

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY

Received at London Office

27 DEC 1927

Date of writing Report 8 Dec 1927 When handed in at Local Office 14.12.1927 Port of West Hartlepool
 No. in Survey held at West Hartlepool Date, First Survey 14 Dec 1926 Last Survey 8 Dec 1927
 Reg. Book. on the S.S. "CITY OF CANBERRA" (Number of Visits 173)

Built at West Hartlepool By whom built Wm Gray & Co Ltd. Yard No. 985 Tons } Gross }
 } Net }
 Engines made at West Hartlepool By whom made Central Marine Engine Engine No. 985 When built 1927
 Boilers made at ditto By whom made Works Boiler No. 985 when made 1927
 Registered Horse Power _____ Owners _____ Port belonging to _____
 Nom. Horse Power as per Rule 831 Is Refrigerating Machinery fitted for cargo purposes yes Is Electric Light fitted yes
 Trade for which Vessel is intended Ocean going

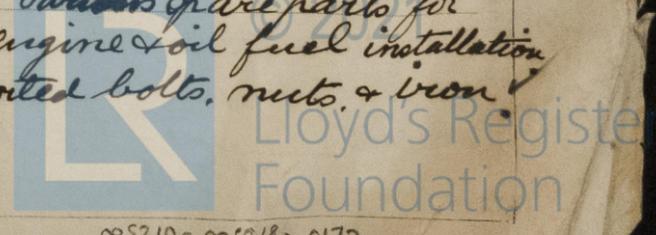
ENGINES, &c.—Description of Engines Quadruple expansion Revs. per minute 82½
 Dia. of Cylinders 25½" 37½" 54" 78½" Length of Stroke 54" No. of Cylinders 4 No. of Cranks 4
 Crank shaft, dia. of journals as per Rule 16.2 as fitted 16½" Crank pin dia. 16½" Crank webs Mid. length breadth 24½" Thickness parallel to axis 10½"
 Mid. length thickness 10½" shrunk Thickness around eye-hole 7½"
 Intermediate Shafts, diameter as per Rule 15.4" as fitted 15 13/16" Thrust shaft, diameter at collars as per Rule 16.2" as fitted 16½"
 Tube Shafts, diameter as per Rule _____ as fitted _____ Screw Shaft, diameter as per Rule 17" as fitted 17 13/16" Is the tube } screw } shaft fitted with a continuous liner } yes
 Bronze Liners, thickness in way of bushes as per Rule .82" as fitted .32" Thickness between bushes as per Rule .615" as fitted .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 _____
 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 _____ Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft no
 Length of Bearing in Stern Bush next to and supporting propeller 0-0"
 Propeller, dia. 18-9" Pitch 17-0" No. of Blades 4 Material Bronze whether Movable yes Total Developed Surface 123 sq. feet
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 5" Stroke 30" Can one be overhauled while the other is at work yes
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 5" Stroke 30" Can one be overhauled while the other is at work yes
 Feed Pumps { No. and size 2. 9x12x24. 1. 9½x7x21 Pumps connected to the { No. and size 2 main 5x30" 1 9x10½x10" duplex
 { How driven Steam { Main Bilge Line { How driven Steam
 Ballast Pumps, No. and size 1. 9x10½x10 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 5 of 3" dia. 1 of 3" in fore'd Cofferdam. 1 of 2½" in aft Cofferdam. 1 of 3" in tunnel
 In Holds, &c. No 1. 2 of 3" No 2. 2 of 4" No 3. 2 of 3" No 4. 2 of 3"
 Upper deep tanks 2 of 2½" Lower deep tanks 2 of 2½"
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 of 10" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 of 5½"
 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 yes
 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 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 none How are they protected _____
 What pipes pass through the deep tanks none 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 see ship report Is it fitted with a watertight door yes worked from upper deck

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 12052 sq. ft.
 Is Forced Draft fitted yes No. and Description of Boilers 4 single ended Working Pressure 265 lbs.
 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 _____ Main Boilers yes Auxiliary Boilers _____ Donkey Boilers _____
 Superheaters no General Pumping Arrangements yes Oil fuel Burning Piping Arrangements yes

SPARE GEAR. State the articles supplied:—2 Bolts & nuts connec. rod top ends, 2 ditto bottom ends, 2 ditto main bearings, 1 set Coupling ditto, 1 set valves and seats for main feed pumps, hotwell pumps & bilge pumps, 1 set valves for harbour feed, general service, ballast & oil transfer pumps, 1 hood & rings for H.P. piston, 1 set packing rings for 1st & 2nd M.P. & L.P. pistons, 6 piston bolts & nuts, 1 gland & neck bush for piston rods, 1 slide rod, 1 gland & neck bush for slide rods, 1 pair crank pin bearings, 1 pair eccentric straps, 1 air pump rod & nuts, 2 C.I. propeller blades, 1 set studs & nuts for 1 blade, 4 feed check valves, 1 valve & spindle for main stop valves, 1 ditto aux. stop valves, 4 safety valve springs, 6 boiler tubes, Cent. air pump, 1 piston rod & dipper, 1 pair crank pin bearings & bolts, 2 valve spindles, 1 impeller shaft. Various spare parts for fan engine & oil fuel installation. Assorted bolts, nuts, & iron.

The foregoing is a correct description,
 (W. Gray & Co. Ld.)
John H. James Manufacturer.
 DIRECTOR.

NOTE.—The words which do not apply should be deleted.
 If not, write whether, and when, one will be sent?



1926. Apr 14, 15, 16. - 1927. Feb. 3, 9, 23. Mar. 1, 3, 7, 10, 14, 16, 17, 18, 21, 23, 25, 28, 29, 30, 31. Apr. 1, 4, 5, 6, 7, 8, 11, 12, 13, 14, 19, 22, 28, 29.
 During progress of work in shops - - May, 2, 4, 5, 9, 10, 11, 13, 16, 19, 20, 24, 25, 26, 27, 30, 31. June, 1, 2, 3, 7, 9, 10, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 27, 28, 29, 30. July, 1, 4, 5, 6, 7, 8, 11, 12, 13, 18, 21, 22, 25, 26.
 Dates of Survey while building } During erection on board vessel - - - 28, 29. Aug 8, 10, 12, 15, 16, 18, 19, 22, 23, 24, 25, 26, 29, 30, 31. Sept. 1, 2, 5, 6, 7, 8, 12, 13, 15, 16, 19, 20, 21, 22, 23, 26, 27, 28, 29, 30. Oct. 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 24.
 Total No. of visits 173.

Dates of Examination of principal parts—Cylinders 10.3.27-12.7.27. Slides 28.3.27-21.7.27 Covers 15.12.26-29.3.27.
 Pistons 16.3.27-29.8.27 Piston Rods 7.3.27-31.8.27 Connecting rods 29.3.27-22.7.27.
 Crank shaft 25.5.27-29.6.27 Thrust shaft 16.6.27-29.6.27 Intermediate shafts 7.7.27-29.6.27
 Tube shaft ✓ Screw shaft 29.8.27-28.9.27 Propeller 18.8.27-22.9.27
 Stern tube 30.5.27-12.9.27 Engine and boiler seatings 6.9.27-10.10.27 Engines holding down bolts 13.10.27-21.10.27
 Completion of fitting sea connections 26.9.27.
 Completion of pumping arrangements 1.12.27 Boilers fixed 1.11.27 Engines tried under steam 1.12.27
 Main boiler safety valves adjusted 1.12.27. Thickness of adjusting washers P P 1/2" S 3/8" CP 5/16" S 3/32" S P 3/8" S 3/8" F P 3/8" S 3/8"
 Crank shaft material S.M. Ingot Steel Identification Mark 5195 H. Superheater 3 3/4" 7/16" 9/32" 1/2" 1/2" 1/2"
 Thrust shaft material S.M. Ing. Stl. Identification Mark 12874 K.H.
 Intermediate shafts, material S.M. Ing. Stl. Identification Marks 12872, 12874, 12879. Tube shaft, material ✓ Identification Mark ✓
 H. 97, 98, 171 MK. Lap welded ✓
 Screw shaft, material S.M. Ing. Stl. Identification Mark 123 MK. Steam Pipes, material Steel Test pressure 795 lb. Date of Test 27.9.27
 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 carrying and burning oil fuel been complied with yes ✓
 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. Weirs main feed pumps and direct contact feed heater fitted. A C.M.E.W. surface feed heater and an evaporator fitted. The body & coils of the heater tested to 560 lbs, the coils of the evaporator to 500 and its shell to 50 lbs. An oil fuel installation fitted, and a pair of C.M.E.W. oil separators, the coils of which were tested to 400 lbs, and the bodies to 50 lbs.

This vessel's machinery has been built under Special Survey. The materials and workmanship are good. On completion it was tried at work under full steam and is now eligible in our opinion to have the notation \boxplus LMC 12.27.

It is submitted that this vessel is eligible for THE RECORD. + LMC 12.27. FD. CL. Fitted for oil fuel 12.27. FP. above 150°F.

J.W.D.
28/12/27

The amount of Entry Fee ... £ 6 : 0 :
 Special ... £ 116 : 11 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :

When applied for, 19.12.27
 When received, 26.1.28
 R.D. Shilston A. Daintith
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 30 DEC 1927

Assigned

+ R.M.C. 12.27 F.D. CL.
 Fitted for Oil fuel 12.27 F.P. above 150°F



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