

Rpt. 4b

Date of writing report 17-1-59.

Received London 26 JAN 1959

Port of HONG KONG. No. 14664.

Survey held at Hong Kong.

No. of visits In shops 10. On vessel

First date 27-10-58. Last date 9-1-59.

FIRST ENTRY REPORT ON INTERNAL COMBUSTION MACHINERY

No. in R.B. _____ Name **"FIONETTA"** Gross tons **131.**
 Owners **International Molasses (Private) Ltd.** Managers _____ Port of Registry **Panama.**
 Hull built at **Hong Kong.** By **Pacific Islands S.B. Co., Ltd.** Yard No. **237.** When **1959. Jan.**
 Main Engines made at **Frederikshavn, Denmark.** By **Alpha/Diesel A/S** Eng. No. **8298** When **1957. Nov.**
 Gearing made at _____ By _____ Blr. Nos. _____ When _____
 Donkey boilers made at _____ By _____ Blr. Nos. _____ When _____
 Machinery installed at **Hong Kong.** By **Pacific Islands S.B. Co., Ltd.** When **1959 Jan.**
 Particulars of restricted service of ship, if limited for classification **Service in Rangoon Harbour.**
 Particulars of vegetable or similar cargo oil notation, if required **Carrying Molasses and/or Oil F.P. above 150°F.**
 Is ship to be classed for navigation in ice? **No.** Is ship intended to carry petroleum in bulk? **No.**
 Is refrigerating machinery fitted? **No.** 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 **Through clutch & reverse gear.**
 MAIN RECIPROCATING ENGINES. Licence Name and Type No. **B & W Alpha Type 343-F.**
 No. of cylinders per engine **3** Dia. of cylinders **200 m.m.** stroke(s) **340 m.m.** 2 or 4 stroke cycle **2** Single or double acting **Single.**
 Maximum approved BHP per engine **165** at **450** RPM of engine and **450** RPM of propeller.
 Corresponding MIP **5.65 Kg. cm²** (For DA engines give MIP top & bottom) Maximum cylinder pressure **60 Kg./cm²** Machinery numeral **33.**
 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 **One - two cylinder (Tandem) reciprocating, driven by crank.**
 No. of exhaust gas driven scavenge blowers per engine **Nil.** 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 **Nil.** Scavenge air pressure at full power **2.4 lbs.p.s.i.** Are scavenge manifold explosion relief valves fitted? **No.**

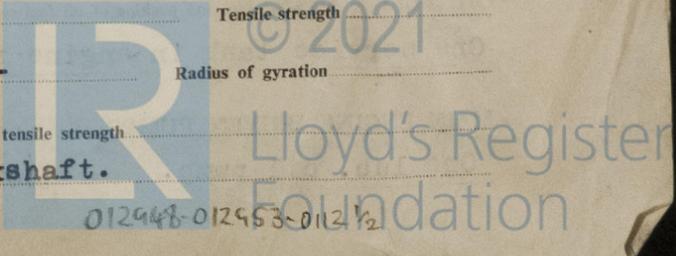
FOUR STROKE ENGINES. Is the engine supercharged? _____ Are the undersides of the pistons arranged as supercharge pumps? _____ No. of exhaust gas driven blowers per engine _____ No. of supercharge air coolers per engine _____ Supercharge air pressure _____ Can engine operate without supercharger? _____
 TWO & FOUR STROKE ENGINES—GENERAL. No. of valves per cylinder: Fuel **One.** Inlet **Nil.** Exhaust **Nil.** Starting **One** Safety **One.**
 Material of cylinder covers **Cast Iron.** Material of piston crowns **Cast Iron.** Is the engine equipped to operate on heavy fuel oil? **No.**
 Cooling medium for: Cylinders **Salt Water.** Pistons **Nil.** Fuel valves **Nil.** 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? **Trunk.** Total internal volume of crankcase _____ No. and total area of explosion relief devices **One / 3 3/4" dia.** Are flame guards or traps fitted to relief devices? **Yes.** 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? **Seating.** How is the engine started? **Compressed Air.**
 Can the engine be directly reversed? **No.** If not, how is reversing obtained? **Clutch & reverse gear.**

Has the engine been tested working in the shop? _____ How long at full power? _____
 CRANK & FLYWHEEL SHAFTING. Date of approval of torsional vibration characteristics of the propelling machinery system **See Secretary's letter 24-12-58.** State barred speed range(s), if imposed for working propeller _____ 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 **4** Are main bearings of ball or roller type? **No.** Distance between inner edges of bearings in way of crank(s) **263 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 **140 m.m.** Diameter of crankpins **130 m.m.** Breadth of webs at mid-throw **220 m.m.** Axial thickness of webs **70 m.m.**
 If shrunk, radial thickness around eyeholes _____ Are dowel pins fitted? _____ Crankshaft material Journals _____ Pins _____ Minimum _____ Approved _____ Tensile strength _____ Webs _____
 Diameter of flywheel **930 m.m.** Weight **550 Kg.** Are balance weights fitted? _____ 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) **Integral with crankshaft.**

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 9/2/59

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 432.J.
 See Secretary's letter 24-12-58.



MAIN GAS TURBINES. Name and Type No.

No. of sets of turbines _____ Open or closed cycle _____ BHP per set _____ at _____ RPM of output shaft _____
 How is drive transmitted to propeller shaft? _____
 ARRANGEMENT OF TURBINES. HP drives _____ at _____ RPM HP gas inlet temperature _____ pressure _____
 (A small diagram should be attached showing gas cycle.)
 IP drives _____ at _____ RPM IP gas inlet temperature _____ pressure _____
 LP drives _____ at _____ RPM LP gas inlet temperature _____ pressure _____
 No. of air compressors per set _____ Centrifugal or axial flow type? _____ Material of turbine blades _____ Material of compressor blades _____
 No. of air coolers per set _____ No. of heat exchangers per set _____ How are turbines started? _____
 How is reversing effected? _____ Are the turbines operated in conjunction with free piston gas generators? _____
 Total No. of free piston gas generators _____ Diameter of working pistons _____ Diameter of compressor pistons _____ No. of double strokes per minute at full power _____ Gas delivery pressure _____ Gas delivery temperature _____ Have the turbines and attached equipment been tested working in the shop? _____ How long at full power? _____

ELECTRIC PROPULSION (Reciprocating engines or gas turbines. Electrical particulars to be reported on Form 4d.)

No. of generators _____ KW per generator _____ at _____ RPM AC or DC? _____ Position _____
 No. of propulsion motors _____ SHP per motor _____ at _____ RPM Position _____
 How is power obtained for excitation of generators? _____ Motors? _____

REDUCTION GEARING (Reciprocating engines or gas turbines. A small line sketch should be attached showing arrangement of gearing.)

Is gearing of single or double helical type? _____ If single, position of gear thrust bearing _____ Is gearing of epicyclic type? _____
 PCD of pinions: First reduction _____ Second reduction _____ PCD of wheels: First reduction _____ Main _____
 Material of pinions _____ Tensile strength _____ Material of wheel rims _____ Tensile strength _____
 Are gear teeth surface hardened? _____ How are teeth finished? _____ Diameter of pinion journals _____ Wheel shaft journals _____
 Are the wheels of welded construction? _____ Is gearcase of welded construction? _____ Has the wheel/gearcase been heat treated on completion of welding? _____ Where is the propeller thrust bearing located? _____ Are gear bearings of ball or roller type? _____

CLUTCHES, FLEXIBLE COUPLINGS, ETC. If a clutch or other flexible connection is fitted between engine/turbine and gearing or between engine and line shafting give brief description and, for clutches, state how operated.

Manually operated disc clutch.
 Can the main engine be used for purposes other than propulsion when declutched? No. If so, what? _____

STRAIGHT SHAFTING. Diameter of thrustshaft 110 m.m. Material _____ Minimum approved tensile strength _____
 Shaft separate or integral with crank or wheel shaft? Separate. Diameter of intermediate shaft 100 m.m. Material _____
 Minimum approved tensile strength _____ Diameter of screwshaft cone at large end 100 m.m. Is screwshaft fitted with a continuous liner? Yes.
 Diameter of tube shaft. (If these are separate shafts) _____ Is tube shaft fitted with a continuous liner in way of stern tube? _____ Thickness of screwshaft liner at bearings 12 1/2 m.m. Thickness between bearings 10 m.m. Material of screwshaft Steel Minimum approved tensile strength _____
 Is an approved oil gland fitted? Yes. If so, state type Cederwall. Length of bearing next to and supporting propeller 400 m.m.
 Material of bearing _____ In multiple screw vessels is the liner between stern tube and A bracket continuous? _____ If not, is the exposed length of shafting between liners readily visible in dry dock? _____

PROPELLER. Diameter of propeller 1150 m.m. Pitch 770 m.m. Built up or solid Solid. Total developed surface 505 m²
 No. of blades 3 Blade thickness at top of root fillet 48 mm Blade material Bronze. Moment of inertia of dry propeller 58 kg m²
 If propeller is of special design, state type No. Is propeller of reversible pitch type? No. If so, is it of approved design? _____
 State method of control _____ Material of spare propeller _____ Moment of inertia _____
 No. 3 M.E. Cyl.

AIR COMPRESSORS & RECEIVERS. No. of main engine driven compressors per engine One Can they be declutched? _____
 No. of independently driven air compressors. (State capacity, prime mover, position in ship, and Port and No. of certificate) One Ingersoll Rand 2 cyl. Type 30
 No. 42073 Capacity 8 cu.ft. per min. driven by aux. engine, E.R. (starboard).
 No. of starting air receivers. (Main and Aux. State capacity of each, position in ship and Port and No. of Certificate) Main Two each 75 litres.
 Marked T.P. 60 ATM. WP 30 ATM. 9-11-57. 1762 ST 1763 ST Bureau Veritas Certificate No. 022
 How are receivers first charged? Comp. driven by hand start aux. eng. Maximum working pressure of starting air system 30 ATM. Are the safety devices in accordance with the Rules? Yes. Has the starting of the main engines been tested and found satisfactory? Yes.

COOLERS. No. of main engine fresh water coolers Nil. No. of main engine lubricating oil coolers One.
 OIL FUEL TANKS. No. and position of oil fuel settling or service tanks not forming part of hull structure Bunkers Two in Engine Room, 1p. 1s.
 One service tank in engine room casing.
 MAIN ENGINE DRIVEN PUMPS (No. and Purpose) One bilge (15 tons per hour). One S.W. cooling (15 tons per hour).
 One lub. oil pump.

INDEPENDENT PUMPS Name below essential pumps, state position and how driven. Give capacity of bilge pumps.	SUCTION										DELIVERY					
	Bilge Main	Bilge Direct	Ballast Main	Oil Fuel	Fresh Water Cooling	Sea	Feed Tanks	Lub. Oil	Boiler Feed	Salt Water Cooling	Fresh Water Cooling	Oil Fuel Tanks	Fire Main	Lub. Oil	Piston Cooling	Over-board
G.S. pump (E.R. port) 20.6 T.P.H. Aux. Eng. Driven.	X	X				X					X		X			X
O.F. Transfer pumps, 1p. 1s. hand.				X								X				

BILGE SUCTIONS. No. and size in each compartment Fore Peak, Forward Cofferdam and Steering Compartments

all hand pumps. Pump room one 2" dia.
 No. and size connected to main bilge line in main engine room one 2" dia. In tunnel _____
 In aux. engine room _____ Size and position of direct bilge suctions in machinery spaces 2" dia. (port).
 Size and position of emergency bilge suctions in machinery spaces 2" dia. (starboard).
 Is the bilge or ballast system fitted with means for separating oily water on the overboard discharge side? No. Do the piping arrangements comply with the Rules including special requirements for ships carrying petroleum in bulk, cargo oil or classed for navigation in ice? (strike out words not applicable). Yes.

STEAM & OIL ENGINE AUXILIARIES

Position of each	Type	Made by	Port and No. of Rpt. or Cert.	Driven Machinery (For electric generators, state output)
Engine Room (port)	4 SC SA	Southiron Works,		Cargo Pump, G.S. pump, Generator 1 KW.
Engine Room (stbd.)	Model P.D. 126	Hong Kong.		Cargo Pump. Air compressor.
		Port Engine No. D.58925846	22/1	
		Stbd. Engine No. D.58925729	22/1	

Is electric current used for essential services at sea? No. If so, state the minimum No. and capacity of generators required in order that the ship may operate at sea _____
 Is an electric generator driven by Main Engine? No.
 STEAM INSTALLATION. No. of donkey boilers burning oil fuel _____ W.P. _____ Type _____
 Position _____
 Is a superheater fitted? _____ Are these boilers also heated by exhaust gas? _____ No. of donkey boilers heated by exhaust gas only? _____ W.P. _____
 Type _____ Position _____ Can the exhaust heated boilers deliver steam directly to the steam range or do they operate only as economisers in conjunction with oil fired boilers? _____ Port and No. of report on donkey boilers _____
 Is steam essential for operation of the ship at sea? _____ Are any steam pipes over 3 ins. bore? _____ If so, what is their material? _____
 For oil fired boilers is the arrangement of pipes, valves, controls, etc., in accordance with the Rules? _____ No. of oil burning pressure units _____ No. of steam condensers _____ No. of Evaporators _____
 STEERING GEAR. (State No. and Type of Steam Engines, Electric Motors, Hydraulic Pumps and other particulars) Hand gear.

Have the Rule Requirements for fire extinguishing arrangements been complied with? Yes. Brief description of arrangements. One hydrant with hose & jet/spray nozzle. Two 2 gall. foam extinguishers. 1 qt. C.T.C. 1 sand box and scoop.
 Has the spare gear required by the Rules been supplied? Yes. Has all the machinery been tried under full working conditions and found satisfactory? Yes. Date and duration of full-power sea trials of main engines 23-12-58. 4 hours. Does this machinery installation contain any features of a novel or experimental nature? (Give particulars) No.

The foregoing description of the main engine and installation is correct and the particulars are as approved for torsional vibration characteristics (strike out words not applicable).

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.

The main engines of this vessel were constructed under survey by Bureau Veritas surveyors.

The Machinery of this vessel has been installed under Special Survey at this Port, in accordance with the approved plans and Secretary's letters.

The workmanship is good.

H.K. letter 7/4/59 On completion of installation the Machinery was examined under working conditions including the reversible propellers, *reversing arrangements* found satisfactory, and in my opinion, is eligible to be classed as contemplated when the torsional vibration characteristic have been approved.

Documents forwarded herewith

Interim Certificate B.1.

Makers Test sheets on auxiliary engines.

Bureau Veritas Certificates on Main Engines, Screw shaft, Intermediate Shaft, Propeller, sterntube & Air Receivers.

James A. Anderson
James A. Anderson
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

CRANKSHAFT ~~OR ROTOR SHAFT~~ ✓ 3701 12-10-57. S.T.

FLYWHEEL SHAFT

THRUSTSHAFT ✓ 4517 12-10-57. S.T.

GEARING

INTERMEDIATE SHAFTS ✓ 5077 - 4 12-11-57. S.T.

SCREW ~~AND TUBE~~ SHAFTS ✓ 5077 - 4 12-11-57. S.T.

PROPELLERS ✓ 12-11-57. S.T.

OTHER IMPORTANT ITEMS

Is the installation a duplicate of a previous case? No. If so, state name of vessel -

Date of approval of plans for crankshaft 24-12-58. Straight shafting 24-12-58. Gearing - Clutch -

Separate oil fuel tanks Hong Kong 5-9-58. 9-9-58. Pumping arrangements 16-10-58. Oil fuel arrangements 16-10-58.

Cargo oil pumping arrangements 16-10-58. Air receivers - Donkey boilers -

Dates of examination of principal parts:-

Fitting of stern tube 14-11-58. Fitting of propeller 20-11-58. Completion of sea connections 12-11-58. Alignment of crankshaft in main bearings -

Engine chocks & bolts 4-12-58. Alignment of gearing - Alignment of straight shafting 4-12-58. Testing of pumping arrangements 23-12-58.

Oil fuel lines 23-12-58. Donkey boiler supports - Steering ~~machinery~~ Gear 23-12-58. Windlass 23-12-58.

Date of Committee THURSDAY 5 MAR 1959 Special Survey Fee \$448.00 ✓

Decision *See Rpt. 1* Instaltn. 640.00 ✓

Expenses \$21.00

Date when A/c rendered 9th January, 1959.



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