

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. **19484**
18 AUG 1930

Received at London Office

Date of writing Report **16th Aug 1930** When handed in at Local Office

Port of **HAMBURG**

No. in Survey held at **KIEL**
Reg. Book.

Date, First Survey **20th Jan. 30** Last Survey **5th AUGUST 1930**
Number of Visits **36**

on the **Single**
Twin
Triple
Quadruple

Screw vessel

PETER HURLL

Tons ^{Gross} **12043**
_{Net} **6857**

Built at **HEBBURN-ON-TYNE**

By whom built **PALMERS SHIPBUILDING CO.** Yard No. **1000** When built **1930**

Engines made at **KIEL**

By whom made **FRIEDR. KRUPP GERMANIA WERFT A.G.** Engine No. **3874** When made **1930**

Donkey Boilers made at

By whom made Boiler No. When made

Brake Horse Power **2 x 2500**

Owners **STANDARD SHIPPING CO.**

Port belonging to

Nom. Horse Power as per Rule **1496**

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which vessel is intended

OIL ENGINES, &c. Type of Engines **KRUPP DIESEL ENGINES** 2 or 4 stroke cycle **2** Single or double acting **single**

Maximum pressure in cylinders **35 kg/cm²** Diameter of cylinders **680 mm** Length of stroke **1300 mm** No. of cylinders **6** No. of cranks **6**

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge **1010 mm** Is there a bearing between each crank **yes**

Revolutions per minute **90** Flywheel dia. **2300 mm** Weight **9000 kg** Means of ignition **direct** Kind of fuel used **diesel oil**

Crank Shaft, dia. of journals as per Rule **450 mm** as fitted **450 mm** Crank pin dia. **450 mm** Crank Webs Mid. length breadth **R 275/R 425** Thickness parallel to axis **280 mm** Mid. length thickness **280 mm** shrunk Thickness around eyehole **200 mm**

Flywheel Shaft, diameter as per Rule **440 mm** as fitted **440 mm** Intermediate Shafts, diameter as per Rule as fitted Thrust Shaft, diameter at collars as per Rule as fitted **440 mm**

Tube 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

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

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**

Thickness of cylinder liners **50 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

Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Cooling Water Pumps, No.

Can one be overhauled while the other is at work

Bilge Pumps worked from the Main Engines, No. Diameter Stroke

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

Lubricating Oil Pumps, including Spare Pump, No. and size **One of 22 m³/hour, rotary type attached to each main Eng.**

Ballast Pumps, No. and size Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Are two independent means arranged for circulating water through the Oil Cooler

Pumps, No. and size:—In Machinery Spaces

In 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

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

What pipes pass through the bunkers How are they protected

What pipes pass through the deep tanks 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 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 on each main Eng** No. of stages **3** Diameters **800/700/175 mm** Stroke **900 mm** Driven by **Main Eng.**

Auxiliary Air Compressors, No. **2** No. of stages **3** Diameters **220/280/80 mm** Stroke **300 mm** Driven by **Aux. Eng.**

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

Scavenging Air Pumps, No. **3 on each main Eng.** Diameter **800 mm** Stroke **1300 mm** Double acting Driven by **Main Eng.**

Auxiliary Engines crank shafts, diameter as per Rule **167 mm** as fitted **175 mm** cranks pin **170 mm**

AIR RECEIVERS:—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 **yes** What means are provided for cleaning their inner surfaces **doors & covers**

Is there a drain arrangement fitted at the lowest part of each receiver **yes**

High Pressure Air Receivers, No. **2** Cubic capacity of each **300 litres** Internal diameter **400 mm** thickness **18 mm**

Seamless, lap welded or riveted longitudinal joint **seamless** Material **S.M. Steel** Range of tensile strength **46-52 kg** Working pressure by Rules **93 kg/cm²**

Starting Air Receivers, No. **5** Total cubic capacity **5 x 2700 litres** Internal diameter **1120 mm** thickness **36 mm**

Seamless, lap welded or riveted longitudinal joint **seamless** Material **S.M. Steel** Range of tensile strength **46-52 kg** Working pressure by Rules **74 kg/cm²**

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IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting 6.12.29 Receivers 4.1.30 Separate Tanks
(If not, state date of approval)
 Donkey Boilers General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR All articles as required by Section 6, page 117 of the Rules for construction & Survey of Diesel Engines and their Auxiliaries (1929-30) have been supplied with.

The foregoing is a correct description,
FRIED. KRUPP
GERMANIA WERKE
 Aktiengesellschaft

Manufacturer.

Dates of Survey while building { During progress of work in shops -- Jan. 20.29. Feb. 3.5.21.28. March 12.16. April 7.9.11.16.23. May 9.14.19.22.28. June 2.4.18.25.27.
 During erection on board vessel -- July 5.7.9.11.14.18.21.23.28.30. August 1.5.1930
 Total No. of visits 36

Dates of Examination of principal parts—Cylinders 3/6.18/6.7.7. Covers 7/7.14/7.30 Pistons 22/5.28/5.30 Rods 7/7.30 Connecting rods 9.7.30

Crank shaft 19.5.30 Flywheel shaft 19.5.30 Thrust shaft 19.5.30 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 S.M. Steel Identification Mark H.K. 4031.30.5.30 in one with Thrust shaft LLOYD'S H.K. 4000.25.4.30
 Crank shaft spare, Material S.M. Steel Identification Mark LLOYD'S J.S.H. 2680 Flywheel shaft, Material S.M. Steel Identification Mark H.K. 4031.30.5.30

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. 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

Is this machinery duplicate of a previous case yes If so, state name of vessel Cargaretite & Furness Yard N. 176

General Remarks (State quality of workmanship, opinions as to class, &c. The parts surveyed here are:

Port & Starboard Main Engines, without line shafting. 2 Aux. Diesel Engine sets with Generators and Air Compressors, 2 High air receivers, 5 Working air receivers and all the spare parts.

The Machinery has been tried under Special Survey in accordance with the approved plans, the Secretary's letters and otherwise in conformity with the requirements of the Rules. The Materials are made at works recognised by the Committee and tested by the Soc. Surveyors.

The Machinery is eligible in my opinion for notation of * LME Oil Engine with date subject to satisfactory installation on board and examination under working and manoeuvring conditions.

The Engines have been shipped to Hutton-on-Tyne

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

The amount of Entry Fee { ... £ :
 Special ... £ 45 : 114 : 14 : 15.8.1930
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ 18 : - : 19.9.1930

A. Carstensen
 Engineer Surveyor to Lloyd's Register of Shipping.



Committee's Minute
 Assigned

TUE. 25 NOV 1930
See NWC 76.86440