

REPORT ON OIL ENGINE MACHINERY.

No. 1700

28 DEC 1929

Received at London Office

Date of writing Report 27th Nov. 1929 When handed in at Local Office 27th Nov. 1929 Port of NAGASAKI.

Date in Survey held at NAGASAKI. Date, First Survey 11th June 1928. Last Survey 31st Oct. 1929. Number of Visits 239.

Sup. on the ^{Store} Twin ^{Triple} Screw vessel "BUENOS AIRES MARU". Tons Gross 9,625:65 Net 5,854:27

built at Nagasaki. By whom built Mitsubishi Zosen Kaisha, Ltd. Yard No. 456. When built 1929.
Lines made at Nagasaki. By whom made Mitsubishi Zosen Kaisha, Ltd. Engine No. 456. When made 1929.
Key Boilers made at Nagasaki. By whom made Mitsubishi Zosen Kaisha, Ltd. Boiler No. 456. When made 1929.
Horse Power 6,000. Owners Osaka Shosen Kabushiki Kaisha. Port belonging to Osaka.
Horse Power as per Rule 1,503. Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes
Use for which vessel is intended South America.

ENGINES, &c.—Type of Engines Mitsubishi-Sulzer. 2 or 4 stroke cycle 2 Single or double acting Single
Mean pressure in cylinders 40 kg/cm² Diameter of cylinders 680 m/m Length of stroke 1000 m/m No. of cylinders 12 No. of cranks 12
Pitch of bearings, adjacent to the Crank, measured from inner edge to inner edge 860 m/m Is there a bearing between each crank Yes
Revolutions per minute 120 Flywheel dia. 2200 m/m Weight 7.6 tons Means of ignition Compression Kind of fuel used Heavy fuel oil.
Crank Shaft, dia. of journals as per Rule 425.1 m/m Crank pin dia. 450 m/m Crank Webs Mid. length breadth 590 m/m Thickness parallel to axis
as fitted 450 m/m Mid. length thickness 245 m/m Thickness around eye-hole
Main Shaft, diameter as per Rule 425.1 m/m Intermediate Shafts, diameter as per Rule 311.6 m/m Thrust Shaft, diameter at collars as per Rule 327.2 m/m
as fitted 450 m/m as fitted 335 m/m as fitted 450 m/m
Screw Shaft, diameter as per Rule 339.6 m/m Is the shaft fitted with a continuous liner Yes
as fitted 370 m/m
Liners, thickness in way of bushes as per Rule 18 m/m Thickness between bushes as per rule 13.5 m/m Is the after end of the liner made watertight in the
as fitted 20 m/m as fitted 15 m/m
boss Yes 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 Yes
Liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after
the tube shaft Length of Bearing in Stern Bush next to and supporting propeller 1500 m/m

Propeller, dia. 13'-3" Pitch 15'-6" No. of blades 4 Material Bronze whether Moveable Yes Total Developed Surface 55 sq. feet
Kind of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Means of lubrication
top of
Thickness of cylinder liners 53 m/m Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with
insulating 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
Water Pumps, No. 2 Sea water pumps @ 250 M³/hr for jackets. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
2 Fresh " " " 60 M³/hr for pistons.
Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work
connected to the Main Bilge Line No. and Size 2- 60 tons/hr. One- 120 tons/hr. One- 200 Cu.M/hr.
How driven Electric motor.

Pumps, No. and size One- 200 M³/hr. Lubricating Oil Pumps, including Spare Pump, No. and size 2- 6 M³/hr. Crossheads.
2- 46 M³/hr. Mainbearings.
1- 2.5 " Transfer.
independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge
No. and size:—In Machinery Spaces 2 @ 2". 4 @ 3 1/2". 2 @ 3 1/2" (hatbox) 2 @ 2" No.2 Coff. 1 @ 2" No.3 Coff.
No.1 Hold. 2 @ 3". No.2 Hold 2 @ 3 1/2". No.3 Hold 2 @ 3 1/2". No.4 Hold 1 @ 3 1/2". No.5 Hold 1 @ 3".
1 well 1 @ 2 1/2". Pipe passages 2 @ 2". No.1 Coff 1 @ 3". No.4 Coff 1 @ 2".
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 9". 1 @ 8" (Emerg) 1 @ 5". 2 @ 4".

Are the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes. Yes Are the Bilge Suctions in the Machinery Spaces
easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes
Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Both.
fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes Are the Overboard Discharges above or below the deep water line Above
each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes
How are they protected
Have they been tested as per Rule

Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
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 Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper deck
vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork
Compressors, No. 4 No. of stages 3 Diameter 130/420/500 Stroke 400 Driven by Main engine.
Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 75/295/340 Stroke 180 Driven by Elec. motor.
Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 35/110 Stroke 120 Driven by Hot bulb eng.
Air Pumps, No. 2 Turbo Blowers. Capacity 900 M³/min (each). Driven by Elec. motor.

Engines crank shafts, diameter as per Rule
as fitted
RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes Man hole.
Internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Hand hole.
Is a drain arrangement fitted at the lowest part of each receiver Yes

Pressure Air Receivers, No. 4 4 2 Cubic capacity of each 2000 litre Internal diameter 775 m/m thickness 32.5 m/m
800 litre 540 m/m 25 m/m
150 litre 300 m/m 16 m/m
Material Seamless Steel Range of tensile strength 28-35 ton Working pressure by Rules 91.7 kg/cm²
No. 2 Total cubic capacity 6 cu.metres. Internal diameter 1200 m/m thickness 1/8" 103.7 " 75 kg/cm²
Material T.R.D.B.S. Steel Range of tensile strength 28-35 ton Working pressure by Rules 478.6 lbs sq.in. 455 actual
sq.in.

IS A DONKEY BOILER FITTED? **Yes** If so, is a report now forwarded? **Yes**
 PLANS. Are approved plans forwarded herewith for Shafting **Yes** Receivers **Yes** Separate Tanks **Yes**
 Donkey Boilers **Yes** General Pumping Arrangements **Yes** Oil Fuel Burning Arrangements **Yes**

SPARE GEAR As per Rules and in addition (See separate list).

The foregoing is a correct description,

J. Grotora
 GENERAL MANAGER

Dates of Survey while building	During progress of work in shops	1928/ June 11.22.29 Jul 4.9.11.13.18.26.27.28 Oct 1.2.3.4.5.6.10.12.15.19.22.23.24.25.31 Sep 1.2.3.4.5.6.7.8.9.10.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30 Dec 1.3.5.6.7.8.9.10.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.29.30
		29.31 Nov. 1.5.6.7.8.9.12.13.15.16.18.19.20.21.22.24.25.28.29. 1929/ Jan 4.7.8.9.11.12.15.16.17.18.19.20.21.22.23.25.27 Mar 6.11.12.18.19.22.23.25.26. Apr 1.2.4.5.6.8.10.11.13.15.16.17.18.19.20.22.24.25.27.30 May 1.2.4.6.8.9.10.11.12.13.14.15.16.17.18.19.20.21.22.27.28 Jul 2.3.4.11.12.13.14.15.16.17.18.19.20.21.22.23.24.25.26.27.28.31 Total No. of visits 239.
Total No. of visits		Oct 1.4.5.10.12.16.21.23.25.26.28.29.30.31.

Dates of Examination of principal parts—Cylinders 28-9-28 to 17-9-28 Covers 15-11-28 Pistons 20-9-28 to 6-10-28 Connecting rods 4-10-28 to 20-11-28
 Crank shaft 14-6-28 to 15-7-28 (Prague) Flywheel shaft and Thrust shaft (Dusseldorf) Intermediate shafts 19-12-28 to 16-4-29 Tube shaft /
 Screw shaft 4-4-29 to 30-4-29 Propeller 9-8-29 Stern tube 1. 11-4-29. Engine seatings 14-5-29. Engines holding down bolts 20-6-29
 Completion of fitting sea connections 8-5-29 Completion of pumping arrangements 28-8-29 Engines tried under working conditions 4-10-29
 Crank shaft, Material Ingot steel Identification Mark P- L.No.6977 & 7002 GM 14-6-28 & 15-7-28. Flywheel shaft, Material Ingot steel Identification Mark S- L.No.800 & 6998 & 6999 GM 28-6-28.
 Thrust shaft, Material Ingot steel Identification Mark See Flywheel Intermediate shafts, Material Ingot steel Identification Marks See hel
 Tube shaft, Material / Identification Mark / Screw shaft, Material Ingot steel. Identification Mark S-L.No.8126 K & P-L.No.2498 K
 Spare. L.No.2539 K

Is the flash point of the oil to be used over 150° F. **Yes**
 Is this machinery duplicate of a previous case **No.** If so, state name of vessel /

General Remarks (State quality of workmanship, opinions as to class, &c.)

Identification Marks:- Intermediate shafts.

Starbd.	LLOYD'S No. 4601 GA 30-1-29.	Port.	LLOYD'S No. 4599 GA 30-1-29.
"	4602 GA "	"	4589 KK 18-3-29.
"	487 KK 16-4-29.	"	513 KK "
"	13447 KK 5-4-29.	"	488 KK 16-4-29.
"	485 KK 5-2-29.	"	516 KK 5-4-29.
"	484 GA 30-1-29	"	4588 KK 5-2-29.
"	486 KK 18-3-29.	"	4600 GA 30-1-29.

The machinery has been constructed under Special survey and installed in the vessel in accordance with the Rules and Approved plans.

The materials and workmanship are good and the machinery has been examined under working conditions and found satisfactory.

The machinery of this vessel is eligible in my opinion to have the record of **LMO 10-**

The amount of Entry Fee	£ 60:63	When applied for,	5. 11. 19 29
Special	£ 2085:29		
Donkey Boiler Fee	£ 63:66	When received,	18. 11. 19 29
Air Vessels.	£ 95:49		
Travelling Expenses (if any)	£ :		

George Anderson & K. Kish
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute
 Assigned

TUE. 7 JAN 1930

LMO 10-29 Oil Engines
DA Bolts
 CERTIFICATE WRITTEN

