Hamburg Report No. 21702

REPORT ON OIL ENGINE MACHINERY.

No. 1110.

Received at London Office 9 SEP 1935

Date of writing Report 29th Aug 1935 When handed in at Local Office ..... 19.. Port of STETTIN

No. in Survey held at Berlin. Date, First Survey 24th January Last Survey 22nd Aug 1935.

Number of Visits 25.

..... on the Single / ~~Twin~~ / ~~Triple~~ / ~~Quadruple~~ } Screw vessel ..... Tons { Gross ..... Net .....

Built at Hamburg By whom built Deutsche Werft AG. Yard No. 161. When built 1935.

Engines made at Berlin By whom made AEG Turbinen-Fabrik Engine No. 226. When made 1935.

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

Brake Horse Power 4100 - 4500. Owners ..... Port belonging to .....

Nom. Horse Power as per Rule 1167. Is Refrigerating Machinery fitted for cargo purposes ..... Is Electric Light fitted .....

Grade for which vessel is intended .....

MAIN ENGINES, &c.—Type of Engines AEG-Hesselman-Diesel 2 or 4 stroke cycle 2. ~~Single or~~ double acting yes.

Maximum pressure in cylinders 45 Kgo ✓ Diameter of cylinders 600 m/m ✓ Length of stroke 1100 m/m ✓ No. of cylinders 6. ✓ No. of cranks 6. ✓

Diam of bearings, adjacent to the Crank, measured from inner edge to inner edge 842 m/m ✓ Is there a bearing between each crank yes.

Revolutions per minute 118 / 121. Flywheel dia. 2400 m/m ✓ Weight 3700 Kgo Means of ignition self. Kind of fuel used Gas oil.

Crank Shaft, dia. of journals as per Rule 408 m/m ✓ as fitted 420 ✓ " Crank pin dia. 420 m/m ✓ Crank Webs Mid. length breadth 800 m/m shrunk Mid. length thickness 260 " Thickness parallel to axis 260 m/m ✓ Thickness around eyehole 190 "

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 / 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 shaft ..... 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 Air pressure 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 - 32 m/m 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 .....

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

Bilge Pumps worked from the **Main Engines,** No. ..... Diameter ..... Stroke ..... Can one be overhauled while the other is at work .....

Pumps connected to the **Main Bilge Line** { No. and Size ..... How driven ..... one gear wheel pump

Ballast Pumps, No. and size ..... **Lubricating Oil Pumps,** including Spare Pump, No. and size 1 of 43 cbm p. hour.

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 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. ..... No. of stages ..... Diameters ..... Stroke ..... Driven by .....

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. 1, double acting, 2 cyl. Diameter 1450 m/m Stroke 950 m/m. Driven by extended crank shafts.

Auxiliary Engines crank shafts, diameter as per Rule ..... as fitted .....

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule .....

Can the internal surfaces of the receivers be examined ..... What means are provided for cleaning their inner surfaces .....

Is there a drain arrangement 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 by Rules .....

Starting Air Receivers, No. ..... Total cubic capacity ..... Internal diameter ..... thickness .....

Seamless, lap welded or riveted longitudinal joint ..... Material ..... Range of tensile strength ..... Working pressure by Rules .....

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

PLANS. Are approved plans forwarded herewith for Shafting 14.1.34, 21.1.35. Receivers ..... Separate Tanks .....
(If not, state date of approval)

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

SPARE GEAR .....

Not ready yet

The foregoing is a correct description,

ALLGEMEINE ELEKTRICITÄTS-GESELLSCHAFT
Abt. für Dieselmaschinen

Radloff

Manufacturer.

Dates of Survey while building — During progress of work in shops: 24.1; 28.1; 6.2; 16.2; 15.3; 27.3; 3.4; 15.4; 2.5; 7.5; 18.5; 28.5; 31.5; 7.6; 12.6; 20.6; 26.6; 3.7; 9.7; 19.7; 30.7; 7.8; 16.8; 22.8. 1935.
During erection on board vessel: ---
Total No. of visits 25.

Dates of Examination of principal parts—Cylinders 6.2-7.8.35 Covers 15.3.-7.8 Pistons 15.4-16.8 Rods 3.4-16.8 Connecting rods 3.4-22.

Crank shaft 28.5-7.8.35. 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 Nos. 2380-2382. Engines tried under working conditions .....

Crank shaft, Material S.M. Steel. Identification Mark F.S. 20-5.35. 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. yes.

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.

This Engine has been constructed under Special Survey in accordance with the approved plans and the requirements of the Rules. Materials and workmanship are of good quality.
Full power trials of the Engine were carried out in the makers shop on the 30th July, 1935, with satisfactory results.

Certificate (if required) to be sent to .....

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

(45% of Total Fee)

The amount of Entry Fee .. £ 96 -

Special ... ... £ 2064 - — When applied for, 29th Aug 1935

Donkey Boiler Fee ... £ — : — When received, 12.12.1935 HD 12/12

Travelling Expenses (if any) £ 360 - :

N Stoddt.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 26 NOV 1935

Assigned See Ham F.E. 21702

TUE. 18 FEB 1936 FRI. 13 MAR 1936