

Rpt. 4b

# REPORT ON OIL ENGINE MACHINERY.

No. 7819

JUN 14 1937

Date of writing Report 11/5/37 in 11/5/37 in Port of Hongkong  
 No. in Survey held at Hongkong Date, First Survey Dec. 17<sup>th</sup> 1936 Last Survey May 7<sup>th</sup> 1937  
 Reg. Book. Single on the Triple Screw vessel "LEGAZPI" Number of Visits 29

Tons Gross 1178.68  
Net 675.59

Built at Hongkong By whom built Hongkong Wharves Dock Co Yard No. 767 When built 5-1937  
 Engines made at Copenhagen By whom made A/S Burmeister & Wain Engine No. 2601 When made 1936  
 Donkey Boilers made at None By whom made ✓ Boiler No. ✓ When made ✓  
 Brake Horse Power 1750 Owners La Naviera Filipina Inc. Port belonging to Cebu, P.I.  
 Nom. Horse Power as per Rule 337 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
 Trade for which vessel is intended Inter-island trade, Philippine Islands.

**IL ENGINES, &c.**—Type of Engines Heavy oil, vertical trunk type, solid 2 or 4 stroke cycle 2 Single or double acting Single  
 Maximum pressure in cylinders 49 kg/cm<sup>2</sup> Diameter of cylinders 500 mm Length of stroke 900 mm No. of cylinders 5 No. of cranks 5  
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 680 mm Is there a bearing between each crank Yes  
 Revolutions per minute 160 Flywheel dia. 1652 mm Weight 1400 kg/m<sup>2</sup> Means of ignition Compression Kind of fuel used Cond. oil, flash point 150°K  
 Crank Shaft, dia. of journals as per Rule 330 mm Crank pin dia. 340 mm Crank Webs Mid. length breadth 620 mm Thickness parallel to axis 208 mm  
 Flywheel Shaft, diameter as per Rule 340 mm Intermediate Shafts, diameter as per Rule 9 1/2" Thrust Shaft, diameter at collars as per Rule 300 mm  
 Tube Shaft, diameter as per Rule 10 1/2" Is the tube shaft fitted with a continuous liner Yes  
 Bronze Liners, thickness in way of bushes as per Rule 1/16" Thickness between bushes as per Rule 9/16" Is the after end of the liner made watertight in the propeller boss Yes  
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner one length  
 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 fits tightly  
 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 No  
 Length of Bearing in Stern Bush next to and supporting propeller 3'-7 3/8"  
 Propeller, dia. 11'-5" Pitch 8'-3" No. of blades 4 Material Bronze whether Moveable fixed Total Developed Surface 48 sq. feet  
 Method of reversing Engines reversible Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Forced  
 Thickness of cylinder liners 36 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-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 led up funnel  
 Cooling Water Pumps, No. 1-driven by 15 H.P. El. motor 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. one Diameter 150 mm Stroke 175 mm Can one be overhauled while the other is at work ✓  
 Pumps connected to the Main Bilge Line No. and Size 1-150 mm x 175 mm 2-Rotary, 250 Gall. per min at 3510 R.P.M. only one shown on plan  
 How driven Main engines 20 H.P. Westinghouse Electric motors  
 Ballast Pumps, No. and size 1-Worthington 2 1/2 R-2 Type Lubricating Oil Pumps, including Spare Pump, No. and size 1-Rotary, 438 Gall. per min  
 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 3'-2 1/4" in E.R. 2-2" in cofferdam, 1-2 1/4" in tunnel well.  
 In Holds, &c. 2-2 3/4" in Fore hold; 2-2" + 1-2 3/4" in aft hold + 1-2" in cofferdam.  
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2-3 1/4" dia.  
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes 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 Yes  
 Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Valves  
 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 above  
 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 ✓  
 What pipes pass through the bunkers None How are they protected ✓  
 What pipes pass through the deep tanks None 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 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 Upper decks.  
 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. None No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓  
 Auxiliary Air Compressors, No. Two No. of stages Two Diameters 6" x 7" Stroke 6" Driven by 20 H.P. El. motor  
 Small Auxiliary Air Compressors, No. One No. of stages Two Diameters 1 3/4" x 4" Stroke 3" Driven by 15 H.P. El. motor  
 Scavenging Air Pumps, No. one Diameter Rotary Stroke ✓ Driven by Main engines

Auxiliary Engines crank shafts, diameter as per Rule 110 x 120 mm  
as fitted 110 x 120 mm

**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 Manholes, Connection for shore steam.  
 Is there a drain arrangement fitted at the lowest part of each receiver Yes  
 High Pressure Air Receivers, No. None Cubic capacity of each 7.5 cub. ft. Internal diameter 16" thickness 1 3/32"  
 Seamless, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength See Letter Working pressure by Rules 500 lbs.  
 Starting Air Receivers, No. Two Total cubic capacity 282 cub. ft. Internal diameter 3'-6 1/2" thickness 1 1/2"  
 Seamless, lap welded or riveted longitudinal joint DR. D.B.S. Material Steel Range of tensile strength 28-32 Tons Working pressure by Rules 367.5 lbs.

W1320-0060



If so, is a report now forwarded? 

(If not, state date of approval)

General Pumping Arrangements 19-9-36 Hob

Oil Fuel Burning Arrangements 29-12-36 Kobe

Additional Spare Gear:- One set gearing for scavenging air blower.  
one chain for main engine cooling & lubricating oil pumps.  
one complete piston, 1 conn. rod, 1 crank bearing, 1 main bearing, 1 cyl. liner  
one toothed wheel, lub. oil pump and one complete fuel pump for the 75 D.H.T  
auxiliary oil engine.

2-41 BHP oil engines (Deutz) driving 25 KW. Generators N<sup>o</sup> 44371 + 44373 made by Elektromotoren Werke <sup>Han</sup> Haver.

2-air Compressor made by Worthington Pump & Machinery Corp. driven by 15.20 H.P. Westinghouse Electric Motors

1. Small air compressor driven by an "Ailsa Craig" hand starting oil engine.

1-Worthington lub. oil pump driven by 25 H.P. Westinghouse electric motor.

circuli ~ ~ ~ 18 MP  
Fing. biloc. ~ ~ ~ 20 MP

1-1½" Roton cooling water pump for auxiliary engines driven by a "Centron" 1 HP electric motor.

1-1/4" Fuel oil transfer pump driven by a 1/2 H.P. Westinghouse Electric Motor.

1-1 1/4" - lub. oil ~ ~ ~ ~ ~ 1 H.P.

2-1 1/2" F.W. pumps + 2-1 1/2" Rotary Sanitary pumps driven by 1-H.P. Westinghouse electric motors.

1-17 K.W. A.S.E.A. Generator driven by "V" belt from main engine shafting.

*The foregoing is a correct description,*

Neck

*Manufacturer.*

Dates of Survey while building	{	During progress of work in shops--	Hongkong. Dec. 17, 23, 24, 1936. Jan. 4 <sup>th</sup> - 11, 21, 29, Feb. 5 <sup>th</sup> - 15, 16, 23, 26,
		During erection on board vessel--	Feb. 15, Mar. 3, 10, 16, 19, 25, 29, 31, April 6, 8, 10, 13, 14, 19, 24, May 4 + 7 1937.
		Total No. of visits	29

*See Copenhagen Report N° 10130*

Dates of Examination of principal parts—Cylinders ☒ Covers ☒ Pistons ☒ Rods ☒ Connecting rods ☒

Crank shaft ✓ Flywheel shaft ✓ Thrust shaft ✓ Intermediate shafts 21-2-37 ✓ 26-2-37 ✓ Tube shaft ✓

Screw shaft 23-2-37 Propeller 17-2-37 Stern tube 17-12-36 Engine seatings 23-12-36 Engines holding down bolts 10-3-37

Completion of fitting sea connections 15-2-37 Completion of pumping arrangements 10-4-37 Engines tried under working conditions 4-5-37

Crank shaft, Material S. M. Steel Identification Mark E. V. 16-11-36 Flywheel shaft, Material ✓ Identification Mark ✓

Thrust shaft, Material S.M. Steel Identification Mark 16-11-36 Intermediate shafts, Material 0.14 Steel Identification Marks 319. 21-2-37

Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material O H. Steel Identification Mark N° 6710, 23-2-31

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 No If so, have the requirements of the Rules been complied with Yes

Is this machinery duplicate of a previous case No If so, state name of vessel ✓

*General Remarks* (State quality of workmanship, opinions as to class, &c. This engine has been constructed under special survey at Copenhagen (See Copenhagen Report N: 10130) & has been installed on board the vessel in accordance with the Rules & Instructions & satisfactorily tried under working conditions, a mean speed of 13.4 knots was maintained at 160 revs. per min.

Forging reports for intermediate & tail shafts enclosed

The auxiliary machinery was installed in accordance with the rules & all tried under working conditions & found satisfactory. (See Dusseldorf reports n° 150 & 156, Cleveland Report n° C 18 & New York Report n° C. 1547.).

These engines are in my opinion of good quality & the workmanship is good, and it is recommended that the vessel be classed with Lloyd's Machinery Certificate and the record of + L.M.C-5-37, C.L. be made in the Register Book.

The amount of Entry Fee ... £	✓	:	:	When applied for,
$\frac{1}{8}^{\text{th}}$ Special £30.8/- ...	=	£492.00		10 <sup>th</sup> May 1937
Air Receiver £8.8/- ...	=	£136.00		
Donkey Boiler Fee ...		:	:	When received,
Travelling Expenses (if any) £		60-00		26.6 1937

*W. Morrison for G. H. Macdonald & Self*  
Engineer Surveyor to Lloyd's Register of Shipping.

## Committee's Minute

FRI 18 JUN 1937

*Assigned*

+ LMC 5.37  
Ool Eng CL

© 2021  
Lloyd's Register  
Foundation