

REPORT ON OIL ENGINE MACHINERY.

No. 30440

21 AUG 1930

Date of writing Report

10

When handed in at Local Office

20 AUG. 1930

Received at London Office

Port of *Lundeland*No. in Survey held at *Lundeland*
Reg. Book.Date, First Survey *Jan 8*Last Survey *Aug 22 1930*Number of Visits *56**23rd (see telegram)*Single
on the *Twin*
Triple
Quadruple

MOTOR "IMA"

Screw vessel

Tons { Gross *6842*
Net *4026*Built at *Lundeland*By whom built *William Dwyer & Sons Ltd.*Yard No. *608* When built *1930*Engines made at *Do Lundeland*By whom made *Do Lundeland*Engine No. *608* When made *1930*Donkey Boilers made at *Amman*By whom made *Do Lundeland*Boiler No. When made *1930*Brake Horse Power *2600*Owners *S. Marcussen*Port belonging to *Oslo*Nom. Horse Power as per Rule *598*Is Refrigerating Machinery fitted for cargo purposes *No*Is Electric Light fitted *Yes*Trade for which vessel is intended *Oil Tanker*

OIL ENGINES, &c.—Type of Engines

Stroke Cycle *Approved* *Single or double acting* *Single*Maximum pressure in cylinders *568 lbs* Diameter of cylinders *560 = 22* Length of stroke *2100 = 85* No. of cylinders *4* No. of cranks *4 x 3 throw*Span of bearings, adjacent to the Crank, measured from inner edge to inner edge *980* Is there a bearing between each crank *Yes*Revolutions per minute *95* Flywheel dia *2352* Weight *5.6 TONS* Means of ignition *TEMP OF COMPRESSION* Kind of fuel used *CRUDE OIL*Crank Shaft, dia. of journals as per Rule *400 APPROVED* Crank pin dia. *440* Crank Webs Mid. length breadth *620* Mid. length thickness *245* Thickness parallel to axis *245* Thickness around eye hole *205*Flywheel Shaft, diameter as per Rule *400 APPROVED* Intermediate Shafts, diameter as per Rule *380 APPROVED* Thrust Shaft, diameter at collars as per Rule *400 APPROVED*Tube Shaft, diameter as per Rule *400 APPROVED* Screw Shaft, diameter as per Rule *400 APPROVED* Is the *shaft* fitted with a continuous liner *Yes*Bronze Liners, thickness in way of bushes as per Rule *20 APPROVED* Thickness between bushes as per Rule *20 APPROVED* Is the after end of the liner made watertight in thepropeller boss *YES* If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner *Yes*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 *Yes*If two liners are fitted, is the shaft lapped or protected between the liners *Yes* Is an approved Oil Gland or other appliance fitted at the afterend of the tube shaft *No* Length of Bearing in Stern Bush next to and supporting propeller *5' 6"*Propeller, dia. *16' 3"* Pitch *13' 3"* No. of blades *4* Material *BRONZE* whether Moveable *No* Total Developed Surface *90* sq. feetMethod of reversing Engines *COMPRESSED AIR* Is a governor or other arrangement fitted to prevent racing of the engine when detached *YES* Means of lubrication*FORCED* Thickness of cylinder liners *REINFORCED* Are the cylinders fitted with safety valves *YES* Are the exhaust pipes and silencers water cooled or lagged withnon-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 *FRESH WATER COOLING*Cooling Water Pumps, No. *1 ON MAIN ENGINE* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *YES*Bilge Pumps worked from the Main Engines, No. *1* Diameter *TONS* Stroke *TONS* Can one be overhauled while the other is at work *Yes*Pumps connected to the Main Bilge Line No. and Size *1 BALLAST 200 PR HR, 1 BILGE 45 PR HR, 1 GENERAL SERVICE 45 TONS PER HR.*How driven *STEAM* Lubricating Oil Pumps, including Spare Pump, No. and size *1 ON MAIN ENGINE 1 SPARE 25 TONS PR HR READY COUPLED*Are two independent means arranged for circulating water through the Oil Cooler *YES* Suctions, connected to both Main Bilge Pumps and Auxiliary BilgePumps, No. and size:—In Machinery Spaces *3 @ 3 1/2", 2 @ 4" & 1 @ 8"*In Holds, &c. *2 @ 3 1/2" CARGO HOLD FORD.*Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size *1 @ 8" TO BALLAST PUMP.*Are all the Bilge Suction pipes in Holds and Tunnel Well, fitted with strum-boxes *Yes* Are the Bilge Suctions in the Machinery Spacesled from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges *YES*Are all Sea Connections fitted direct on the skin of the ship *YES* Are they fitted with Valves or Cocks *BOTH.*Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates *YES* Are the Overboard Discharges above or below the deep water line *BELOW.*Are they each fitted with a Discharge Valve always accessible on the plating of the vessel *YES* Are the Blow Off Cocks fitted with a spigot and brass covering plate *YES.*What pipes pass through the bunkers *NONE* How are they protected *Yes*What pipes pass through the deep tanks *NONE* Have they been tested as per Rule *Yes*Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *YES.*

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 *YES* Is the Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Yes*If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork *Yes*Main Air Compressors, No. *2* No. of stages *3* Diameters *12, 9 1/4, 3 1/2* Stroke *6"* Driven by *Steam*Auxiliary Air Compressors, No. *2* No. of stages *3* Diameters *12, 9 1/4, 3 1/2* Stroke *6"* Driven by *Steam*Small Auxiliary Air Compressors, No. *1* No. of stages *3* Diameters *12, 9 1/4, 3 1/2* Stroke *6"* Driven by *Steam*Scavenging Air Pumps, No. *1* Diameter *1840* Stroke *550* Driven by *Steam*Auxiliary Engines crank shafts, Diameter as per Rule *400 APPROVED*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 *manhole down*Is there a drain arrangement fitted at the lowest part of each receiver *Yes*High Pressure Air Receivers, No. *2* Cubic capacity of each *220* Internal diameter *3' 6"* thickness *1"*Seamless, lap welded or riveted longitudinal joint *RIVETED* Material *STEEL* Range of tensile strength *28/32* Working pressure by Rules *6/10*Starting Air Receivers, No. *2* Total cubic capacity *220* Internal diameter *3' 6"* thickness *1"*Seamless, lap welded or riveted longitudinal joint *RIVETED* Material *STEEL* Range of tensile strength *28/32* Working pressure by Rules *6/10*

IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

PLANS. Are approved plans forwarded herewith for Shafting *Yes* (If not, state date of approval)

MINISTER WEDEL Receivers *To*

Separate Tanks *MINISTER WEDEL*

Donkey Boilers *Yes*

General Pumping Arrangements *MINISTER WEDEL*

Oil Fuel Burning Arrangements *To*

SPARE GEAR 1 cylinder liner, 1 main piston with skirt & rings, 2 piston rods, 10 piston rings, 2 centre connecting rod top end both joints, 2 centre connecting rod bottom end both joints, 4 side crosshead both joints, 4 side connecting rod bottom end both joints, 1 side rod both joints (transverse end) 2 main bearing shells joints, 1 set of bolts for crankshaft, 1 set of coupling bolts for line shaft, 1 centre crosshead bearing, 1 centre bottom end bearing, 1 side connecting rod bottom end bearing, 4 fuel valves complete, 16 spray pipes, 1 non return starting valve, 1 relief valve for main cylinder, 4 scavange pump suction & delivery valves, 4 fuel pump bodies complete, 5 thrust pads, 1 Propeller shaft, 1 C.T. Propeller, 1 set crosshead for fuel pump, 1 bell crank & tappet for fuel pump, 1 set of valves for fuel transfer pump, 1 set of valves for bilge pump, 1 set of valves for engine driven pump & water length of pipe with unions & a quantity of both joints & iron of various sizes, 1 spare circulating pump, 1 spare lubricating pump both coupled ready for use, complete set of spares for auxiliary machinery.

The foregoing is a correct description,

WILLIAM DOUGLAS & SONS, Limited

Manufacturer.

J. H. Keller

Dates of Survey while building
During progress of work in shops - 1930. Jan. 8, 14, 16, Feb. 11, 12, 18, 28, Mar. 12, 13, 17, 19, 22, 24, 25, 28, Apr. 7, 8, 10, 11, 12, 15, 25, 29, May 1, 2, 6
During erection on board vessel - 15, June 2, 16, 18, 22, 23, 28, July 1, 12, 11, 17, 18, 21, 23, 25, 28, 29, 30, 31, Aug. 1, 5, 7, 12, 13, 15, 18, 19, 20, 21, 22.
Total No. of visits 56.

Dates of Examination of principal parts—Cylinders 6/5/30 JACKETS 29/4/30 Couvers 13/3/30 Pistons 11/2/30 Rods 28/3/30 Connecting rods 20/3/30
Crank shaft 21/7/30 Flywheel shaft Thrust shaft 10/3/30 Intermediate shafts 7/4/30 Tube shaft
Screw shaft 11/7/30 Propeller 2/6/30 Stern tube 17/7/30 Engine seatings 28/7/30 Engines holding down bolts 12.8.30
Completion of fitting sea connections 17/7/30 Completion of pumping arrangements 20/9/30 Engines tried under working conditions 22.8.30
Crank shaft, Material I. STEEL Identification Mark 2635 Flywheel shaft, Material AND Identification Mark
Thrust shaft, Material I. STEEL Identification Mark 3148 Intermediate shafts, Material I. STEEL Identification Marks 3742
Tube shaft, Material Identification Mark Screw shaft, Material I. STEEL Identification Mark SPARE 3633 WKN 53.

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 *Yes*
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo *Yes* If so, have the requirements of the Rules been complied with *Yes*

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *M.V. "MINISTER WEDEL"*
General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been built under Special Survey & the materials & workmanship are good. On completion the machinery was tried under full working conditions with satisfactory results. The machinery throughout is now in a good & efficient condition & eligible in my opinion to have the record L.M.C. - 30 marked in the Society's Register Book.*

The two donkey boilers are also fitted to burn oil fuel F.P. above 150° F. & the requirements of the Rules Section 2 fully complied with.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8.30
oil engine 2 SC SA 4cy. 22-85 200 150 lb CL
W.D.A. 20/9/30

Matthew Caldwell & Charlotte
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 6-0-0 When applied for, 9 AUG. 1930
Special ... £ 104-18-0
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ 4-4-0 23.8.1930
Committee's Minute
Assigned + L.M.C. 8.30

250 150 lb Oil Eng. CL