

Rpt. 4b

Date of writing report _____ Received London _____ Port **YOKOHAMA**
Survey held at **YOKOHAMA** No. of visits **48** In shops **48** First date **5-9-1958** No. **2832**
On vessel _____ Last date **14-1-1959**

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. _____ Name _____
Owners **Philippine Ace Lines, Inc.-Corporation** Gross tons _____
Managers _____
Hull built at **Kasado, Japan** By **Kasado Dockyard Co., Ltd.** Port of Registry _____
Main Engines made at **Yokohama** By **Yokohama Shipyard & Engine Works** Yard No. **203** Year _____ Month _____
By **Mitsubishi Nippon Heavy Ind. Ltd.** Eng. No. **D 65238** When **1958-12**
Gearing made at _____ By _____
Donkey boilers made at _____ By _____
Machinery installed at _____ Blr. Nos. _____ When _____
By _____ When _____

Particulars of restricted service of ship, if limited for classification _____

Particulars of vegetable or similar cargo oil notation, if required _____

Is ship to be classed for navigation in ice? _____

Is ship intended to carry petroleum in bulk? _____

Is refrigerating machinery fitted? _____

If so, is it for cargo purposes? _____

Type of refrigerant _____

Is the refrigerating machinery compartment isolated from the propelling machinery space? _____

Is the refrigerated cargo installation intended to be classed? _____

The following particulars should be given as fully and as clearly as possible. Where the answer is "No" or "None", say so! Ticks and other, signs of doubtful meaning are not to be used. Where the wording is not applicable to the installation, a black line may be inserted. If the main engines have been constructed at another port and are covered by a separate report, the particulars given in that report need not be repeated below, but the port and report number should be stated.

No. of main engines **One** No. of propellers **One** Brief description of propulsion system **Oil Engine 2.S.A. 6 Cyl. 520x700m/m direct coupled**

MAIN RECIPROCATING ENGINES. Licence Name and Type No. **Yokohama M.A.N. G6Z 52/70**

No. of cylinders per engine **6** Dia. of cylinders **520 m/m** stroke(s) **700 m/m** 2 or 4 stroke cycle **2** Single or double acting **Single**

Maximum approved BHP per engine **2500** at **220** RPM of engine and **220** RPM of propeller.

Corresponding MIP **7.16 kg/cm²** (For DA engines give MIP top & bottom) Maximum cylinder pressure **57 kg/cm²** Machinery numeral **500**

Are the cylinders arranged in Vee or other special formation? **No**

If so, number of crankshafts per engine _____

TWO STROKE ENGINES. Is the engine of opposed piston type? **No**

If so, how are upper pistons connected to crankshaft? _____

Is the exhaust discharged through ports in the cylinders or through valve(s) in the cylinder covers? **Ports**No. and type of mechanically driven scavenge pumps or blowers per engine and how driven **Roots' Blower, by main engine**No. of exhaust gas driven scavenge blowers per engine **No**Where exhaust gas driven blowers only are fitted, can the engine operate with one blower out of action? **-**If a stand-by or emergency pump or blower is fitted, state how driven **-**No. of scavenge air coolers **-** Scavenge air pressure at full power **0.19 kg/cm²**Are scavenge manifold explosion relief valves fitted? **Yes**

FOUR STROKE ENGINES. Is the engine supercharged? _____

Are the undersides of the pistons arranged as supercharge pumps? _____

No. of exhaust gas driven blowers per engine _____

No. of supercharge air coolers per engine _____

Supercharge air pressure _____

Can engine operate without supercharger? _____

TWO STROKE ENGINES—GENERAL. No. of valves per cylinder: Fuel **1**Inlet **-**Exhaust **-**Starting **1**Safety **1**Material of cylinder covers **Special Cast Iron**Material of piston crowns **O.H. Steel**Is the engine equipped to operate on heavy fuel oil? **Yes**Cooling medium for:—Cylinders **Fresh Water**Pistons **Lubricating Oil**Fuel valves **Fresh Water**

Overall diameter of piston rod for double acting engines _____

Is the rod fitted with a sleeve? **-**Is welded construction employed for: Bedplate? **No**Frames? **No**Entablature? **No**Is the crankcase separated from the underside of pistons? **No**Is the engine of crosshead or trunk piston type? **Yes**Total internal volume of crankcase **347.5 ft³**No. and total area of explosion relief devices **3 x 219.6 in²**Are flame guards or traps fitted to relief devices? **No**Is the crankcase readily accessible? **Yes**If not, must the engine be removed for overhaul of bearings, etc? **-**Is the engine secured directly to the tank top or to a built-up seating? **-**How is the engine started? **by compressed air**Can the engine be directly reversed? **Yes**If not, how is reversing obtained? **-**Has the engine been tested working in the shop? **Yes**How long at full power? **2 hours**CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system **8/5/59**State barred speed range(s), if imposed **425 W.**for working propeller **110 - 135**For spare propeller **-**Is a governor fitted? **Yes**Is a torsional vibration damper or detuner fitted to the shafting? **No**Where positioned? **-**Type **-**No. of main bearings **7**Are main bearings of ball or roller type? **No**Distance between inner edges of bearings in way of crank(s) **660 m/m**

Distance between centre lines of side cranks or eccentrics of opposed piston engines _____

Crankshaft type: Built, semi-built, solid. (State which) **Solid**Diameter of journals **340 m/m**Diameter of crankpins **340 m/m**Centre **340 m/m**Breadth of webs at mid-throw **520 m/m**Axial thickness of webs **185 m/m**If shrunk, radial thickness around eyeholes **-**Are dowel pins fitted? **No**Crankshaft material Journals **Electric**

Minimum _____

Webs **Steel**Approved **53 kg/mm²**

Tensile strength _____

Diameter of flywheel **1575.8 m/m**Weight **640 kg.**Are balance weights fitted? **No**Total weight **-**

Radius of gyration _____

Diameter of flywheel shaft **-**Material **-**

Minimum approved tensile strength _____

Flywheel shaft: separate, integral with crankshaft, integral with thrustshaft. (State which) **-**

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GENERAL REMARKS

State if the machinery has been constructed and/or installed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship and give recommendations, for classification, including any special notation to be assigned. Where existing machinery is submitted for classification the circumstances should be explained as fully as possible.

This Main Engine has been constructed under Special Survey in accordance with the Rules, Approved plans and Secretary's letters.

The materials and workmanship are sound and good.

The Main Engine has been examined under working conditions during shop trials and found satisfactory and in my opinion is eligible for the notation  LMC (with date) when it has been satisfactorily installed and tested onboard.

H. Armstrong

Engineer Surveyor to Lloyd's Register of Shipping.

PARTICULARS OF IDENTIFICATION MARKS ((Including Port of origin) of important Forgings and Castings. (Copies of certificates should be forwarded with report.)

RODS Connecting rod :- M33YF 642, 643, 644, 645, 646, 647 YKA 11-11-58 K.M.

Tie rod :- YKA-11944-1,2,3,4,5,6,7,8,9,10,11,12,13,14 5-11-58

CRANKSHAFT ~~or flywheel shaft~~ NAG MS-CK 2947 M.O. 29-11-58

FLYWHEEL SHAFT

THRUSTSHAFT YKA No. Y-13416 H.T. 10-11-58

GEARING

INTERMEDIATE SHAFTS

SCREW AND TUBE SHAFTS

PROPELLERS

OTHER IMPORTANT ITEMS

Is the installation a duplicate of a previous case?

If so, state name of vessel

Date of approval of plans for crankshaft 5-12-58

Thrust: 10-11-1958

Gearing

Clutch

Separate oil fuel tanks

Pumping arrangements

Oil fuel arrangements

Cargo oil pumping arrangements

Air receivers

Donkey boilers

Dates of examination of principal parts:-

Fitting of stern tube

Fitting of propeller

Completion of sea connections

Alignment of crankshaft in main bearings

Engine chocks & bolts

Alignment of gearing

Alignment of straight shafting

Testing of pumping arrangements

Oil fuel lines

Donkey boiler supports

Steering machinery

Windlass

Date of Committee

FRIDAY 22 MAY 1959

Decision

See Rpt. 1.

Construction Special Survey Fee ... £ 275.000

Expenses

Date when A/c rendered

FEB. 4 1959



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