

# REPORT ON OIL ENGINE MACHINERY.

No. 13856

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Survey held at BELFAST Date, First Survey 16 July 1943 Last Survey 2 Nov 1944  
No. of Visits 2x6

Single on the Twin Screw vessel M.V. "WAIWERA"  
Gross Tons 12028 Net Tons 7032  
Built at BELFAST By whom built HARLAND & WOLFF LD. Yard No. 1161 When built 1944  
Engines made at BELFAST By whom made HARLAND & WOLFF LD. Engine No. 1161 When made 1944  
Monkey Boilers made at BELFAST By whom made HARLAND & WOLFF LD. Boiler No. 1161 When made 1944  
Indicated Horse Power 12,000 Owners SHAW, SAVILL & ALBION, CO. LD. Port belonging to LONDON  
Horse Power as per Rule 2550 2552 Refrigerating Machinery fitted for cargo purposes YES Is Electric Light fitted YES  
Trade for which vessel is intended REFRIGERATED & GENERAL CARGO

MAIN ENGINES, &c. — Type of Engines HARLAND-B. & W. AIRLESS INJECTION or 4 stroke cycle 2 Single or double acting D.A.  
Maximum pressure in cylinders 700 LB./sq. in COVERLESS TYPE 2 5/8 1200 MM MAIN PISTON = 47 1/4  
Mean Indicated Pressure 100 LB./sq. in MAX. Diameter of cylinders 550 MM Length of stroke 1200 MM No. of cylinders 2x6 No. of cranks 2x6  
Span of bearings, adjacent to the crank, measured from inner edge to inner edge 1156 MM Is there a bearing between each crank YES  
Revolutions per minute 120 Flywheel dia. 2489 MM Weight 2540 KGS. 90° of balance weight 3974 Kg/m<sup>2</sup> Means of ignition COMP. Kind of fuel used HEAVY OIL  
Crank shaft, dia. of journals as per Rule 115 MM HOLE Crank pin dia. 115 MM HOLE Crank webs Mid. length breadth 1050 MM Thickness parallel to axis 235 MM  
Flywheel Shaft, diameter as per Rule FLYWHEEL MOUNTED ON THRUST Intermediate Shafts, diameter as fitted 15 1/2" Thrust Shaft, diameter at collars as fitted 4.30 MM  
Crank Shaft, diameter as per Rule 19 1/4" Is the shaft fitted with a continuous liner YES

Bronze Liners, thickness in way of bushes as per Rule 1" Thickness between bushes as per Rule 27/32 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 —  
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 tube shaft No  
Propeller, dia. 16'-6" Pitch 16'-9" No. of blades 3 Material BLADES - MANG. BRONZE Length of bearing in Stern Bush next to and supporting propeller 6'-9"  
Method of reversing Engines HAND GEAR Is a governor or other arrangement fitted to prevent racing of the engine when disengaged YES Means of lubrication FORCED Thickness of cylinder liners 3B MM Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled  
Lagged with non-conducting material LAGGED If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine — Cooling Water Pumps, No. 3 S.W. 2 F.W. 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 2 @ 120 T/HR. 1 @ 200 T/HR. How driven ELECTRIC MOTOR  
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 T/HR. Power Driven Lubricating Oil Pumps, including spare pump, No. and size 3 @ 340 T/HR.  
Are there 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", 2 @ 2 1/2", 2 @ 2" In pump room —  
Holds, &c. Nos. 1, 2, 3, 4 & 5 - 2 @ 3 1/2" IN EACH No. 6 - 2 @ 3" TUNNEL - 1 @ 3 1/2"  
Independent Power Pump Direct Suctions to the engine room bilges, No. and size 2 @ 5" 1 @ 6"  
Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes YES Are the bilge suction pipes 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 efficiently 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 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  
Do any pipes pass through the bunkers NONE How are they protected —  
Do any pipes pass through the deep tanks No. 5 Hold BILGE SUCTIONS 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 No worked from —

Starting Main Air Compressors, No. 2 No. of stages 2 diameters 400 MM x 350 MM stroke 260 MM driven by ELECT. MOTOR  
Auxiliary Air Compressors, No. — No. of stages — diameters — stroke — driven by —  
Small Auxiliary Air Compressors, No. 1 No. of stages 2 diameters 100 MM x 88 MM stroke 80 MM driven by STEAM ENG.  
What provision is made for first charging the air receivers. AUXILIARY COMP. STEAM DRIVEN  
Scavenging Air Pumps, No. 2 ON EACH MAIN ENG. diameter 297 MM<sup>3</sup>/MIN. stroke — driven by MAIN ENGINE  
Auxiliary Engines crank shafts, diameter as per Rule 160 MM No. 4 Position 2 PORT 2 STARBD.  
Have the auxiliary engines been constructed under special survey YES Is a report sent herewith YES

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