

# REPORT ON OIL ENGINE MACHINERY.

No. 4830.  
JAN 16 1939

Received at London Office

Date of writing Report 10<sup>th</sup> Dec 1938. When handed in at Local Office 10<sup>th</sup> Dec 1938. Port of Montreal.

No. in Survey held at Soul P. Q. Date, First Survey 9<sup>th</sup> August Last Survey 26<sup>th</sup> Nov 1938.  
Reg. Book. 89751 on the Single Screw vessel "Scholite" Tons Gross 1560.56  
Triple Quadruple Net 856.16

Built at Soul P. Q. By whom built Marine Industries, Ltd Yard No. 65 When built 1938  
Engines made at Detroit, Mich, U.S.A. By whom made Fairbanks, Morse & Co. Ltd Engine No. 809119 When made 1938  
Donkey Boilers made at Aman, Scotland By whom made Cochrane & Co. Ltd Boiler No. 13708 When made 1938

Brake Horse Power 2 - 700 Owners Imperial Oil Shipping Co. Ltd Port belonging to Montreal  
Nom. Horse Power as per Rule 354 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which vessel is intended Carrying petroleum in bulk

## OIL ENGINES, &c.—Type of Engines Diesel, Solid Fuel, Positive Scavenging 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 740 # Diameter of cylinders 12" Length of stroke 15" No. of cylinders 7 x 2 No. of cranks 7 x 2  
Mean Indicated Pressure 69 #

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 Engine Flywheel dia. 125" Weight ✓ Means of ignition Compression Kind of fuel used 30-32 Oil

Crank Shaft, dia. of journals 8" as fitted Crank pin dia. 8" Crank Webs 11" Mid. length breadth 11" Thickness parallel to axis 4 7/16"  
as per Rule 8" as fitted Mid. length thickness shrunk Thickness around eye-hole

Flywheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule  
as fitted 8 1/4" as fitted 9 1/2" as fitted for 1st main wheel

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner Yes  
as fitted 9 1/4" as fitted 10 3/4" as per rule 7/8" as fitted 1 1/2"

Bronze 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  
as fitted 9/16" as fitted 1 1/8" 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 the tube ✓

Propeller, dia. 12'-0 3/4" Pitch 10'-0" No. of blades 4 Material Brongze whether Moveable Fixed Total Developed Surface 59.0 sq. feet  
Length of Bearing in Stern Bush next to and supporting propeller 4'-2"

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  
Thickness of cylinder liners 1 1/8" - 3/4" 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. 2 - 4 1/2" x 4 1/2" A.A. 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. 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 1 - 3 1/4" x 4" Duplex 1 - 2" x 3" two stage Cent. 2 - 2 1/4" x 4 1/2" Plunger  
How driven Motor Driven Motor Driven Driven from main engine  
38 G.P.M. 275 G.P.M. 31 G.P.M.

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 4 - 6" Suct. 5" Disch. Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 - 5" Suct. 5" Disch.  
1 - 3" " 3" " 2 a spare pump.

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 1 - 2 1/2" aft. Well, 1 - 2 1/2" Fore. Cofferdam, 2 - 2 1/2" Tank top Trays In Pump Room 2 - 2" P. Rd.

In Holds, &c. 1 - 2 1/2" aft. Peak, 2 - 2 1/2" P.P. Tank top in hold, 2 - 3" Cofferdam P.P. 2 - 3" For. Double Bottom, 1 - 3" Fore peak.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 - 3" aft. Well, 1 - 3" Tank top fore end

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 Valves

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

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 None How are they protected ✓

What pipes pass through the deep tanks None 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 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 No Tunnel 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 - each No. of stages Single Diameters 8" Stroke 4 1/2" Driven by Main Engines

Auxiliary Air Compressors, No. One No. of stages Two Diameters 4" - 1 3/8" Stroke 3" Driven by Motor

Small Auxiliary Air Compressors, No. One No. of stages Two Diameters 5 1/4" - 2 3/8" Stroke 4" Driven by Motor

Scavenging Air Pumps, No. One - each Diameter 28" Stroke 15" Driven by Main Engines

Auxiliary Engines crank shafts, diameter as per Rule No. 1 - 120 B.H.P. Gifford 12585 1 - 30 B.H.P. Fairbanks 199688  
as fitted 120 B.H.P. - 4 1/4" dia, 30 B.H.P. - 3" dia Position In engine room, fore and aft.

011757-011765-0189

**AIR RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes* Certificate N<sup>o</sup> 51974, 1975, 1976 (S. 1938)

Can the internal surfaces of the receivers be examined and cleaned *Yes* Is a drain fitted at the lowest part of each receiver *Yes*

**High Pressure Air Receivers, No.** *✓* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*

**Starting Air Receivers, No.** *Three* Total cubic capacity } *136 cft.* Internal diameter *30"* thickness *✓*  
*One Whistle Bank.* Range of tensile strength *55000 lbs.* Working pressure *500#*  
 Seamless, lap welded or riveted longitudinal joint *✓* Material *Steel* Working pressure *Actual 250#*

**IS A DONKEY BOILER FITTED?** *Yes* If so, is a report now forwarded? *Yes*

Is the donkey boiler intended to be used for domestic purposes only *Domestic and Cargo heating only.*

**PLANS.** Are approved plans forwarded herewith for Shafting *Yes* Receivers *Approved N.Y. Letter 29.8.38.* Separate Fuel Tanks *✓*  
 (If not, state date of approval)

Donkey Boilers *3<sup>rd</sup> May 1938.* General Pumping Arrangements *Yes* Pumping Arrangements in Machinery Space *Yes*

Oil Fuel Burning Arrangements *Yes.* **SPARE GEAR.**

Has the spare gear required by the Rules been supplied *Yes.*

State the principal additional spare gear supplied *See Cleveland Report #918.*

The foregoing is a correct description,  
**MARINE INDUSTRIES LIMITED**  
*Superintendent* Manufacturer.

Dates of Survey while building: During progress of work in shops - *1938. May 11, July 26, 27, 28, Aug. 18, 19, 24, 29, 30, See Cleveland Report #918.*  
 During erection on board vessel - *1938. Aug. 9, 19, Sept. 28, Oct. 5, 20, 22, Nov. 1, 4, 7, 15, 26 (2 visits)*

Total No. of visits *In Shop - 9. During erection on board vessel - 12.*

Dates of Examination of principal parts: Cylinders *26-7-38* Covers *26-7-38* Pistons *27-7-38* Rods *✓* Connecting rods *26-7-38*  
*27-7-38* Flywheel shaft *✓* Thrust shaft *19-8-38* Intermediate shafts *20-10-38* Tube shaft *19-8-38*

Screw shaft *20-10-38* Propeller *20-10-38* Stern tube *5-10-38* Engine seatings *9-8-38* Engines holding down bolts *5-10-38*

Completion of fitting sea connections *20-10-38* Completion of pumping arrangements *15-11-38* Engines tried under working conditions *26-11-38*

Crank shaft, Material *O.H. Steel* Identification Mark *3277 11.3.38 4.2* Flywheel shaft, Material *✓* Identification Mark *#21595.6, 22-7.*  
 Thrust shaft, Material *✓* Identification Mark *✓* Intermediate shafts, Material *O.H. Steel* Identification Marks *2160.5.6, 22-7.*  
 Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *O.H. Steel* Identification Mark *2162.5.6, 22-7.*  
*2161.5.6, 22-7.*

Is the flash point of the oil to be used over 150° F. *Yes* Identification Marks on N<sup>o</sup> 1974-5.6  
 260 LBS TEST  
 W.P. 250 lbs  
 W.T.F. 7-29-38

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *Yes*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *Oil Tanker* 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 *No.*

Is this machinery duplicate of a previous case *Yes.* If so, state name of vessel *N.V. "Imperial"*

**General Remarks** (State quality of workmanship, opinions as to class, &c.) *This machinery consists of two (2) Diesel Engines connected through magnetic slip couplings and single reduction gearing to (1) screw shaft. The engines run at 400 R.P.M., the propeller at 125 R.P.M., at full power. The main engines, the magnetic slip couplings and the reduction gearing have been built under special survey at the makers works in accordance with the Rules and approved plans, and the Secretary's letter E 5/5/38. Please see Cleveland reports #918 and C.22/2 attached hereto.*

*The machinery has now been satisfactorily installed on board in accordance with the Rules and approved plans, and it has been tested at full power and at half power, both ahead and astern and found satisfactory in every respect. In my opinion it is now in good and safe working condition and eligible in my opinion to receive the record + L.M.C. 11-38 and the notation "2 Oil Engines connected by magnetic slip couplings and 1 R.P. gear to 1 screw shaft" and + 11.38 - 100 lbs.*

The amount of Entry Fee .. £ *2500* When applied for, *3<sup>rd</sup> Dec. 1938*

Special ... .. £ *15000* When received, *17.2.1939*

Donkey Boiler Fee .. £ *✓*

Travelling Expenses (if any) .. £ *✓*

Charged & Hull Report .. £ *✓*

Committee's Minute .. ..

Assigned *+ Amb. 11.38*  
*Oil Dr. L.*

*Geo. Allan*  
 Engineer Surveyor to Lloyd's Register of Shipping.



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