2 : When received,
 Travelling Expenses (if any) £ : : 19

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

Committee's Minute

TUES. 16 MAR 1943

Assigned

See Hpl. JE 18389
 3.43 2D, Sph. Ch.



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