

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 14/4/1943 When handed in at Local Office 14/4/1943 Port of WEST HARTLEPOOL.

No. in Survey held at WEST HARTLEPOOL Date, First Survey 31st July, 1942 Last Survey 5th April, 1943  
Reg. Book. (Number of Visits 72)

on the STEEL SCREW STEAMER "EMPIRE PROWESS"

Built at West Hartlepool. By whom built Wm Gray & Co. Ltd. Yard No. 1142. When built 1943.

Engines made at West Hartlepool. By whom made Central Marine Engine Works. Engine No. 1142. When made 1943.

Boilers made at West Hartlepool. By whom made Central Marine Engine Works. Boiler No. 1142. When made 1943.

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 14½" Crank pin dia. 14½" Crank webs Mid. length breadth 21" Mid. length thickness 8¾" Thickness parallel to axis 8¾" Thickness around eye-hole 6¼"

Intermediate Shafts, diameter as per Rule 13.32" as fitted 13½" Thrust shaft, diameter at collars as per Rule 13.99" as fitted 14½"

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

Bronze Liners, thickness in way of bushes as per Rule .753" as fitted .812" Thickness between bushes as per Rule .56" as fitted .2132" 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 tub 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 Best Steel 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" SINGLEX. Pumps connected to the { No. and size 2 @ 4 x 28" 1 @ 10 x 11 x 10" 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 Pump Room In Holds, &c. No. 1, 2 @ 3" No. 2, 2 @ 3" No. 3, 2 @ 3" No. 4, 2 @ 3" No. 5, 2 @ 3" No. 6, 2 @ 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 Stacks. 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 7,248 sq. ft.

Which Boilers are fitted with Forced Draft All. Which Boilers are fitted with Superheaters All.

No. and Description of Boilers 3 Single ended Multitubular Working Pressure 220 lbs. sq. in.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes.

IS A DONKEY BOILER FITTED? Can the donkey boiler be used for domestic purposes only If so, is a report now forwarded?

**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 &amp; Co. Ltd.)

Manufacturer.

J. H. Beaumont  
GENERAL MANAGER.



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1942. Jan. 31. Oct. 28. Nov. 6. 7. 20. Dec. 2. 12. 18. 19. 22. 23. 1943. Jan. 5. 6. 8. 9. 11. 12. 13. 14. 15.  
 16. 18. 19. 20. 22. 23. 25. 27. 28. 29. 30. Feb. 1. 3. 4. 5. 6. 8. 9. 11. 12. 13. 15. 23. 25. 27. March 2. 3. 4. 6. 10. 11. 12. 15. 17. 18. 19. 25.  
 1943. Jan. 26. Feb. 1. 15. 18. 20. March 1. 5. 11. 22. 23. 26. 29. 30. April 2. 5.  
 Total No. of visits 72

Dates of Examination of principal parts—Cylinders 4-11-42 - 23-1-43 Slides 23-1-43 Covers 23-1-43.  
 Pistons 23-1-43. Piston Rods 23-1-43 Connecting rods 23-1-43.  
 Crank shaft 28-10-42 - 19-1-43. Thrust shaft 22-12-42 - 19-1-43. Intermediate shafts 5-2-43.  
 Tube shaft - Screw shaft 18-1-43 - 5-2-43. Propeller 16-2-43.  
 Stern tube 16-2-43. Engine and boiler seatings 26-1-43 Engines holding down bolts 5-3-43.  
 Completion of fitting sea connections 26-1-43.  
 Completion of pumping arrangements 29-3-43. Boilers fixed 5-3-43. Engines tried under steam 30-3-43.  
 Main boiler safety valves adjusted 29-3-43. Thickness of adjusting washers  $\frac{23}{64}$ "  $\frac{11}{32}$ "  $\frac{5}{16}$ "  $\frac{11}{32}$ "  $\frac{11}{32}$ "  $\frac{21}{64}$ "  $\frac{13}{32}$ "  
 Crank shaft material IMHOT STEEL Identification Mark N° 9800 CP Thrust shaft material IMHOT STEEL Identification Mark N° 9823 CP.  
 Intermediate shafts, material IMHOT STEEL Identification Marks N° 9825, 6, 7, 8, 9 Tube shaft, material ✓ Identification Mark ✓  
 Screw shaft, material IMHOT STEEL Identification Mark N° 9824 CP Steam Pipes, material 3D STEEL Test pressure 660 lbs Date of Test 13-3-43.  
 Is an installation fitted for burning oil fuel ✓ 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 MORTIMER RPT N° 18389.

**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 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 as L.M.C. 4.43. 3SB (SFC.) F.D. CL. except Basis 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,  
 Special ... £ 100 : 10 : 14/4/1943  
 Donkey Boiler Fee ... £ 25 : 3 : When received,  
 Travelling Expenses (if any) £ : : 19

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

Committee's Minute

Assigned

+ LMC 4.43  
 F.D. CL



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