

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office - 3 NOV 1930

Date of writing Report 10 When handed in at Local Office 1<sup>st</sup> Nov. 1930 Port of BELFAST

No. in Survey held at BELFAST Date, First Survey 19<sup>th</sup> May 1930 Last Survey 28<sup>th</sup> Oct 1930  
 Reg. Book. 91489 on the Steel Sc. "MAVIS" (Number of Visits 33)

Tons } Gross 900.  
 } Net

Built at Belfast By whom built Workman, Clark (1928) Ltd. Yard No. 520. When built 1930.

Engines made at Belfast By whom made Workman, Clark (1928) Ltd. Engine No. 520. When made 1930.

Boilers made at Belfast By whom made Workman, Clark (1928) Ltd. Boiler No. 520. When made 1930.

Registered Horse Power Owners The General Steam Navigation Co. Ltd. Port belonging to London.

Nom. Horse Power as per Rule 189.2 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

Trade for which Vessel is intended

**ENGINES, &c.**—Description of Engines Triple expansion reciprocating. Revs. per minute 90.

Dia. of Cylinders 17½", 29", 48". Length of Stroke 33". No. of Cylinders 3. No. of Cranks 3.

Crank shaft, dia. of journals as per Rule 9.51" as fitted 9¾". Crank pin dia. 9¾". Crank webs Mid. length breadth 14½" Mid. length thickness 6" shrunk Thickness parallel to axis 6" Thickness around eye-hole 4½"

Intermediate Shafts, diameter as per Rule 9.057" as fitted 9.25". Thrust shaft, diameter at collars as per Rule 9.51" as fitted 9¾"

Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 10.095" as fitted 10¾". Is the tube screw shaft fitted with a continuous liner? Yes.

Bronze Liners, thickness in way of bushes as per Rule .605" as fitted 11/16". Thickness between bushes as per Rule .454" 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? No. If so, state type. Length of Bearing in Stern Bush next to and supporting propeller 3-7"

Propeller, dia. 12'-6" Pitch 13'-0" No. of Blades 4 Material Bronze whether Movable No. Total Developed Surface 47 sq. feet

Feed Pumps worked from the Main Engines, No. 2 Diameter 3" Stroke 16½" Can one be overhauled while the other is at work? Yes.

Bilge Pumps worked from the Main Engines, No. 2 Diameter 3" Stroke 16½" Can one be overhauled while the other is at work? Yes.

Feed Pumps { No. and size 2-6"x8½"x13" 1-4"x6"x7" Pumps connected to the Main Bilge Line { No. and size 200 How driven Steam. { One 6"x6"x6" Duplex. One 6"x4½"x6" Duplex.

Ballast Pumps, No. and size 1-6"x6"x6" 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 4-2½" 1-2½" off-berth suction. In Pump Room 1-2" tunnel well. In Holds, &c. 2-2" No 1 hold. 2-2½" No 2 hold. 2-2½" aft hold.

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-5". Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-3½". 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? 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? No 1 & 2 hold suction. How are they protected? Wood casing.

What pipes pass through the deep tanks? 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 Engine room top grating.

**MAIN BOILERS, &c.**—(Letter for record S.) Total Heating Surface of Boilers 3400 sq. ft.

Is Forced Draft fitted? No. No. and Description of Boilers 2 cyl multi. 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? Yes.

Is the donkey boiler intended to be used for domestic purposes only? Yes.

**PLANS.** Are approved plans forwarded herewith for Shafting No. Main Boilers 24/4/30. Auxiliary Boilers Donkey Boilers

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

- 1- cast iron propeller.
- 1- set thrust block pads.
- 6- condenser tubes.
- 20- " tube ferrules.
- 1- set air pump valves.
- 6- boiler tubes.

The foregoing is a correct description,  
 pro WORKMAN CLARK (1928) LIMITED,  
 Secretary.

Manufacturer.



If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship? If not, state whether, and when, one will be sent? X022.—The words which do not apply should be deleted.

1930  
 May 19. 20. 30 June 4. 13. 20. 23. 24. 25. 26 July 2. 7. 9. 10. 24. 25. 29 Aug. 12. 22. 25  
 During progress of work in shops - - 26. 28. 29 Sept 4. 14. 18. 22. 25. 26. 30 Oct 20. 22. 28  
 Dates of Survey while building  
 During erection on board vessel - - -  
 Total No. of visits 33

Dates of Examination of principal parts—Cylinders 23/6/30. 2/7/30. 7/8/30. Slides 23/6/30. 2/7/30. Covers 23/6/30. 2/7/30.  
 Pistons 25/7/30. Piston Rods 25/7/30. Connecting rods 9/7/30.  
 Crank shaft 8/7/30. Thrust shaft 8/7/30. Intermediate shafts 26/8/30.  
 Tube shaft ✓ Screw shaft 24/6/30. 26/8/30. Propeller 29/8/30.  
 Stern tube 29/8/30. Engine and boiler seatings 18/9/30. Engines holding down bolts 18/9/30.  
 Completion of fitting sea connections 14/10/30.  
 Completion of pumping arrangements 9/10/30. Boilers fixed 18/9/30. Engines tried under steam 28/10/30.  
 Main boiler safety valves adjusted 28/10/30. Thickness of adjusting washers SP  $\frac{1}{32}$ " S  $\frac{3}{8}$ " PP  $\frac{3}{8}$ " S  $\frac{3}{8}$ "  
 Crank shaft material Steel Identification Mark J.K.W. 8/7/30. Thrust shaft material Steel Identification Mark J.K.W. 8/7/30.  
 Intermediate shafts, material Steel Identification Marks J.K.W. 26/8/30. Tube shaft, material ✓ Identification Mark 19/9/30.  
 Screw shaft, material Steel Identification Mark J.K.W. 26/8/30. Steam Pipes, material Steel Test pressure 600 lbs. Date of Test 22/9/30.  
 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 No. If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)  
 The machinery of this vessel was constructed under special survey. The materials and workmanship are sound and good. The main engines and auxiliaries were tried under steam at a moored trial and sea trial with satisfactory results. In my opinion the vessel is eligible for notation in the Register Book + LMC 10.30 CL. Boiler pressure 200 lbs. D.

It is submitted that  
 this vessel is eligible for  
 THE RECORD. + L.M.C. 10.30  
 C-L.

J. K. Williams  
 6/11/30.

The amount of Entry Fee ... £ 3 : 0 :  
 Special ... £ 47 : 5 :  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) £ : :  
 When applied for, 1<sup>st</sup> Nov. 1930  
 When received, 19.11.1930

John K. Williams  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute  
 Assigned  
 TUE 11 NOV 1930  
 + L.M.C. 10.30 CL



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