

REPORT ON OIL ENGINE MACHINERY.

No. 55326

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Date of writing Report 8th Feb 1935 When handed in at Local Office 11th Feb. 1935 Port of Glasgow Date, First Survey 9th Feb 1934 Last Survey 8th Feb 1935 Number of Visits 120

No. in Survey held at Reg. Book. 87477 on the Single Twin Triple Quadruple Screw vessel "WAIRANGI" Tons Gross 10779 Net 6538

Built at Glasgow By whom built Harland & Wolff Ltd. Yard No. 9246 When built 1935-2 Engines made at Do. By whom made do. Engine No. 9246 When made 1935-2 Donkey Boilers made at Belfast By whom made Do. Boiler No. 9246 When made 1934. Brake Horse Power 12,000 Owners Shaw, Savill & Albion Co. Ltd. Port belonging to Southampton Nom. Horse Power as per Rule 1631 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes Trade for which vessel is intended Foreign.

OIL ENGINES, &c. Type of Engines Harland B. & W. - Airless injection 2 or 4 stroke cycle 4 Single or double acting Single Maximum pressure in cylinders 700 lb./sq. in. Diameter of cylinders 29 1/8 59 1/8 Length of stroke 1500 mm. No. of cylinders 20 No. of cranks 20 Mean Indicated Pressure 128 lb./sq. in.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 106.2 mm. Is there a bearing between each crank Yes Flywheel dia. 2483 mm. Weight 2 1/2 tons Means of ignition Compression Kind of fuel used Heavy oil Revolutions per minute 119

Crank Shaft, dia. of journals as per Rule 523 mm. as fitted 530 mm. Crank pin dia. 530 mm. Crank Webs Mid. length breadth 880 mm. Mid. length thickness 326 mm. Thickness parallel to axis 326 mm. Thickness around eye-hole 248 mm. Flywheel Shaft, diameter as per Rule 523 mm. as fitted 530 mm. Intermediate Shafts, diameter as per Rule 15" as fitted 15 1/2" Thrust Shaft, diameter at collar as per Rule 15 3/4" as fitted 16 1/4"

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 16 1/2" as fitted 17 3/4" Is the tube shaft fitted with a continuous liner Yes Bronze Liners, thickness in way of bushes as per Rule 13/16" as fitted 7/8" Thickness between bushes as per rule 39/64" as fitted 23/32" 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 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 Length of Bearing in Stern Bush next to and supporting propeller 5'-11"

Propellers dia. 17'-0" Pitch 16'-6" No. of blades 3 each Material High Speed Cast Iron whether Moveable Yes Total Developed Surface 70 sq. feet Method of reversing Engines Compounded Air Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication non-conducting material Yes

Thickness of cylinder liners 53 x 32 mm. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine Yes Cooling Water Pumps, No. 2 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. None Diameter Stroke Can one be overhauled while the other is at work Pumps connected to the Main Bilge Line No. and Size 1 @ 200 tons ph. + 2 @ 60 tons ph. each. 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 1 @ 200 tons ph. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 3 @ 70 x 100 tons ph. each. 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", 1 @ 3", 2 @ 2 1/2", 7 @ 2", 2 @ 5", 1 @ 6" In Pump Room In Holds, &c. 8 @ 3 1/2" + 3 @ 3"

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 6" + 2 @ 5" Are the Bilge Suctions in the Machinery Spaces Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are they fitted with Valves or Cocks Both

Are all Sea Connections fitted direct on the skin of the ship Yes Are the Overboard Discharges above or below the deep water line Both Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes How are they protected

What pipes pass through the bunkers Have they been tested as per Rule Yes What pipes pass through the deep tanks 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 Inlet of upper deck. If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork Main Air Compressors, No. 2 No. of stages 2 No. of stages 2 Diameters 400 + 350 mm. Stroke 260 mm. Driven by Electric Motors

Auxiliary Air Compressors, No. 1 No. of stages 1 Diameters 180 + 56 mm. Stroke 115 mm. Driven by Steam Small Auxiliary Air Compressors, No. None No. of stages Scavenging Air Pumps, No. None Diameter Stroke Driven by Auxiliary Engines crank shafts, diameter as per Rule 158 mm. as fitted 160 mm.

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