

# REPORT ON OIL ENGINE MACHINERY.

No. 3356

Received at London Office

20 DEC 1930

Date of writing Report 16th Dec. 1930 When handed in at Local Office

Port of Stockholm

No. in Survey held at SICKLA

Date, First Survey 15th June 1930 Last Survey 16th Dec. 1930

Number of Visits 9

Single on the Twin Triple Quadruple Screw vessel

Tons Gross Net

Built at Hong Kong By whom built Hong Kong & Wampoa Dock Co. Yard No. 687 When built

Engines made at Stockholm By whom made Robert Mas Diesel Engine No. 8555 When made 1930

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

Indicated Horse Power 750 Owners Messrs. Zippel (Philippines) Inc. Port belonging to Manila

Nom. Horse Power as per Rule 750 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

Trade for which vessel is intended 274

## L ENGINES, &c.—Type of Engines Polar Diesel Oil Engine type M 36 M 2 stroke cycle Single or double acting

Maximum pressure in cylinders 35 kg/cm<sup>2</sup> Diameter of cylinders 340 mm Length of stroke 570 mm No. of cylinders 6 No. of cranks 6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 440 mm Is there a bearing between each crank Yes

Revolutions per minute 920 Flywheel dia. 1.900 mm Weight 1.900 kg Means of ignition Diesel Kind of fuel used Crude oil

Crank Shaft, dia. of journals as per Rule 816 mm / Crank pin dia. 220 mm Crank Webs Mid. length breadth 308 mm Thickness parallel to axis ✓

as fitted 920 Mid. length thickness 122 mm shrunk Thickness around eyehole ✓

Flywheel Shaft, diameter as fitted Intermediate Shafts, diameter as fitted Thrust Shaft, diameter at collars as per Rule 170 mm as fitted 220 "

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 by 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 22.5 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

Boiling 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 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

Lubricating Oil Pumps, including Spare Pump, No. and size

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

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

l 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

apartment to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

Is a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

Air Compressors, No. 1 for starting air No. of stages 2 Diameters 175/75 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

Reversing Air Pumps, No. 1 Diameter 940 mm Stroke 350 mm Driven by main engine

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

Are the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces manholes

Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. None fitted, solid injection 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 2,000 litres Internal diameter 650 mm thickness 1/4 mm

Seamless, lap welded or riveted longitudinal joint riveted Material S.M. Steel Range of tensile strength 41 and 44 kg/mm<sup>2</sup> Working pressure by Rules 2.53 kg/cm<sup>2</sup>

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded here with for Shafting *See Secretary's letters L 22.3.1929* Receivers *L 6.8.1930* Separate Tanks  
(If not, state date of approval)

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR *to be supplied and 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 - - *15, 3, 26 & 30, 22, 13, 28, 4 & 10, 1930*  
 During erection on board vessel - - - *6, 7, 8, 9, 10, 11, 12*  
 Total No. of visits *in shop 9*

Dates of Examination of principal parts—Cylinders *28, 4, 30* Covers *28, 4, 30* Pistons *4, 30* Rods ✓ Connecting rods *15, 3, 4*  
 Crank shaft *26, 4, 30* Scavenging pump *11, 12, 30* Flywheel shaft, Material *28, 13, 4, 30* Thrust shaft *30, 22, 4, 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 28, 30*  
 Crank shaft, Material *S.M. Steel* Identification Mark *LLOYDS No 1081 J.R.M. 23.8.29* Scavenging pump Flywheel shaft, Material *S.M. Steel* Identification Mark *LLOYDS No 6019 KA. 4.12.30*  
 Thrust shaft, Material *S.M. Steel* Identification Mark *LLOYDS No 6018 KA. 4.12.30* 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 Item Report No. 3253*

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 classed ship to the satisfaction of the Society's Surveyors.*

The amount of Entry Fee ... £ : : When applied for,  
 Special *in shop* £ *855.40* } *16.12.1930*  
 Donkey Boiler Fee ... £ : : When received,  
 Travelling Expenses (if any) £ : : *27.1.31*

*H. Y. Andersson*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI 1 MAY 1931**

Assigned *La F. C. Rpl.*



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