

# REPORT ON OIL ENGINE MACHINERY.

No. 12500

Received at London Office

DEC 2 1938

Date of writing Report

When handed in at Local Office

30.11.39 Port of Belfast

No. in Survey held at Reg. Book.

Date, First Survey 16 Aug 1938 Last Survey 26 Nov 1939

Number of Visits 197

36311 on the Single Screw vessel

## "WAIOTIRA"

Tons Gross Net

Built at Belfast By whom built Haland, Wolff Ltd Yard No. 1019 When built 1939  
 Engines made at Belfast By whom made Haland, Wolff Ltd Engine No. 1019 When made 1939  
 Donkey Boilers made at Belfast By whom made Haland, Wolff Ltd Boiler No. 1019 When made 1939  
 Brake Horse Power 14000 Owners Shaw Savill, Albion Co Ltd Port belonging to Southampton  
 Nom Horse Power as per Rule 2463 Is Refrigerating Machinery fitted for cargo purposes Yes. Is Electric Light fitted Yes.  
 Trade for which vessel is intended Ocean-Going.

Oil Engines, &c. Type of Engines Haland, Wolff - B & W Ailers Injector or 4 stroke cycle 2 Single or double acting Double

Maximum pressure in cylinders 700 lbs/sq. in. Diameter of cylinders 620 mm Length of stroke 1400 mm No. of cylinders 12 No. of cranks 12

Mean Indicated Pressure 100 lbs/sq. in. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1164 mm Is there a bearing between each crank Yes.

Revolutions per minute 110 Flywheel dia. 2483 mm. Weight 2500 Kgs. Means of ignition Compressed Kind of fuel used Diesel Oil

Crank Shaft, Solid forged dia. of journals as per Rule approved 485 mm Crank pin dia. 485 mm Crank Webs Mid. length breadth 1040 mm Thickness parallel to axis 250 mm

Flywheel Shaft, diameter as per Rule On Shaft. Intermediate Shafts, diameter as per Rule approved 17 1/2" Thrust Shaft, diameter at collars as per Rule approved 460 mm

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule approved 19 1/4" Is the shaft fitted with a continuous liner Yes.

Bronze Liners, thickness in way of bushes as per Rule 28 1/2" Thickness between bushes as per Rule 2 1/2" 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

Propeller, dia. 18'-0" Pitch 19'-0" No. of blades 3 Material Boss - Cast Iron Other Moveable Yes. Total Developed Surface 77 sq. feet

Method of reversing Engines Forced. Oil Brake Cyls. Is a governor or other arrangement fitted to prevent racing of the engine when decelerated Yes. Means of lubrication

Thickness of cylinder liners 42 mm. Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Lagged

Cooling Water Pumps, No. Three. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes.

Bilge Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and Size Three - Bilge Pump 120 Imp/h. Bilge Pump 120 Imp/h. Ballast Pump 200 Imp/h. How driven Electric Motors.

Is the cooling water led to the bilges No. If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements

Ballast Pumps, No. and size One & 200 Imp/h. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Three & 280 Imp/h.

Are two independent means arranged for circulating water through the Oil Cooler Yes. Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size: - In Machinery Spaces 4 @ 3 1/2" one @ 2 1/2" Tunnel recess, 2 @ 2" Crankpit, one @ 3 1/2" Tunnel well. In Pump Room

in Holds, &c. 2 @ 3 1/2" from each of Nos 1, 2, 3 & 4; 2 @ 3 1/2" from Scupper drain tanks; 2 @ 3 1/2" in Tunnel for No 4 & 5; 2 @ 3" in 6 Hold, one @ 2" Duct Keel, one @ 2 1/2"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Three - Ballast P 6", Bilge P. 5", Bilge P. 5".

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes. Are the Bilge Suctions in the Machinery Spaces

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 platform plates Yes. Are the Overboard Discharges above or below the deep water line Above & 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 Scupper Pipes (Nos 4, 5 of Bunkers P & S) How are they protected

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.

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Is it fitted with a watertight door Yes. worked from Shell & Sk

Main Air Compressors, No. Two. No. of stages 2. Diameters 400 mm, 350 mm Stroke 260 mm Driven by Electric Motors

Auxiliary Air Compressors, No. No. of stages 2. Diameters 100, 88 mm. Stroke 80 mm. Driven by Steam Engine

Small Auxiliary Air Compressors, No. One. No. of stages 2. Diameters 100, 88 mm. Stroke 80 mm. Driven by Steam Engine

What provision is made for first charging the Air Receivers Steam driven Air Compressor. Driven by Chain from main engine

Scavenging Air Pumps, No. Four - Capacity of each 328 M<sup>3</sup>/min at 126 Kg./cm<sup>2</sup> absolute @ 110 RPM of Engine. Driven by Chain from main engine

Auxiliary Engines crank shafts, diameter as per Rule 158 mm. as fitted 160 mm. No. Four. Position Wings of main engine room. Is a report sent herewith Yes.

Have the Auxiliary Engines been constructed under special survey Yes.



