

REPORT ON OIL ENGINE MACHINERY

No. 9864
JUL 1952

pt. 4b.

Received at London Office

Port of **SAN FRANCISCO**

of writing Report **4th June 1952** When handed in at Local Office

in **San Francisco** Date, First Survey **15th Dec. 1951** Last Survey **6th May 1952**

g. Book. **M.S. "NUBURI"** Number of Visits **Nine**

as a **Single** on the **Twin** Screw vessel **BUILDING IN HOLLAND FOR INDONESIAN GOVERNMENT** Tons { Gross - Net -

ilt at **San Francisco, Calif** By whom built **GENERAL METALS CORPORATION (Enterprise Division)** Engine No. **51064** When made **1952**

By whom made **GENERAL METALS CORPORATION (Enterprise Division)** Boiler No. - When made -

ake Horse Power **480** Owners **Indonesian Government** Port belonging to -

om. Horse Power as per Rule **96** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted -

ade for which Vessel is intended

IL ENGINES, &c.—Type of Engines **D M G 8 Vertical Marine** 2 or 4 stroke cycle **4** Single or double acting **Single**

Maximum pressure in cylinders **720 lbs. per square inch** Diameter of cylinders **12"** Length of stroke **15"** No. of cylinders **8** No. of cranks **8**

Mean Indicated Pressure **89 lbs. per square inch** Is there a bearing between each crank **Yes**

Number of bearings, adjacent to the Crank, measured from inner edge to inner edge **11.5** Kind of fuel used **Diesel**

Revolutions per minute **350** Flywheel dia. **33"** Weight **1409** Means of ignition **Comp.** Kind of fuel used **Diesel**

Crank Shaft, { Solid forged as per Rule - Kind of fuel used **Diesel**
Semi built dia. of journals as fitted **8.5** Crank pin dia. **8"** Crank Webs Mid length breadth **12.5"** Thickness parallel to axis -
All built as fitted **8.5** Mid length thickness **3.125** shrunk Thickness around eyehole -

Intermediate Shafts, diameter as per Rule - Thrust Shaft, diameter at collars as per Rule -

as fitted **None** as fitted - as fitted **7"**

Screw Shaft, diameter as per Rule - Is the {tube } shaft fitted with a continuous liner { -
as fitted - as fitted - as fitted -

Bronze 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 - as fitted -

Propeller boss - If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner -

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 -

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

as fitted - as fitted - as fitted - 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 **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 lagged with

conducting material **Yes** If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Cooling Water Pumps, No. **Two 3" Centrifugal** Is the sea suction provided with an efficient strainer which can be cleared within the vessel -

Large Pumps worked from the Main Engines, No. **One** Diameter **2" disch** Stroke **Rotary** Can one be overhauled while the other is at work -

Pumps connected to the Main Bilge Line { No. and Size -
How driven -

Is the 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

arrangements -

Ballast Pumps, No. and size - Power Driven Lubricating Oil Pumps including Spare Pump, No. and size **Two 2" gear type**

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 - In Pump Room -

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

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

How are they protected -

Are all 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

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

On 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 -

Is provision made for first charging the Air Receivers -

Refrigerating Air Pumps, No. - Diameter - Stroke - Driven by -

Auxiliary Engines crank shafts, diameter as per Rule - No. -

as fitted - Position -

Are the Auxiliary Engines been constructed under special survey - Is a report sent herewith -

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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
 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
 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 250
 Actual

IS A DONKEY BOILER FITTED? -- If so, is a report now forwarded?
 Is the donkey boiler intended to be used for domestic purposes only 23rd Dec. 1948
PLANS. Are approved plans forwarded herewith for Shafting New York Receivers Separate Fuel Tanks
 (If not, state date of approval)
 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. J. Jones
 General Metals Corporation, Enterprise Division Manufacturer.

Dates of Survey while building
 During progress of work in shops - 15th Dec. 1951; 7th, 28th March; 7th, 8th, 9th April; 2nd, 5th and 6th May 1952
 During erection on board vessel - - -
 Total No. of visits

Dates of Examination of principal parts—Cylinders 8 April Covers 8 Apr. Pistons 8 Apr Rods - Connecting rods 15 Dec. 28 Mar. 8 Apr.
 Crank shaft 9 April Flywheel shaft - Thrust shaft - Intermediate shafts - Tube shaft -
 Screw shaft - Propeller - Stern tube - Engine seatings - Engines holding down bolts 5th and 6th May 1952
 Completion of fitting sea connections - Completion of pumping arrangements - Engines tried under working conditions
 Crank shaft, Material Forged Steel Identification Mark LLOYD'S TEST EM 2053 9 Apr. 52 Flywheel shaft, Material Identification Mark -
 Thrust shaft, Material Forged Steel Identification Mark Lloyd's Test EM 2056 7 Apr. 52 Intermediate shafts, Material Identification Marks -
 Tube shaft, Material Identification Mark - Screw shaft, Material Identification Mark -
 Identification Marks on Air Receivers -

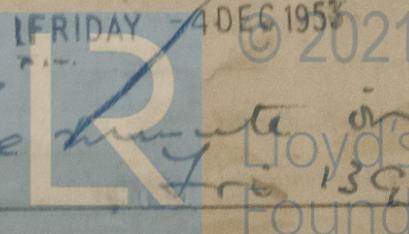
Is the flash point of the oil to be used over 150° F. Yes
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo - If so, have the requirements of the Rules been complied with -
 If the notation 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 the 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 at full 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. Particularly 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 in 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 : 13 June 1952
 Donkey Boiler Fee ... £ : : When received,
 Travelling Expenses (if any) £ 10.00 : 19

E. H. Marshall
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK JUN 23 1952
 Assigned transmit to London



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