

# REPORT ON OIL ENGINE MACHINERY, DEC 16 1938

No. 4781

Received at London Office

Date of writing Report 14.12.38 When handed in at Local Office

Port of Stockholm.

No. in Survey held at Siekla, Skm. District. Reg. Book.

Date, First Survey 3/8/37 Last Survey 11/11/38 Number of Visits 15

on the Single Screw vessel  
Twin  
Triple  
Quadruple

SCOTTISH CO-OPERATER Tons <sup>Gross</sup> <sub>Net</sub>

Built at Ablasserdam.

By whom built N.Y. Industriële Maats "De Noord" Yard No. 85598 When built

Engines made at Stockholm.

By whom made A.B. Atlas-Diesel. Engine No. Y When made 1938.

Donkey Boilers made at

By whom made Scottish Co-operative Wholesale Society Boiler No. When made

Brake Horse Power 960

Ordered by Owners N.Y. Industriële Maats "De Noord" Port belonging to Ablasserdam.

Nom. Horse Power as per Rule 188

Is Refrigerating Machinery fitted for cargo purposes 13 3/8 Is Electric Light fitted 22 7/8

Trade for which vessel is intended

OIL ENGINES, &c.—Type of Engines Polar Diesel Oil Engine, type H46H 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 55 kg/cm<sup>2</sup> Diameter of cylinders 340 mm Length of stroke 570 mm No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 7

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 484 mm Is there a bearing between each crank Yes.

Revolutions per minute 250 Flywheel dia. 1190 mm Weight 570 kg. Means of ignition Compression Kind of fuel used Marine Diesel Oil.

Crank Shaft, dia. of journals as per Rule 220 mm Crank pin dia. 220 mm Crank Webs 308 mm Mid. length breadth 308 mm Thickness parallel to axis shrunk

The Flywheel is fitted at the aft end of the thrustshaft. Flywheel Shaft, diameter as per Rule 220 mm Intermediate Shafts, diameter as fitted Thrust Shaft, diameter at collars as per Rule 220 mm

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule as fitted Is the tube 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 Compressed air Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

pumps Thickness of cylinder liners 27.5 mm Are the cylinders fitted with safety valves Yes. Are the exhaust pipes and silencers water cooled or lagged with

non-conducting material Yes. 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

Bilge Pumps worked from the Main Engines, No. 1 Diameter 100 mm Stroke 140 mm (Double acting) Can one be overhauled while the other is at work

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

Is the 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

Ballast Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 350 ltr/min.

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 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

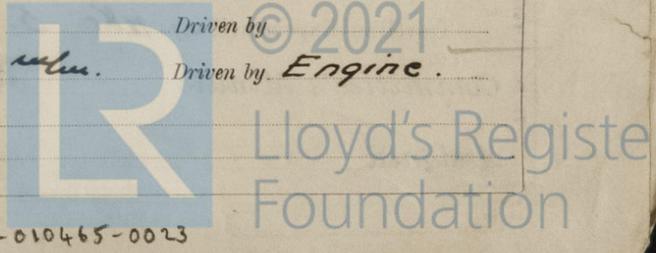
For starting air. Main Air Compressors, No. One No. of stages 2 Diameters 175/70 mm Stroke 350 mm Driven by Engine.

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. One Diameter 940 mm Stroke 350 mm. Driven by Engine.

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



**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 and cleaned *Yes.* Is a drain fitted at the lowest part of each receiver *Yes.*

**High Pressure Air Receivers, No. *None fitted*** 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. *2*** Total cubic capacity *2000 litres* Internal diameter *650 mm* thickness *14 mm*  
 Seamless, lap welded or riveted longitudinal joint *Riveted* Material *S.H. Steel* Range of tensile strength *Shell. 44-50 kg/cm<sup>2</sup>* Working pressure \_\_\_\_\_  
by Rules  
*Ends. 41-47* Actual *25 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 *E. 23/12/36* Receivers *E. 6/8/30* 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 } *As per enclosed list. The spare gear has been*  
 State the principal additional spare gear supplied } *examined before it was despatched.*  
*The additional water circulating pump and*  
*the daily fuel supply pump will be delivered by the*  
*Ship Builders.*

The foregoing is a correct description,  
**ARTIEBOLAGET ATLAS DIESEL**  
**S. Jacobsson** *Manufactured* Manufacturer.

Dates of Survey while building  
 During progress of work in shops - - } *3, 27, 31, 2, 13, 15, 23, 37, 26, 4, 10, 3, 29, 29, 5, 11, 38.*  
8, 11, 12, 2, 3, 8, 9, 10, 11  
 During erection on board vessel - - }  
 Total No. of visits *15 in shop.*

Dates of Examination of principal parts—Cylinders *5/11/38* Covers *5/11/38* Pistons *5/11/38* Rods \_\_\_\_\_ Connecting rods *3, 27, 31, 37, 5, 38.*  
 Crank shaft *26, 4, 5, 38;* *Sea. air pump* Flywheel shaft *15, 23, 37, 5, 38* Thrust shaft *2, 13, 37, 5, 38.* 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 *29. 10. 38*  
 Crank shaft, Material *S. H. Steel.* Identification Mark *LLOYDS N° 8399* *Sea. air pump* Flywheel shaft, Material *S. H. Steel.* Identification Mark *LLOYDS N° 8260*  
 Thrust shaft, Material \_\_\_\_\_ Identification Mark *K.A. 4.3.38.* Intermediate shafts, Material \_\_\_\_\_ Identification Mark *K.A. 23.12.37.*  
 Tube shaft, Material \_\_\_\_\_ Identification Mark *LLOYDS N° 7176* Screw shaft, Material \_\_\_\_\_ Identification Mark *K.A. 13.11.37.*

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 \_\_\_\_\_  
 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 *Please see Skm. Rpt. N° 4627*

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
*I am of opinion that this engine is of superior material and workmanship, and as it has been designed and constructed under special survey, I have respectfully to submit that it be classed +LHC, as soon as it has been fitted into Messrs. N.V. Industriële Maats "de Noord" Newbuilding, to the satisfaction of the Society's Surveyors.*

The amount of Entry Fee .. £ : : When applied for,  
 Special ... .. *Nkr. 715:-* 19.  
 Donkey Boiler Fee ... £ : : When received,  
 Travelling Expenses (if any) *Nkr. 5:40* 7. 2. 19. *38/9/2*

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

Committee's Minute **TUE 21 FEB 1939**  
 Assigned *See Rot. 26. 27793*



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