

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Date of writing Report 4th Oct 1927 When handed in at Local Office 11.10.1927 Port of West Hartlepool
 No. in Survey held at West Hartlepool Date, First Survey 5th May Last Survey 8th Oct 1927
 Reg. Book. 43152 on the S.S. "UMBERLEIGH" (Number of Visits 73)
 Built at West Hartlepool By whom built Wm Gray & Co. Ltd. Yard No. 992 Tons { Gross 4930
 Engines made at West Hartlepool By whom made Central Marine Engine No. 992 Net 2965
 Boilers made at ditto By whom made Engine Works Boiler No. 992 When built 1927
 Registered Horse Power 501 Owners Taken Main Navigation Co. Ltd. Port belonging to London
 Nom. Horse Power as per Rule 501 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 Triple expansion Revs. per minute 70
 Dia. of Cylinders 25" 42" 70" Length of Stroke 48" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 13.71" Crank pin dia. 14 1/4" Crank webs Mid. length breadth 20 5/8" Thickness parallel to axis 8 5/8"
 as fitted 14 1/4" Mid. length thickness 8 5/8" Thickness around eye-hole 6 5/8"
 Intermediate Shafts, diameter as per Rule 13.06" Thrust shaft, diameter at collars as per Rule 13.71"
 as fitted 13 1/4" as fitted 14 1/4"
 Tube Shafts, diameter as per Rule 14.56" Is the tube screw shaft fitted with a continuous liner { yes
 as fitted 15" as fitted 15"
 Bronze Liners, thickness in way of bushes as per Rule .745" Thickness between bushes as per Rule .558"
 as fitted 3/4" as fitted 7/16" 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 yes
 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 yes Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft yes
 Propeller, dia. 18' 0" Pitch 17' 3" No. of Blades 4 Material Brass whether Movable no Total Developed Surface 103 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 2 9 1/2" x 7" x 2 1/2" 1 7 1/2" x 5" x 6" duplex pumps connected to the { No. and size 2 Main 4" x 28" 1 9 1/2" x 10 1/2" x 10" duplex
 How driven Steam 1 7 1/2" x 5 1/2" x 15" Main Bilge Line How driven Steam
 Ballast Pumps, No. and size 1 9 1/2" x 10 1/2" x 10" duplex Lubricating Oil Pumps, including Spare Pump, No. and size —
 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 of 3" dia. In tunnel 1 of 2 1/2"
 In Holds, &c. No 1. 2 of 2 3/4" No 2 4 of 3 1/2" No 3 2 of 2 1/2" Pocket bunkers 2 of 2 1/2"
No 4 4 of 2 3/4" No 5 3 of 2 3/4"
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 of 8" dia. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 of 5" dia.
 Are all the Bilge Suction Pipes in holds and tunnel well filled 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 yes
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stowhold plates yes Are the Overboard Discharges above or below the deep water line above
 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 forward suction How are they protected wood cased with iron
 What pipes pass through the deep tanks yes Have they been tested as per Rule yes
 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 yes worked from cylinder grating

MAIN BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 7359 sq. ft.
 Is Forced Draft fitted yes No. and Description of Boilers 3 single ended Working Pressure 200 lb
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes
 IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? —
 PLANS. Are approved plans forwarded herewith for Shafting yes 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. State the articles supplied:— 2 bolts & nuts for connec. rods top ends. 2 ditto for bottom ends. 2 main bearing bolts & nuts. 1 set coupling bolts & nuts. 1 set valves for main feed pumps. 1 ditto for bilge pumps. 1 set H.P. piston springs. 1 screw shaft. 1 propeller. 3 condenser tubes. 2 feed check valves. 2 safety valve springs. 1% boiler plain tubes. 1 impeller for circulating pump. Assorted bolts, nuts and iron.

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

MANAGING DIRECTOR C.M.E.W.

Manufacturer.



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Dates of Survey while building
 During progress of work in shops -- 1927. May 25. 27 June 1. 2. 3. 8. 10. 13. 14. 15. 17. 20. 21. 22. 23. 24. 27. 28. 29. 30. July 1. 4. 5. 6. 7. 8. 11. 12. 13. 14. 15. 18. 19. 21. 22. 25. 26. 27. 28. Aug 1. 9. 11.
 During erection on board vessel -- 15. 16. 17. 18. 22. 23. 24. 26. 29. 30. 31. Sept. 1. 5. 6. 9. 12. 13. 14. 15. 16. 19. 20. 21. 23. 26. 27. 30. Oct. 3. 7. 8.
 Total No. of visits 72

Dates of Examination of principal parts—Cylinders 3.6.27—16.9.27 Slides 24.8.27—29.8.27 Covers 4.7.27—21.7.27
 Pistons 14.6.27—29.8.27 Piston Rods 30.6.27—21.7.27 Connecting rods 21.6.27—18.8.27
 Crank shaft 27.5.27—27.7.27 Thrust shaft 21.6.27—27.7.27 Intermediate shafts 18.7.27—22.8.27
 Tube shaft — Screw shaft 28.7.27—29.8.27 Propeller 26.8.27—29.8.27
 Stern tube 8.8.27—29.8.27 Engine and boiler seatings 16.8.27—6.9.27 Engines holding down bolts 13.9.27—19.9.27
 Completion of fitting sea connections 24.8.27
 Completion of pumping arrangements 7.10.27 Boilers fixed 13.9.27 Engines tried under steam 27.9.27
 Main boiler safety valves adjusted 27.9.27 Thickness of adjusting washers P.P. $\frac{9}{32}$ S $\frac{5}{16}$ C.P. $\frac{5}{16}$ S $\frac{5}{16}$ S.P. $\frac{5}{16}$ S $\frac{11}{32}$
 Crank shaft material Ingot Steel Identification Mark 1890 A.F. Thrust shaft material Ingot Steel Identification Mark 1890 A.F.
 Intermediate shafts, material Ingot Steel Identification Marks 1890 A.F. Tube shaft, material Identification Mark
 Screw shaft, material Ingot Steel Identification Mark 1890 A.F. Steam Pipes, material Lap welded steel Test pressure 600 lbs Date of Test 15.19.9.27
 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 carrying and burning oil fuel been complied with
 Is this machinery duplicate of a previous case no If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.)
 An evaporator has been fitted, the coils of which were tested to 400 lb. and the body to 50 lb.

This vessel's machinery has been built and installed under Special Purvey. The materials and workmanship are good and efficient.
 On completion it was satisfactorily tried under full steam and is now eligible to have the notation
 LMC 10.27.

It is submitted that this vessel is eligible for THE RECORD + LMC 10.27 FD. CL.

The amount of Entry Fee ... £ 6 : 0 :
 Special ... £ 100 : 1 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 13.10.1927
 When received, 11.11.27

Committee's Minute Fri. 21 OCT 1927

Assigned + Lmc 10.27 FD. CL.

R.D. Shilston
 Engineer Surveyor to Lloyd's Register of Shipping.



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