

Comm: 454207

Newcastle-on-Tyne 94702

Rpt. 4b.

# REPORT ON OIL ENGINE MACHINERY.

No. 136.

Date of writing Report 3rd Aug. 1936. When handed in at Local Office 19 Port of Russeldorf Received at London Office 14 AUG 0

No. in Survey held at Reg. Book. Date, First Survey Last Survey 9 July 1937. Number of Visits

on the Single Twin Triple Quadruple Screw vessel Hullgate Tons Gross 409 Net 219

Built at Newcastle on Tyne By whom built Messrs. Clelands (Successors) Ltd. Yard No. 35 When built 1936

Engines made at Cologne By whom made Messrs. Schunkoldt & Deutz Motoren U.G. Engine No. 110 When made 1936

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

Brake Horse Power 350 Owners. Port belonging to

Nom. Horse Power as per Rule 20 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended

OIL ENGINES, &c. Type of Engines Heavy Oil Engine 2 1/2" No 345 2 or 4 stroke cycle four Single or double acting single

Maximum pressure in cylinders 50 kg/cm<sup>2</sup> Diameter of cylinders 280 mm Length of stroke 450 mm No. of cylinders six No. of cranks six

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 307.5 mm Is there a bearing between each crank yes

Revolutions per minute 350 Flywheel dia. 1250 mm Weight 2600 kg Means of ignition oil injection Kind of fuel used

Crank Shaft, dia. of journals as per Rule 190 mm as fitted 190 mm Crank pin dia. 140 Crank Webs Mid. length breadth 325 mm Thickness parallel to axis shrunk Mid. length thickness 40 mm Thickness around eye-hole

Flywheel Shaft, diameter as per Rule as fitted Short - 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. If so, state type 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 reversible Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes Means of lubrication

Thickenss of cylinder liners 2.5 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with non-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

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

What special arrangements are made for dealing with cooling water if discharged into bilges

Bilge Pumps worked from the Main Engines, No. one Diameter 100 mm Stroke 85 mm Can one be overhauled while the other is at work

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

Ballast Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size both wheel pumps & spare

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 In Pump Room

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 No. of stages Two Diameters 145 x 60 mm Stroke 85 mm Driven by main engines

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. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted Position —

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

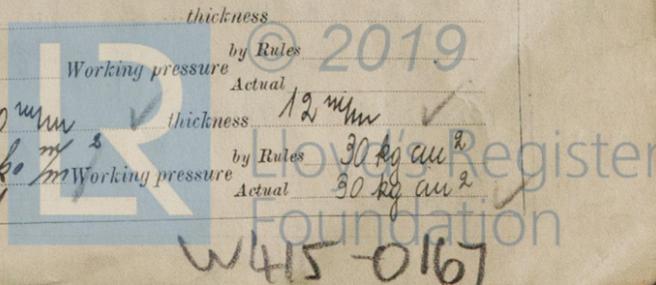
Can the internal surfaces of the receivers be examined and cleaned Is a drain fitted at the lowest part of each receiver

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 Actual

Starting Air Receivers, No. Two Total cubic capacity 1000 litres Internal diameter 450 mm thickness 12 mm

Seamless, lap welded or riveted longitudinal joint lap welded Material P.M. H. Range of tensile strength 38,4 kg/cm<sup>2</sup> Working pressure 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 *13th February 1935* Receivers *21st July 1936* Separate Tanks

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

**SPARE GEAR.**

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

State the principal additional spare gear supplied *1 main bearing, 1 crank bearing, 1 gudgeon bearing, 1 complete fuel valve, 2 sets of suction and delivery valves of the fuel pump, an assortment of valve springs, fuel needles.*

The foregoing is a correct description.

*Humboldt-Deutzmotoren*  
Aktiengesellschaft  
Manufacturer.

Dates of Survey while building { During progress of work in shops - - } *6th July - 9th July - 25th July and 28th July 1936.*  
{ During erection on board vessel - - }  
Total No. of visits

Dates of Examination of principal parts—Cylinders *6.7.36*, Covers *6.7.36*, Pistons *6.7.36*, Rods, Connecting rods *6.7.36*  
Crank shaft *9.7.36*, Flywheel shaft, Thrust shaft *9.7.36*, Intermediate shafts *9.7.36*, 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.S.*, Identification Mark *16300 X 36 145.36*, Flywheel shaft, Material, Identification Mark  
Thrust shaft, Material *S.M.S.*, Identification Mark *181 X 36 155.36*, Intermediate shafts, Material *S.M.S.*, Identification Marks *16300 X 36 145.36*  
Tube shaft, Material, Identification Mark, Screw shaft, Material, Identification Mark

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  
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

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. Gool Shipbuilding & Rep. Co. yard No. 35*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The engines have been built in accordance with the approved plans and the requirements embodied in the Secretary's letter of the 13th February 1935 and otherwise in accordance with the requirements of the Rules. Material and workmanship are of best quality, the outfit is simple. The engines have been tested under full working and manoeuvring conditions for six hours on the trial stage in machine shop and have given full satisfaction. After trial all working parts have been opened up and were found on examination in good condition. This machinery has been built under special survey and will be fitted on board the vessel No. 35 in construction at Messrs. Clelands (Successors) Ltd. Wellington Quay, New Zealand. In my opinion this machinery is eligible for notation: *N.G. 8.36.**

The amount of Entry Fee .. *32,-* When applied for, *5 Aug. 1936*  
Special ... .. *280,-* Account  
Donkey Boiler Fee ... ..  
Travelling Expenses (if any) *40,-* *received N: D 9324*  
*6.11.36*

Committee's Minute *FRI 12 MAR 1937*  
Assigned *See Inv. J.C. 94702*

*Hubert Stubb*  
Engineer Surveyor to Lloyd's Register of Shipping.  
© 2019  
Lloyd's Register Foundation

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