

# REPORT ON OIL ENGINE MACHINERY.

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Port of SAN FRANCISCO

Writing Report... When handed in at Local Office...  
 Survey held at SAN FRANCISCO, CALIFORNIA Date, First Survey 7th March Last Survey 5th May 1952  
 Book. M.S. "NAIKO" Number of Visits 10  
 Single } Screw vessel BUILDING IN HOLLAND FOR INDONESIAN GOVERNMENT Tons { Gross -  
 XXXXXX } Net -  
 XXXXXX }  
 XXXXXX }  
 By whom built - Yard No. - When built -  
 SAN FRANCISCO, CALIF. By whom made GENERAL METALS CORP. Engine No. 51063 When made 1952  
 Enterprise Division  
 By whom made - Boiler No. - When made -  
 Horse Power 480 Owners Indonesian Government Port belonging to -  
 Horse Power as per Rule 96 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted -  
 for which Vessel is intended -

ENGINES, &c.—Type of Engines D M G 8 Vertical Marine 2 or 4 stroke cycle 4 Single or double acting Single  
 num pressure in cylinders 720 lbs. per square inch  
 Indicated Pressure 89 lbs. per square inch Diameter of cylinders 12" Length of stroke 15" No. of cylinders 8 No. of cranks 8  
 of bearings, adjacent to the Crank, measured from inner edge to inner edge 11.5 Is there a bearing between each crank Yes  
 revolutions per minute 350 Flywheel dia. 33" Weight 1409 Means of ignition Comp. Kind of fuel used Diesel  
 dia. of journals as per Rule 8" Crank pin dia. 8" Crank Webs Mid length breadth 12.5" Thickness parallel to axis -  
 as fitted 8.5 Mid length thickness 3.125 shrunk Thickness around eyehole -  
 Wheel Shaft, diameter as per Rule Intermediate Shafts, diameter as per Rule Thrust Shaft, diameter at collars as per Rule  
 as fitted None as fitted - as fitted 7"  
 Shaft, diameter as per Rule Screw Shaft, diameter as per Rule Is the tube shaft fitted with a continuous liner {  
 as fitted - as fitted - as fitted -

Size 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 - as fitted -  
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner  
 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  
 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  
 If so, state type Length of Bearing in Stern Bush next to and supporting propeller  
 Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet  
 Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication  
 Thickness of cylinder liners 85" Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or ~~exposed~~  
 Yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine -  
 No Two 3" Centrifugal Is the sea suction provided with an efficient strainer which can be cleared within the vessel -  
 No One Diameter 2" disch. Rotary Can one be overhauled while the other is at work -

connected to the Main Bilge Line { No. and Size -  
 How driven -  
 cooling water led to the bilges - If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping  
 gements -  
 No. and size - Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size Two 2" gear type  
 two independent means arranged for circulating water through the Oil Cooler - Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge  
 No. and size:—In Machinery Spaces - In Pump Room  
 -  
 independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size -  
 All the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes - Are the Bilge Suctions in the Machinery Spaces  
 from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges -  
 All Sea Connections fitted direct on the skin of the ship - Are they fitted with Valves or Cocks -  
 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  
 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  
 pipes pass through the bunkers - How are they protected -  
 pipes pass through the deep tanks - Have they been tested as per Rule -

All Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times  
 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  
 compartment to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from  
 wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork  
 Air Compressors, No. One No. of Stages 2 Diameters 4 1/2; 2 1/2 Stroke 3" Driven by Vee Belts  
 Auxiliary Air Compressors, No. - No. of Stages - Diameters - Stroke - Driven by -  
 All Auxiliary Air Compressors, No. - No. of Stages - Diameters - Stroke - Driven by -  
 provision is made for first Charging the Air Receivers -  
 Charging Air Pumps, No. - Diameter - Stroke - Driven by -  
 Auxiliary Engines crank shafts, diameter as per Rule No. -  
 as fitted - Position -  
 the Auxiliary Engines been constructed under special survey - Is a report sent herewith -



5th Feb. 1952

**AIR RECEIVERS:**—Have they been made under survey Yes State No. of Report or Certificate

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 and cleaned Yes Is a drain fitted at the lowest part of each receiver Yes

Injection Air Receivers, No. None Cubic capacity of each \_\_\_\_\_ Internal diameter \_\_\_\_\_ thickness \_\_\_\_\_

Seamless, lap welded or riveted longitudinal joint \_\_\_\_\_ Material \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Working pressure \_\_\_\_\_ by Rules \_\_\_\_\_ Actual \_\_\_\_\_

Starting Air Receivers, No. Two Total cubic capacity 32 Cubic Feet Internal diameter 22" thickness 5/16"

Seamless, lap welded or riveted longitudinal joint butt welded Material Mild Steel Range of tensile strength 28-32 tons Working pressure \_\_\_\_\_ by Rules \_\_\_\_\_ Actual 250

**IS A DONKEY BOILER FITTED?** -- If so, is a report now forwarded? \_\_\_\_\_

Is the donkey boiler intended to be used for domestic purposes only \_\_\_\_\_

**PLANS.** Are approved plans forwarded herewith for Shafting 23rd Dec. 1948 Receivers \_\_\_\_\_ Separate Fuel Tanks \_\_\_\_\_  
(If not, state date of approval) New York.

Donkey Boilers \_\_\_\_\_ General Pumping Arrangements \_\_\_\_\_ Pumping Arrangements in Machinery Space \_\_\_\_\_

Oil Fuel Burning Arrangements \_\_\_\_\_

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied \_\_\_\_\_

The foregoing is a correct description

L. Simpson  
General Metals Corporation, Enterprise Division Manufacturer.

Dates of Survey while building { During progress of work in shops - - 7, 28 March; 8, 9, 11, 25, 28 and 29 April; 2 and 5 May 1952.  
During erection on board vessel - - -  
Total No. of visits \_\_\_\_\_

Dates of Examination of principal parts—Cylinders 28 Mar Covers 28 Mar Pistons 28 Mar Rods \_\_\_\_\_ Connecting rods 8 Apr

Crank shaft 9 Apr Flywheel shaft \_\_\_\_\_ Thrust shaft 28 Mar 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 2 & 5 Mar

Crank shaft, Material Forged Steel Identification Mark LLOYDS TEST EM 2052 9 Apr 52 Flywheel shaft, Material \_\_\_\_\_ Identification Mark \_\_\_\_\_

Thrust shaft, Material Forged Steel Identification Mark LLOYDS TEST EM 2051-1 28 Mar 52 Intermediate shafts, Material \_\_\_\_\_ Identification Marks \_\_\_\_\_

Tube shaft, Material \_\_\_\_\_ Identification Mark \_\_\_\_\_ Screw shaft, Material \_\_\_\_\_ Identification Mark \_\_\_\_\_

Identification Marks on Air Receivers \_\_\_\_\_

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 \_\_\_\_\_

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

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with \_\_\_\_\_

Is this machinery duplicate of a previous case Yes If so, state name of vessel \_\_\_\_\_ Similar engine previously classed \_\_\_\_\_

**General Remarks** (State quality of workmanship, opinions as to class, &c.) This Diesel engine has been build under Special Survey. The crankshaft, thrust shaft and coupling have been examined and tested as required by Rules. The castings and all component parts have been examined and tested. The Workmanship throughout is satisfactory and the materials used are good. The engine has been tried on the test bed load for eight hours; full load astern for one hour also manoeuvring and governing trials carried out. The working parts of the engine were subsequently examined and found in good order. Part of propeller and intermediate shafting have not yet been supplied to the engine Builders consequently the Torsional vibration characteristics have not been investigated. This Diesel Engine is in satisfactory condition and, in my opinion, may be favourably considered by the Committee for fitting vessel to be classed with LLOYD'S REGISTER OF SHIPPING and on the satisfactory completion of the installation and investigation of the torsional vibration characteristics, the vessel may be eligible for record + L.M.C. with date in the Register Book.

The amount of Entry Fee ... £ : : When applied for,  
Special ... \$200.00 : : 5th June 19 52  
Donkey Boiler Fee ... £ : : When received,  
Travelling Expenses (if any) \$ 10.00 : : 19

E. Marlborough  
Engineer Surveyor to Lloyd's Register of Shipping

NEW YORK JUN 11 1952

Committee's Minute \_\_\_\_\_  
Assigned Transmit to London



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