

# REPORT ON OIL ENGINE MACHINERY.

No. 15206

Received at London Office

APR 1 1938

Date of writing Report 30 March 1938 When handed in at Local Office

Port of Amsterdam

No. in Survey held at Amsterdam Reg. Book

Date, First Survey 7 April 1937 Last Survey 23 March 1938

Number of Visits 24

on the <sup>Single</sup> ~~Triple~~ ~~Quadruple~~ Screw vessel "M.V. CLEA"

Tons <sup>Gross</sup> <sub>Net</sub>

Built at Rotterdam By whom built Rotterdam dry dock Yard No. 148 When built 1930

Engines made at Amsterdam By whom made N.V. Werkspoor Engine No. 703 When made 1930

Donkey Boilers made at By whom made Boiler No. When made

Brake Horse Power 2800 Owners Port belonging to

Nom. Horse Power as per Rule 502 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended 25% 55%

## OIL ENGINES, &c.—Type of Engines Diesel <sup>horizontal</sup> ~~vertical~~ ~~injection ~~supercharged~~ or 4 stroke cycle 4 Single or double acting single~~

Maximum pressure in cylinders 700 lbs Diameter of cylinders 650 mm Length of stroke 1400 mm No. of cylinders 8 No. of cranks 8

Mean Indicated Pressure 110 lbs Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 844 mm Is there a bearing between each crank yes

Revolutions per minute 110 Flywheel dia. 2200 mm Weight 6000 kg Means of ignition spark Kind of fuel used Diesel oil

Crank Shaft, <sup>Solid forged</sup> ~~Semi built~~ ~~All built~~ dia. of journals as per Rule approved as fitted 460 mm Crank pin dia. 460 mm Crank Webs Mid. length breadth 870 mm Thickness parallel to axis shrunk Mid. length thickness 240 mm Thickness around eyehole shrunk

Flywheel Shaft, diameter as per Rule approved as fitted 460 mm Intermediate Shafts, diameter as per Rule approved as fitted 470 mm Thrust Shaft, diameter at collars as per Rule approved as fitted 460 mm

Tube Shaft, diameter as per Rule approved as fitted 460 mm Screw Shaft, diameter as per Rule approved as fitted 460 mm Is the <sup>tube</sup> ~~screw~~ shaft fitted with a continuous liner yes

Bronze Liners, thickness in way of bushes as per Rule approved as fitted 18.5 mm Thickness between bushes as per Rule approved as fitted 15 mm 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 C.T.

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 no

If two liners are fitted, is the shaft lapped or protected between the liners no Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft no If so, state type no Length of Bearing in Stern Bush next to and supporting propeller 1600

Propeller, dia. 15' Pitch 12' No. of blades 4 Material Brass whether Moveable no Total Developed Surface 72 sq. feet

Method of reversing Engines By Air Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication forced Thickness of cylinder liners 5.5 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or 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 funnel

Cooling Water Pumps, No. 3 Salt & 2 fresh water 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. 2 Diameter Rotary Stroke each 35 mm Can one be overhauled while the other is at work yes

Pumps connected to the Main Bilge Line { No. and Size 2 rotary - 35 mm/hour 1 duplex - 8" x 8" x 10" How driven gear driven main engine Steam driven

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 - 8" x 8" x 10" Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 1 rotary 40 mm/hour 1 duplex 8" x 8" x 10"

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 no In Pump Room no

In Holds, &c. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size no

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes no 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 no

Are all Sea Connections fitted direct on the skin of the ship no Are they fitted with Valves or Cocks no

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates no Are the Overboard Discharges above or below the deep water line no

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel no Are the Blow Off Cocks fitted with a spigot and brass covering plate no

What pipes pass through the bunkers no How are they protected no

What pipes pass through the deep tanks no Have they been tested as per Rule no

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times no

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 no Is the Shaft Tunnel watertight no Is it fitted with a watertight door no worked from no

If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork no

Main Air Compressors, No. no No. of stages no Diameters no Stroke no Driven by no

Auxiliary Air Compressors, No. 2 No. of stages 2 Diameters 206-184 mm Stroke 160 mm Driven by Steam engine hex motor

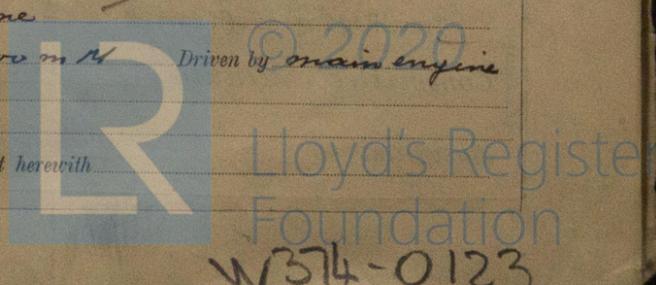
Small Auxiliary Air Compressors, No. no No. of stages no Diameters no Stroke no Driven by no

What provision is made for first Charging the Air Receivers Compressor driven by steam engine

Scavenging Air Pumps, No. Bottom end each cyl Diameter 650 mm Stroke 1400 mm Driven by main engine

Auxiliary Engines crank shafts, diameter as per Rule no as fitted no Position no

Have the Auxiliary Engines been constructed under special survey no Is a report sent herewith no



**AIR RECEIVERS:**—Have they been made  per survey. Are reports or certificates now forwarded   
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule   
 Can the internal surfaces of the receivers be examined and cleaned  Is a drain fitted at the lowest part of each receiver   
**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   
**Starting Air Receivers, No.** *SMS* Total cubic capacity *800* Internal diameter *1495 mm* thickness *21 mm*  
 Seamless, lap welded or riveted longitudinal joint  Material *SMS* Range of tensile strength *29/34 tons* Working pressure  Actual *350 lbs*

**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 *20-1-37* Receivers *10-1-37* Separate Fuel Tanks   
 (If not, state date of approval) *20-4-37*  
 Donkey Boilers  General Pumping Arrangements  Pumping Arrangements in Machinery Space *20-4-37*  
 Oil Fuel Burning Arrangements

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied   
 State the principal additional spare gear supplied

**WERKSPOR N.V.  
AMSTERDAM**

The foregoing is a correct description,

*C. J. Thuyt*

Manufacturer.

Dates of Survey while building <sup>1937</sup>  
 During progress of work in shops-- *April 7-21, June 4-15, July 8-19, 20-28, Aug 2, Sept 7-23, Oct 14-21, Nov 15, 18, 20, 24*  
 During erection on board vessel--- *Dec 17, Jan 10-14, 17-19, 24, Feb 8-10, March 2-24, 10-11-16-18, 21, 23*  
 Total No. of visits

Dates of Examination of principal parts—Cylinders *21 April 37* Covers *19 Jan 10* Pistons *17 Jan* Rods *21 Apr 15* Connecting rods *17 Dec 14 Jan 10 Feb 14*  
 Crank shaft *7 Feb 21 April 11* Flywheel shaft *15 Nov* Thrust shaft *23 Sept 17 Dec* Intermediate shafts *23 July 2 Aug 17 Oct* Tube shaft   
 Screw shaft *2 Aug 27 Jan* 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 *SMS* Identification Mark *1030 4408 S* Flywheel shaft, Material *SMS* Identification Mark *9009 4408 S*  
 Thrust shaft, Material *SMS* Identification Mark *5526-0-37* Intermediate shafts, Material *SMS* Identification Marks *2905 4408 S*  
 Tube shaft, Material  Identification Mark *4002 4008 S* Screw shaft, Material *SMS* Identification Mark *2905 4408 S*

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 *oil bunker* 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 *Mr. Marusa, Amrup 13993<sup>c</sup>*

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

*The machinery has been constructed under special survey to approved plans and Secretary's letters*  
*Material duly tested workmanship good*

*The engine has been shipped to Rotterdam and will be fitted aboard Rotterdam dry dock 24 190.*

The amount of Entry Fee .. *72-* : When applied for, *31.3- 1938*  
 Special *4/5 fee* £ *960-* :  
 Donkey Boiler Fee ... £ : When received, *30-4-38*  
 Travelling Expenses (if any) *10-* : *19*

*J. J. J. J.*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **TUE. 31 MAY 1938**  
 Assigned *See Rot J.E 26918*



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