

REPORT ON OIL ENGINE MACHINERY.

No. 64063

Received at London Office 7 JUL 1941

When handed in at Local Office 12. 7. 1941 Port of Glasgow. Date, First Survey 1941 May 5th Last Survey 8th July 1941

in Survey held at Glasgow. Book. on the **EMPIRE LAD** Tons Gross 298 Net

By whom built Rosneath Ironworks Ltd Yard No. 601 When built 1941. By whom made British Auxiliaries Ltd Engine No. 396 When made 1941. Brake Horse Power 460. Owners Port belonging to. Is Refrigerating Machinery fitted for cargo purposes. Is Electric Light fitted.

ENGINES, &c.—Type of Engines Heavy Oil Type M 45 I 2 or 4 stroke cycle 2 Single or double acting Single. Maximum pressure in cylinders 782 lb. Diameter of cylinders 250 7/16 Length of stroke 420 7/16 No. of cylinders 5 No. of cranks 5.

Revolutions per minute 375 Flywheel dia. 900 7/16 Weight 1540 lb. Means of ignition Compression Kind of fuel used Diesel. Crank pin dia. 160 7/16 Crank Webs Mid. length breadth 214.37 Thickness parallel to axis shrunk. Thickness around eye-hole.

Intermediate Shafts, diameter as per Rule 4.18" Thrust Shaft, diameter at collars as per Rule 112 7/16. Screw Shaft, diameter as per Rule.

Oil Liners, thickness in way of bushes as per Rule. Thickness between bushes as per Rule. Is the after end of the liner made watertight in the propeller boss.

Propeller, dia. Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet. Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when detached Yes.

Exhausting Water Pumps, No. One 130 7/16 - 60 7/16 Is the sea suction provided with an efficient strainer which can be cleared within the vessel. Large Pumps worked from the Main Engines, No. One Diameter 100 7/16 Stroke 60 7/16 Can one be overhauled while the other is at work.

Pumps connected to the Main Bilge Line No. and Size How driven. Are the exhaust pipes and silencers water cooled or lagged with insulating material.

Ballast Pumps, No. and size. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 off each 257 5/9 gal per hr. Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces In Pump Room.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size. Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes.

Are the Bilge Suctions in the Machinery Spaces from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges. Are all Sea Connections fitted direct on the skin of the ship.

Are they fitted with Valves or Cocks. Are the Overboard Discharges above or below the deep water line. Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates.

Are the Blow Off Cocks fitted with a spigot and brass covering plate. How are they protected. 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.

Is the Shaft Tunnel watertight. Is it fitted with a watertight door. worked from. Are wood vessels, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork.

Main Air Compressors, No. One No. of stages 2 Diameters 140 7/16 - 55 7/16 Stroke 240 7/16 Driven by Main Engines. Auxiliary Air Compressors, No. One Diameter 650 7/16 Stroke 240 7/16 Driven by Main Engines.

Are the Auxiliary Engines crank shafts, diameter as per Rule as fitted. Position. Is a report sent herewith.

AIR RECEIVERS:—Have they been made under survey *yes* State No. of Report or Certificate *C. 42748*
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule *yes*
 Can the internal surfaces of the receivers be examined and cleaned *yes* Is a drain fitted at the lowest part of each receiver *yes*
Injection Air Receivers, No. *✓* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*
 Seamless, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure by Rules *✓*
Starting Air Receivers, No. *Two* Total cubic capacity *28 cub. ft.* Internal diameter *11-9"* thickness *13/32"*
 Seamless, lap welded or riveted longitudinal joint *riveted* Material *Steel* Range of tensile strength *28/32 tons* Working pressure by Rules *355*
 Actual *355*

IS A DONKEY BOILER FITTED? If so, is a report now forwarded?
 Is the donkey boiler intended to be used for domestic purposes only
PLANS. Are approved plans forwarded herewith for Shafting *12-3-34* Receivers *11-10-34* *23-5-32* Separate Fuel Tanks
 (If not, state date of approval)
 Donkey Boilers General Pumping Arrangements Pumping Arrangements in Machinery Space
 Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied *yes*
 State the principal additional spare gear supplied *as per attached list.*

The foregoing is a correct description,

[Signature] Manufacturer.
 Director and General Manager

Dates of Survey while building
 During progress of work in shops - - *1941 May 5, 22, 26, 29. June 6, 9, 16, 19, 23. July 8.*
 During erection on board vessel - - - *10*
 Total No. of visits *10*

Dates of Examination of principal parts—Cylinders *5-5-41* Covers *22-5-41* Pistons *29-5-41* Rods *6/6/41* Connecting rods *6-6-41*
 Crank shaft *22-5-41* Flywheel shaft *22-5-41* Thrust shaft *22-5-41* Intermediate shafts Tube shaft
 Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts
 Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions
 Crank shaft, Material *Steel* Identification Mark *LLOYD'S NO. 7583* Flywheel shaft, Material Identification Mark
 Thrust shaft, Material *Steel* Identification Mark *LLOYD'S NO. 356* Intermediate shafts, Material Identification Marks
 Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark
 Identification Marks on Air Receivers *No 42748*
LLOYD'S TEST
555 lbs
W.P. 350 lbs
F.D. 20.3.41.

Is the flash point of the oil to be used over 150° F. *yes*
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo 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 *yes* If so, state name of vessel *M.V. TIROA* *pls report NO 5925*

General Remarks (State quality of workmanship, opinions as to class, &c. *These engines have been built under Special Survey, in accordance with the Rules and approved plans. The materials and workmanship are good. On completion they have been tried on the bench at full power with satisfactory results. They are to the order of Messrs. Rowledge Ironworks, and intended for their Job No. 6011.*

The requirements of the M.O.S. Specification have been satisfactorily carried out.

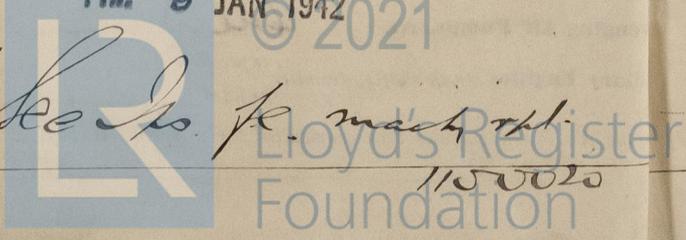
Job 12/1/41
 The amount of Entry Fee *£ 2.0.0* When applied for, *15 JUL 1941*
 Special *£ 26.5.0* When received.
 Donkey Boiler Fee *£ Not*
 Travelling Expenses (if any) *£*

G. E. Murdoch
 Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 9 JAN 1942

Committee's Minute **GLASGOW 15 JUL 1941**

Assigned *Superior*



Certificate (if required) to be sent to
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)