

# REPORT ON OIL ENGINE MACHINERY.

Received at London Office

Date of writing Report 2.12.38. When handed in at Local Office 10.12. 1938 Port of Dusseldorf

No. in Survey held at Cologne Date, First Survey 18.2.37 Last Survey 2.12. 19 38  
Reg. Book. Number of Visits 13

on the <sup>Single</sup> ~~Twin~~ <sup>Triple</sup> ~~Triple~~ <sup>Quadruple</sup> ~~Quadruple~~ Screw vessel motor vessel "MILDRED"

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

built at Alblasserdam By whom built My. De Noord Yard No. 577 When built 1939  
491051/

Engines made at Cologne By whom made Humboldt-Deutzmotoren Engine No. 58 When made 1938

Monkey Boilers made at Amman By whom made Cochran & Co Boiler No. 4363 When made 1939

Indicated Horse Power 400 Owners N.V. Tank kustvaart My. Port belonging to Rotterdam

Norm. Horse Power as per Rule 94 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted Yes

Trade for which vessel is intended

ENGINES, &c. Type of Engines Heavy oil engine R.V.8 M.345 2 or 4 stroke cycle 4 Single or double acting single

Maximum pressure in cylinders 50 kg/cm<sup>2</sup> Indicated Pressure 6,6 kg/cm<sup>2</sup> Diameter of cylinders 280mm Length of stroke 450mm No. of cylinders 8 No. of cranks 8

Distance of bearings, adjacent to the Crank, measured from inner edge to inner edge 307,5mm Is there a bearing between each crank yes

Revolutions per minute 300 Flywheel dia. 1250mm Weight 2600 kg Means of ignition solid inject Kind of fuel used on test bed gas oil

Crank Shaft, <sup>Solid forged</sup> ~~Semi built~~ ~~All built~~ dia. of journals as per Rule as fitted 190mm Crank pin dia. 170mm Crank Webs Mid. length breadth 340mm Thickness parallel to axis shrunken Thickness around eyehole

Intermediate Shafts, diameter as per Rule as fitted 190mm Thrust Shaft, diameter at collars as per Rule as fitted

Propeller Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube screw shaft fitted with a continuous liner

Cylinder 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

bell 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

If so, state type Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch No. of blades hand Material whether Moveable Total Developed Surface sq. feet

Method of reversing Engines directly by Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication

Thickness of cylinder liners 25mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and scudgers water cooled or lagged with

conducting material water cooled If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Ring Water Pumps, No. one Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Water Pumps worked from the Main Engines, No. one Diameter 100mm Stroke 100mm Can be overhauled while the other is at work yes

Pumps connected to the Main Bilge Line No. and Size How driven

If cooling water led to the bilges If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

arrangements Main engine capacity 80 ltrs/min at 1400 r.p.m.

Fast Pumps, No. and size Power Driven Lubricating Oil Pumps, No. and size 1 tooth wheel pump

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

holds, &c. 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

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

Are the pipes pass through the bunkers Have they been tested as per Rule

Are the 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

department to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

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

Auxiliary Air Compressors, No. one No. of stages two Diameters 145/60mm Stroke 100mm Driven by main engine

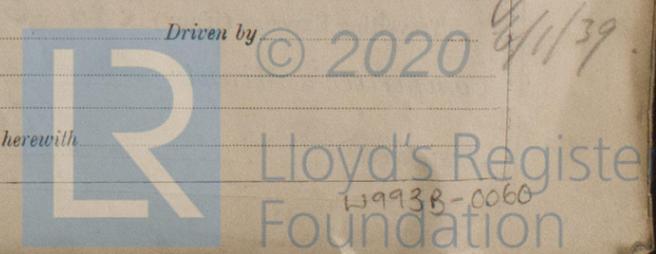
Auxiliary Air Compressors, No. No. of stages Diameters Stroke Driven by

Is provision made for first Charging the Air Receivers

Refrigerating Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted No. Position

Have the Auxiliary Engines been constructed under special survey Is a report sent herewith



**AIR RECEIVERS:**—Have they been made under survey  **yes** State No. of Report or Certificate attached to the copy of this Report sent to Rotterdam Office **5e.**

Is each receiver, which can be isolated, fitted with a safety valve as per Rule  **yes** Is a drain fitted at the lowest part of each receiver  **yes**

Can the internal surfaces of the receivers be examined and cleaned  **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 \_\_\_\_\_ Actual \_\_\_\_\_

**Starting Air Receivers, No.** **two** Total cubic capacity **2 x 500 ltrs.** Internal diameter **450 mm** thickness **12 mm**  
 Seamless, lap welded or riveted longitudinal joint **lapwelded** Material **S.M. Steel** Range of tensile strength **38-44 kg/mm<sup>2</sup>** Working pressure \_\_\_\_\_  
 by Rules **30 kg/cm<sup>2</sup>** Actual **30 kg/cm<sup>2</sup>**

**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 **212480 1.9.36** Receivers **G.O.244 21.7.32** 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 \_\_\_\_\_

The foregoing is a correct description,

**Klockner-Humboldt-Deutz** Manufacturer.  
*Waldgasse 11*

Dates of Survey while building: During progress of work in shops: 18.2.-15.6.37-29.9.-3.10.-19.10.-31.10.-2.11.-3.11.-9.11.-12.11.-28.11.-29.11. 2.12.38  
 During erection on board vessel: \_\_\_\_\_  
 Total No. of visits \_\_\_\_\_

Dates of Examination of principal parts—Cylinders 31.10.-3.11. Covers 2.11.-29.11. Pistons 29.11. Rods \_\_\_\_\_ Connecting rods 3.10.28  
 Crank shaft 29.9.-3.11.-29.11. Thrust shaft \_\_\_\_\_ Intermediate shafts 18.2.37-29.11. Tube shaft \_\_\_\_\_  
 Screw shaft \_\_\_\_\_ Propeller \_\_\_\_\_ Stern tube \_\_\_\_\_ Engine seatings \_\_\_\_\_ Engines holding down bolts \_\_\_\_\_  
 Completion of filling sea connections \_\_\_\_\_ Completion of pumping arrangements \_\_\_\_\_ Engines tried under working conditions 28.11.38  
 test bed \_\_\_\_\_

Crank shaft, Material **S.M. Steel** Identification Mark **13586 J.L.29/9.38** Flywheel shaft, Material \_\_\_\_\_ Identification Mark \_\_\_\_\_  
 Thrust shaft, Material \_\_\_\_\_ Identification Mark \_\_\_\_\_ Intermediate shafts, Material **S.M. Steel** Identification Marks **3603 H.B.**  
 Tube shaft, Material \_\_\_\_\_ Identification Mark \_\_\_\_\_ Screw shaft, Material \_\_\_\_\_ Identification Mark \_\_\_\_\_

Identification Marks on Air Receivers **No. 568 + 580**  
**LLOYD'S TEST**  
**60 Atm.**  
**W.P. 30 Atm.**  
**V.S. 15.6.37.**

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 \_\_\_\_\_  
 If so, have the requirements of the Rules been complied with \_\_\_\_\_

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo \_\_\_\_\_  
 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 **Messrs. My. De Noord Yard No. 559**  
**Düsseldorf Report 122.**

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

This heavy oil engine has been constructed under special survey in accordance with the Societe Rules and Regulations as well as in accordance with the approved plan and instructions there

The material ~~is~~ used in the construction is good and the workmanship satisfactory. The engine

has been tested on the Makers' test bed in the presence of the undersigned during 10 hours conse

quentially running under full load and 10 % overload and was found to be in safe working condition during

these trials. After the trials all working parts of the engine have been opened out for

inspection and were found in good condition. In my opinion the vessel for which this engine

intended will be eligible for the notation + L.M.C. (with date) when the whole machinery

has been fitted satisfactorily on board and tried under full working condition.

A copy of this report has been forwarded to the Rotterdam Surveyors.

The amount of Entry Fee **RM : 40.-** When applied for, **Düsseldorf 13.12.1938. 1/2 No 12038**  
 Special **RM : 470.-**  
 Donkey Boiler Fee **RM : :** When received, **1/3 of fee credited**  
 Travelling Expenses (if any) **RM : 60.-** **Rem. 24/11/39 to Rotterdam 1/2 (L.C. 4).**

Committee's Minute **FRI 4 AUG 1939**  
 Assigned **See Rot. J.E. 28422**

