

## REPORT ON OIL ENGINE MACHINERY

No. 6225

1 JAN 1928

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Date of writing Report Dec. 26<sup>th</sup> 1927 When handed in at Local Office Dec. 27<sup>th</sup> 1927 Port of Hong KongNo. in Survey held at Hong Kong Date, First Survey July 15<sup>th</sup> Last Survey Dec. 24<sup>th</sup> 1927  
Reg. Book. Number of Visits 23on the Single Motor "PALAWAN"  
Twin Screw vessel  
Triple  
QuadrupleTons <sup>Gross</sup> 562.32  
<sub>Net</sub> 308.96Built at Hong Kong By whom built H.K. Whampoa Dock Co. Ltd Yard No. 636 When built 1927Engines made at Hamburg By whom made Grossmotoren Werke, Hamburg Engine No. 2315 When made 1926Donkey Boiler made at Annam By whom made Cochran & Co. Boiler No. 9280 When made 1927Brake Horse Power 2 @ 220 Owners M. J. OSSORIO Port belonging to ManilaNom. Horse Power as per Rule 183 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YesTrade for which vessel is intended Lumber trade in the Philippine Islands.L ENGINES, &c.—Type of Engines 2-Diesel Engine Type P. 4. H. Hesselmann 2 or 4 stroke cycle 2 Single or double acting singleMaximum pressure in cylinders 35-41 kg/cm<sup>2</sup> Diameter of cylinders 290 mm Length of stroke 430 mm No. of cylinders 4 each No. of cranks 4 eachPan of bearings, adjacent to the Crank, measured from inner edge to inner edge 362 mm Is there a bearing between each crank YesRevolutions per minute 230 Flywheel dia. 1300 mm Weight 1800 kgs Means of ignition Quel principle Kind of fuel used Solar oilCrank Shaft, dia. of journals as per Rule 174 mm Crank pin dia. 175 mm Crank Webs Mid. length breadth 235 mm Thickness parallel to axis shrunkFlywheel Shaft, diameter as per Rule 174 mm Intermediate Shafts, diameter as per Rule 5.37 Thrust Shaft, diameter at collars as per Rule 174 mmTube Shaft, diameter as per Rule 174 mm Screw Shaft, diameter as per Rule 5.26 Is the tube shaft fitted with a continuous liner YesBronze Liners, thickness in way of bushes as per Rule 4.5 Thickness between bushes as per Rule 3.4 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 one lengthIf 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 YesIf 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 Yes Length of Bearing in Stern Bush next to and supporting propeller 24"Propeller, dia. 6'-0" Pitch 5'-3" No. of blades 3 Material Cast Iron Whether Moveable fixed Total Developed Surface 11.5 sq. feetMethod of reversing Engines direct reversing Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubricationForced Water cooled and Thickness of cylinder liners No liners 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 Led to funnelBoiling Water Pumps, No. 3 (1 each engine and 1 independent) Is the sea suction provided with an efficient strainer which can be cleared within the vessel YesLarge Pumps worked from the Main Engines, No. 2 (1 to each engine) Diameter 125 mm Stroke 58 mm Can one be overhauled while the other is at work YesPumps connected to the Main Bilge Line { No. and Size 2 @ 125 mm x 58 mm | 126 x 4 x 6 Vert. Duplex | 1-4" Centrifugal  
How driven Main Engines | Steam | 5-HP electric motorDischarge Pumps, No. and size 1-4" Centrifugal Lubricating Oil Pumps, including Spare Pump, No. and size 1-4" CentrifugalAre 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 2-2" in Engine room, 1-2" in Storehold flat.Holds, &c. 3-3"Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2-3"Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spacesfrom easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges YesAre all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks BothAre 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 aboveAre 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 YesDo pipes pass through the bunkers Feed pump discharge overboard How are they protected LeasingDo pipes pass through the deep tanks Fore peak tank suction Have they been tested as per Rule YesAre 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 None Is it fitted with a watertight door Yes worked from YesIn a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork YesIn Air Compressors, No. 2 to each engine No. of stages 2 Diameters 215/125 mm Stroke 330 mm Driven by main enginesAuxiliary Air Compressors, No. one No. of stages 2 Diameters 45/130 mm Stroke 162 mm Driven by 30 HP diesel engineAll Auxiliary Air Compressors, No. one No. of stages 1 Diameters 2 1/8" Stroke 2 1/4" Driven by Belt from electric light 8 H.P. engineRevolving Air Pumps, No. 2 to each engine Diameter 425/215 mm Stroke 330 mm Driven by main enginesAuxiliary Engines crank shafts, diameter as per Rule 90.25 mmas fitted 95 mmRECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule YesAre the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces removable coversIs there a drain arrangement fitted at the lowest part of each receiver YesHigh Pressure Air Receivers, No. 4 Cubic capacity of each 2 @ 0.50, 2 @ 0.200 Internal diameter 190 mm Thickness 75 mmLess, lap welded or riveted longitudinal joint Seamless Material Steel Range of tensile strength 58 kg/cm<sup>2</sup> Working pressure by Rules 61, 68 kg/cm<sup>2</sup>Working Air Receivers, No. 2 Total cubic capacity 2 x 1.5 m<sup>3</sup> Internal diameter 750 mm Thickness 10 mmSeamless, lap welded or riveted longitudinal joint Riveted Material Steel Range of tensile strength 41-49 kg/cm<sup>2</sup> Working pressure by Rules 16.3 kg/cm<sup>2</sup>



IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes

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

Table 12/7/27

Receivers

Separate Tanks

Donkey Boilers

General Pumping Arrangements Table 6/9/27

Oil Fuel Burning Arrangements Table 6/12/27

SPARE GEAR The attached list of spare gear was stated to have been ordered from the Engine Maker, but only the items checked in red on the list were received before the vessel left this Port for Manila. A copy of the list has been forwarded to the Surveyor at Manila with a request that he check the remaining items when delivered, & report direct to London.

Auxiliary Machinery :- one 30 B.H.P. 2 cylinder Benz diesel engine driving a 9.6 H.W. dynamo + the auxiliary air compressor; one 8 B.H.P. single cylinder "Colo" diesel engine driving a 5 H.W. dynamo direct + a small auxiliary air compressor by a belt; one 5 H.P. D.C. electric motor driving a 40 m/m centrifugal F.W. pump + a 30 m/m circulating pump; one 5 H.P. D.C. electric motor driving a 40 m/m O.F. transfer pump + a 100 m/m ballast pump; one Steam 6x4x6 Vert. Duplex G.S. pump; one Steam 6x4x6 Vert. Duplex Donkey boiler feed pump; one 1" Centrifugal hand operated O.F. transfer pump; one 1" Centrifugal hand operated lubricating oil pump.  
The foregoing is a correct description.

Hook

Manufacturer.

1927  
During progress of work in shops - July 15, Aug 1, 25, 31, Sept. 5, 30, Oct. 6, 25, 31, (See also Hamburg Surveyor's Report)  
During erection on board vessel - Nov. 5, 10, 12, 15, 17, 22, 25, 28, Dec. 1, 6, 8, 13, 21 + 24 1927  
Total No. of visits 23

Dates of Examination of principal parts - Cylinders 5/5, 9/5 Covers 5/5, 9/5 Pistons 5/5, 9/5 Rods Connecting rods 13/5  
Crank shaft 13/5 Flywheel shaft Thrust shaft 6/10/27 Intermediate shafts None Tube shaft  
Screw shaft 25/10/27 Propeller 25/10/27 Stern tube 12/11/27 Engine seatings 31/10/27 Engines holding down bolts 22/11/27  
Completion of fitting sea connections 10/11/27 Completion of pumping arrangements 8/12/27 Engines tried under working conditions 8/12/27  
Crank shaft, Material Steel Identification Mark 331 AC 332 Flywheel shaft, Material Identification Mark  
Thrust shaft, Material Steel Identification Mark 334 Lloyd's No 636 Intermediate shafts, Material Identification Marks  
Tube shaft, Material Identification Mark Screw shaft, Material Steel Identification Mark Lloyd's No 63  
Is the flash point of the oil to be used over 150° F. 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.) These engines have been built under the survey of the Germanischer Lloyd & were examined by this Society's Surveyor in Hamburg prior to shipment (See Hamburg Surveyor's Report No 17494) & have now been installed in this vessel in accordance with the Rules & approved plans, copy of which are in the London Office. The donkey boiler, made by Leochram & Co., was surveyed during construction by the Surveyor to this Society in Glasgow & has now been installed in accordance with the Rules (See Report on boiler).  
Forging report for thrust & screw shafts attached.  
Trials were run over a measured course & machinery worked satisfactorily.  
Speed of vessel 10.4 knots at 230 revs. lowest revs. for manoeuvring purposes 100, Astern revs, full speed, 230.

These engines are in my opinion of good quality & the workmanship good & it is recommended that the vessel be classed with Lloyd's Machinery Certificate & the record of L.M.C. 12-27, D.B. 100 lbs be made in the Register Book subject to the remaining items of spare gear being placed on board at earliest convenient opportunity.

The amount of Entry Fee ... £6 = 5s 5d When applied for, Dec. 24, 1927  
Installation Special (1/2 full fee) £30-10/- = £30-10-0  
Donkey Boiler Fee ... £30 = 5s 5d When received, 31. 1. 1928  
Electric Light Travelling Expenses (if any) £50 = 5s 5d  
Total £75-10-0

Committee's Minute

Assigned

Lmc 12 27

subject

Oil Engines

DB 100/6

Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 9 NOV 1928  
FRI. 30 NOV 1928

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