

REPORT ON OIL ENGINE MACHINERY.

No. 3222

30 APR. 1930

Received at London Office

Date of writing Report *26 April 1930* When handed in at Local Office *19* Port of *Stockholm*
 No. in Survey held at *Sickla Skm. Dist.* Date, First Survey *6 March 1929* Last Survey *16 April 1930*
 Reg. Book. Number of Visits *18*

GM on the *Single* Screw vessel *Danwood* Tons *Gross* _____
Triple _____
Quadruple _____
 Built at *Fredrikstad* By whom built *Fredrikstad Mek. Verst.* Yard No. _____ When built *1930*
 Engines made at *Stockholm* By whom made *Askel. Atlas-Diesel* Engine No. *50/24* When made *1930*
 Donkey Boilers made at _____ By whom made _____ Boiler No. _____ When made _____
 Brake Horse Power *1170* Owners *A/S Danwood* Port belonging to *Oslo*
 Nom. Horse Power as per Rule *382* Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____
 Trade for which vessel is intended _____

IL ENGINES, &c.—Type of Engines *Polar Diesel Oil Engine (type MP285)* *2 or 4* stroke cycle *Single or double* acting
 Maximum pressure in cylinders *35 kg/cm* Diameter of cylinders *420 mm* Length of stroke *720 mm* No. of cylinders *8* No. of cranks *8*
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *568 mm* Is there a bearing between each crank *yes*
 Revolutions per minute *55* Flywheel dia. *1500 mm* Weight *2100 kg* Means of ignition *Steel* Kind of fuel used *Trade oil*
 Crank Shaft, dia. of journals *as per Rule 279 mm* Crank pin dia. *285 mm* Crank Webs Mid. length breadth *380 mm* Thickness parallel to axis _____
as fitted 285 Mid. length thickness *58* shrunk Thickness around eye-hole _____
 Flywheel Shaft, diameter *as per Rule 221* Intermediate Shafts, diameter *as fitted* Thrust Shaft, diameter at collars *as per Rule 226 mm*
as fitted *The flywheel is fixed on the thrust shaft* *as fitted 285*
 Tube Shaft, diameter *as per Rule* Screw Shaft, diameter *as per Rule* Is the *tube* shaft fitted with a continuous liner *screw* _____
as fitted _____

Bronze Liners, thickness in way of bushes *as per Rule* Thickness between bushes *as per rule* Is the after end of the liner made watertight in the
as fitted _____
 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 *manoeuvring cyls.* Is a governor or other arrangement fitted to prevent racing of the engine when declutched *yes* Means of lubrication _____
 Thickness of cylinder liners *48 mm* Are the cylinders fitted with safety valves *yes* Are the exhaust pipes and silencers water cooled or lagged with
 non-conducting material _____ If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine. _____

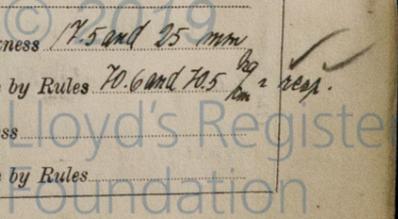
Cooling Water Pumps, No. *1* Is the sea suction provided with an efficient strainer which can be cleared within the vessel _____
Bilge Pumps worked from the Main Engines, No. *1* Diameter *120 mm* Stroke *22 mm* *double acting.* Can one be overhauled while the other is at work _____
Pumps connected to the Main Bilge Line { No. and Size _____
 How driven _____
Ballast Pumps, No. and size *none ordered* Lubricating Oil Pumps, including Spare Pump, No. and size *(of gear wheel type) one size 550 litres/minute*
 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. *1* No. of stages *3* Diameters *465/330-120/30* Stroke *370 mm* *for LP and 230 mm for the other* Driven by *Main engine*
Auxiliary Air Compressors, No. *1* No. of stages *3* Diameters *340-25/340-30/25* Stroke *200 mm* Driven by *Electric motor*
Small Auxiliary Air Compressors, No. *1* No. of stages *2* Diameters *85-30/30* Stroke *125 mm* Driven by *Atlas engine*
Scavenging Air Pumps, No. *1* Diameter *780 mm* Stroke *500 mm* Driven by *Main engine*

Auxiliary Engines crank shafts, diameter *as per Rule* _____
as fitted _____
IR 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 *mudholes 120 and 200 mm*
 Is there a drain arrangement fitted at the lowest part of each receiver *yes*
High Pressure Air Receivers, No. *2* Cubic capacity of each *150 and 350 litres* Internal diameter *300 & 460 mm* thickness *17.5 and 25 mm*
 Seamless, lap welded or riveted longitudinal joint *lap welded* Material *S.M. Steel* Range of tensile strength *38 kg/cm² - 41.2 and* Working pressure by Rules *70.6 and 70.5*
Starting Air Receivers, No. *ordered at Fredrikstad Mek. Verst.* Total cubic capacity _____ Internal diameter _____ thickness _____
 Seamless, lap welded or riveted longitudinal joint _____ Material _____ Range of tensile strength _____ Working pressure by Rules _____

W194-0065



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting *See Secretary's letter E 12 15 28*
(If not, state date of approval)

Receivers *26 27 5 29* Separate Tanks

Donkey Boilers General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR as per list approved on the 14 Dec. 1929, will be inspected when machinery is being fitted in ship.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building

During progress of work in shops--	6, 11 & 15	17	19	9	1	1929	23	15, 20, 25, 26, 28 & 29	1, 7, 14 & 16	30
During erection on board vessel--	3	6	7	8	10	1929	1	3	4	
Total No. of visits	in shop 18									

Dates of Examination of principal parts—Cylinders *23, 20 & 25* Covers *23, 20 & 25* Pistons *23, 25, 16, 20* Rods *15, 29, 25* Connecting rods *19, 9, 1*

Crank shaft *9, 29, 26, 30* Comp. Flywheel shaft *9, 29, 26, 30* Thrust shaft *11, 17, 29, 25, 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 *in shop 20 30*

Crank shaft, Material *S. M. Steel* Identification Mark *LLOYD'S N:0 336 E.B. 4.8.29* Comp. Flywheel shaft, Material *S. M. Steel* Identification Mark *LLOYD'S N:0 335 E.B. 9.8.29*

Thrust shaft, Material *S. M. Steel* Identification Mark *LLOYD'S N:0 5722 A.L. 17.6.29* 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.

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *see stem report no. 3231.*

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 will be eligible to be classed *LMC, as soon as it has been fitted in a ship to the satisfaction of the Society's Engineer Surveyors.*

The amount of Entry Fee ... £ : : When applied for,

Special *in shop Feb. 1497: 86* : : 26 April 1930

Donkey Boiler Fee ... £ : : When received,

Travelling Expenses (if any) £ *95: 00* : : 30.6.1930

Total *Fr. 1592: 86*

Committee's Minute **FRI. 26 SEP 1930**

Assigned *See F.E. Rpt.*

A. Bakson
Engineer Surveyor to Lloyd's Register of Shipping.
Assisted by Mr. *H. J. Andersson*

TUE. 12 MAY 1931

Lloyd's Register Foundation

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