

Rpt. 4b.

## REPORT ON OIL ENGINE MACHINERY.

No. 4557

NOV 22 1937

Received at London Office

Date of writing Report 18th Nov. 37. When handed in at Local Office

Port of Stockholm

No. in Survey held at Sickla, Skm. District

Date, First Survey 1st December 1932 Last Survey 10th Sept. 1937

Reg. Book.

Number of Visits 11

Single  
on the Twin  
Triple  
Quadruple  
Screw vessel

M.V. Surigao

Tons { Gross 790.04  
Net 490.89

Built at Hong Kong

By whom built Hong Kong Wharftown

Yard No. 789  
85271

When built 1938

Engines made at Stockholm

By whom made A.B. Atlas-Diesel

Engine No. 1937

Donkey Boilers made at

By whom made Ordered by Messrs. Koppel (Philippines Inc. Manila)

Boiler No. When made

Brake Horse Power 960

Owners for La Naviera Filipina Inc.

Port belonging to Cebu

Nom. Horse Power as per Rule 188

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

Trade for which vessel is intended

1378 2276

OIL ENGINES, &amp;c.—Type of Engines Polar Diesel Oil Engine Type M46M 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 55 kg/cm<sup>2</sup>

Diameter of cylinders 340 mm. Length of stroke 570 mm. No. of cylinders 6 No. of cranks 6

Mean Indicated Pressure 7

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 484 mm.

Is there a bearing between each crank Yes

Revolutions per minute 250 Flywheel dia. 1200 mm Weight 570 kgs Means of ignition Compression Kind of fuel used Marine Diesel Oil

Crank Shaft, dia. of journals as per Rule

as fitted 220 mm

Crank pin dia. 220 mm

Crank Webs Mid. length breadth 308 mm

Thickness parallel to axis

The Flywheel is fitted at aft end of thrust shaft.

Flywheel Shaft, diameter as fitted

Intermediate Shafts, diameter as fitted

Thrust Shaft, diameter at collars as per Rule

as fitted 220 mm

Tube Shaft, diameter as per Rule

as fitted

Screw Shaft, diameter as per Rule

as fitted

Is the { tube } shaft fitted with a continuous liner { screw }

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

haft If so, state type

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 25.5 mm. Are the cylinders fitted with safety valves 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

Cooling Water Pumps, No. One Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Bilge Pumps worked from the Main Engines, No. One Diameter 100 mm Stroke 140 mm Can one be overhauled while the other is at work

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

{ How driven

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 350 liter/min.

each

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, &amp;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

led 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

compartment to another

Is the Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

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. One

No. of stages 2

Diameters 175/70 mm

Stroke 350 mm

Driven by Main Engine

Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Small Auxiliary Air Compressors, No.

No. of stages

Diameters

Stroke

Driven by

Scavenging Air Pumps, No. One

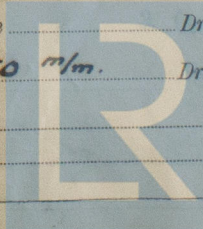
Diameter 940 mm

Stroke 350 mm

Driven by Main Engine

Auxiliary Engines crank shafts, diameter as per Rule

as fitted

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W1075-0104



4B. N° 4557.

**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 and cleaned Yes.

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

**High Pressure Air Receivers, No.** None fitted 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.** 2 Total cubic capacity 2000 litres. Internal diameter 650 mm. thickness 14 mm.

Seamless, lap welded or riveted longitudinal joint Riveted Material S.H. Steel. Range of tensile strength 44-50 kg/mm<sup>2</sup> Working pressure \_\_\_\_\_ by Rules \_\_\_\_\_ Actual 25 kg/cm<sup>2</sup>

**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 E. 23/12/36 Receivers E. 6/8/30. Separate Tanks \_\_\_\_\_  
(If not, state date of approval)

Donkey Boilers \_\_\_\_\_

General Pumping Arrangements \_\_\_\_\_

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

### SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied

As per enclosed list. The spare gear has been examined before it was despatched.

The additional water circulating pump and the daily fuel supply pump will be delivered by the Ship Builders.

The foregoing is a correct description,

**AKTIEBOLAGET ATLAS DIESEL**

G. Jacobsson

Manufacturer.

Dates of Survey while building  
During progress of work in shops-- 1. 32, 10, 27, 12, 35, 18, 23, 34, 20, 10, 8, 9, 10, 37  
During erection on board vessel--  
Total No. of visits 11 in shop.

Dates of Examination of principal parts—Cylinders 10/9/37. Covers 10/9/37 Pistons 10/9/37 Rods \_\_\_\_\_ Connecting rods 9, 9, 37

Crank shaft 10, 12, 35, 9, 37. Seavair pump 10, 12, 35, 9, 37. Thrust shaft 1, 32, 12, 35, 9, 37. Intermediate shafts \_\_\_\_\_ Tube shaft \_\_\_\_\_

Screw shaft \_\_\_\_\_ Propeller \_\_\_\_\_ Stern tube \_\_\_\_\_ Engine seatings \_\_\_\_\_ Engines holding down bolts \_\_\_\_\_

Engines tried under working conditions 8-9-37.

Crank shaft, Material S.H. Steel. Identification Mark LLOYDS N° 6536 Seavair pump 10, 12, 35, 9, 37. Identification Mark LLOYDS N° 6534

Thrust shaft, Material S.H. Steel. Identification Mark LLOYDS N° 6534 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.

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 Please see Skm. Rpt N° 4179.

**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 be classed +LHC, as soon as it has been installed in a chartered vessel to the satisfaction of the Society's Surveyors.

The amount of Entry Fee .. £ : : When applied for,

Special ... .. Nr. 572:- : : 19

Donkey Boiler Fee ... £ : : When received,

Travelling Expenses (if any) £ : : 29/12 1937

Committee's Minute

Assigned

Not for Classing  
Committee

Thos. J. J. J.  
Engineer Surveyor to Lloyd's Register of Shipping.

TUE 22 NOV 1936

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