

REPORT ON OIL ENGINE MACHINERY.

No. 918

MAR 11 1939

Received at London Office

Date of writing Report **Sept. 7th, 1938** When handed in at Local Office

Port of **Cleveland, Ohio.**

No. in Survey held at **Beloit, Wis.**
Reg. Book.

Date, First Survey **May 11th,** Last Survey **Aug. 30th, 1938**
Number of Visits **9**

on the **Single** } **Screw vessel** **Marine Industries, Ltd. Hull No. 65** Tons { Gross -
Twin } **M.V. "PETROLITE"** Net -
Triple }
Quadruple }

Built at **Sorel, P.Q.** By whom built **Marine Industries, Ltd.** Yard No. - When built **1938**
809119
Engines made at **Beloit, Wis.** By whom made **Fairbanks Morse & Co.** Engine No. **809140** When made **1938**
Donkey Boilers made at - By whom made - Boiler No. - When made -
Brake Horse Power **700 each** Owners **Imperial Oil Co. Ltd.** Port belonging to -
Nom. Horse Power as per Rule **354** Is Refrigerating Machinery fitted for cargo purposes - Is Electric Light fitted -
Trade for which vessel is intended -

OIL ENGINES, &c. Type of Engines **Diesel, solid injection** 2 or 4 stroke cycle **2** Single or double acting **S**
Positive Scavenging

Maximum pressure in cylinders **740#** Diameter of cylinders **12"** Length of stroke **15"** No. of cylinders **7** No. of cranks **7**
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge **16"** Is there a bearing between each crank **Yes**
Revolutions per minute **400** Flywheel dia. - Weight - Means of ignition **Comp.** Kind of fuel used **30-32° Be.**
Crank Shaft, dia. of journals as per Rule - as fitted **8"** Crank pin dia. **8"** Crank Webs Mid. length breadth **11"** Thickness parallel to axis **4-7/16"**
as per Rule - as fitted - Mid. length thickness - Thickness around eye-hole -
Flywheel Shaft, diameter as per Rule - as fitted - **Intermediate Shafts, diameter** as per Rule - as fitted - **Thrust Shaft, diameter at collars** as per Rule - as fitted -
Tube Shaft, diameter as per Rule - as fitted - **Screw Shaft, diameter** as per Rule - as fitted - Is the { tube } shaft fitted with a continuous liner { screw }
Bronze Liners, thickness in way of bushes as per Rule - as fitted - Thickness between bushes as per rule - as fitted - Is the after end of the liner made watertight in the propeller boss - If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner -

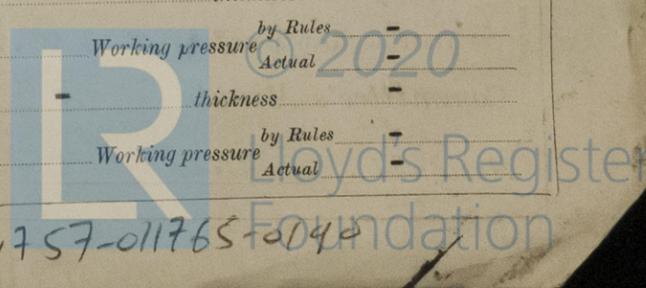
If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive -
If two liners are fitted, is the shaft lapped or protected between the liners - Is an approved **Oil Gland** or other appliance fitted at the after end of the tube -
shaft - If so, state type - Length of Bearing in **Stern Bush** next to and supporting propeller -
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 declutched **Yes** Means of lubrication **Forced**
water-cooled Thickness of cylinder liners **1-1/8 to 3/4"** Are the cylinders fitted with safety valves **Yes** Are the exhaust pipes and silencers water cooled or lagged with non-conducting material **cooled** 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. Two 4-1/2" x 4-1/2" DA Is the sea suction provided with an efficient strainer which can be cleared within the vessel -
Bilge Pumps worked from the Main Engines, No. One Diameter **2-1/4"** Stroke **4-1/2"** Can one be overhauled while the other is at work **No**
Pumps connected to the Main Bilge Line { No. and Size - How driven - } **One 140 gall. per min. reversible gear pump.**
Ballast Pumps, No. and size - **Lubricating Oil Pumps, including Space Pump, No. and size** -
Are two independent means arranged for circulating water through the **Oil Cooler** - **Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces** - **In Pump Room** -
In Holds, &c. -

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size - Are the Bilge Suctions in the Machinery Spaces
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes -
led 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 they fixed sufficiently high on the ship's side to be seen without lifting the platform plates - Are the Overboard Discharges above or below the deep water line -
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel - Are the Blow Off Cocks fitted with a spigot and brass covering plate -
How are they protected -
What pipes pass through the bunkers - Have they been tested as per Rule -
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 -
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 - Is the Shaft Tunnel watertight - Is it fitted with a watertight door - worked from -
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. One No. of stages **Single** Diameters **8"** Stroke **4-1/2"** Driven by **Main Engine**
Auxiliary Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -
Small Auxiliary Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -
Scavenging Air Pumps, No. One Diameter **28"** Stroke **15"** Driven by **Main Engine**
Auxiliary Engines crank shafts, diameter as per Rule - as fitted - Position -

AIR RECEIVERS:— Is each receiver, which can be isolated, fitted with a safety valve as per Rule **None**
Can the internal surfaces of the receivers be examined and cleaned - Is a drain fitted at the lowest part of each receiver -
High Pressure Air Receivers, No. - Cubic capacity of each - Internal diameter - thickness -
Seamless, lap welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure Actual **2020**
Starting Air Receivers, No. - Total cubic capacity - Internal diameter - thickness -
Seamless, lap welded or riveted longitudinal joint - Material - Range of tensile strength - Working pressure Actual



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 - Receivers - Separate Tanks -

Donkey Boilers - General Pumping Arrangements - Oil Fuel Burning Arrangements -

SPARE GEAR.

Has the spare gear required by the Rules been supplied As per F.M/ Lists 8833 and 6900B - Yes

State the principal additional spare gear supplied See Fairbanks Morse & Co. List 8833 Sheet 17 and List 6900B Sheets 515 to 542, 547 to 557 and 577 to 578, attached to this report.

The foregoing is a correct description,

Fairbanks, Morse & Co. per C.L. Bohman Chief Inspector - Manufacturer.

Dates of Survey while building: During progress of work in shops - May 11, July 26, 27, 28, Aug. 18, 19, 24, 29, 30, 1938. During erection on board vessel - Total No. of visits 9

Dates of Examination of principal parts: Cylinders 7/26-27/8/19/38, Covers 7/26-27/8/19/38, Pistons 7/26-27/8/19/38, Rods - Connecting rods 7/26-27/8/19/38. Crank shaft 7/26/27/38, Flywheel shaft - Thrust shaft - 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 O.H. Steel Identification Mark 3277 5-11-38 GD Flywheel shaft, Material - Identification Mark - Thrust shaft, Material - Identification Mark - Intermediate shafts, Material - Identification Marks - Tube shaft, Material - Identification Mark - Screw shaft, Material - Identification Mark

Is the flash point of the oil to be used over 150° F. - 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 - If so, state name of vessel -

General Remarks (State quality of workmanship, opinions as to class, &c.)

The above mentioned engines have been built under special survey, and on completion were tested under full and intermediate loads in the shop. The materials and workmanship were found to be sound and efficient. When the engines have been fitted in the vessel and tried out, to the satisfaction of the Society's Surveyors, she will be eligible in my opinion, for record * LMC in the Register Book.

Attached to this report are forging reports Nos. 3277 and 3278.

Certificate (if required) to be sent to Committee's Minute

The amount of Entry Fee .. £ \$300.00 : When applied for, 9/16/ 1938. Special ... £ : Donkey Boiler Fee ... £ : Travelling Expenses (if any) £ \$ 93.75 : When received, Dec. 9/5 1938

Acting Engineer Surveyor to Lloyd's Register of Shipping. P.W. Wilson

Committee's Minute NEW YORK MAR 1 1939

Assigned Transmit to London

