

# REPORT ON OIL ENGINE MACHINERY.

No. 1656

Received at London Office

20 SEP 1928

Writing Report 23rd Aug. 1928 When handed in at Local Office 23rd Aug. 1928 Port of NAGASAKI.

Survey held at NAGASAKI. Date, First Survey 21st Sep. 1927. Last Survey 4th August 1928.

Number of Visits 133.

on the ~~Steam~~ ~~Triple~~ ~~Compound~~ Single Screw vessel "SHUNTEN MARU". Tons Gross 5,623.35 Net 3,508.

at Nagasaki. By whom built Mitsubishi Zosen Kaisha, Ltd. Yard No. 448 When built 1928 8mo

made at Nagasaki. By whom made Mitsubishi Zosen Kaisha, Ltd. Engine No. 448 When made 1928.

Boilers made at Annan, Scotland by whom made Cochran & Co (Annan) Ltd. Boiler No. 10661 When made 1927.

Horse Power 2300. Owners Yamamoto Shoji Kaisha, Ltd., Port belonging to Fuchu.

Power as per Rule 582. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

which vessel is intended North American.

MITSUBISHI & Co. Type of Engines Mitsubishi-Sulzer. 2 or 4 stroke cycle 2 Single or double acting Single.

are in cylinders 43 atm. Diameter of cylinders 600 m/m. Length of stroke 1060 m/m. No. of cylinders 6 No. of cranks 6

adjacent to the Crank, measured from inner edge to inner edge 810 m/m Is there a bearing between each crank Yes.

minute 112 Flywheel dia. 2100 m/m Weight 10300 kg. Means of ignition Compression Kind of fuel used Heavy fuel oil.

dia. of journals as per Rule 400 m/m Crank pin dia. 405 m/m Crank Webs Mid. length breadth 550 m/m Thickness parallel to axis

as fitted 405 m/m Mid. length thickness 225 m/m Thickness around eye-hole

dia. diameter as per Rule 400 m/m Intermediate Shafts, diameter as per Rule 301 m/m Thrust Shaft, diameter at collars as per Rule 316 m/m

as fitted 405 m/m as fitted 317 m/m (12 1/2") as fitted 390 m/m

as per Rule / Screw Shaft, diameter as per Rule 331 m/m Is the shaft fitted with a continuous liner Yes.

as fitted / as fitted 350.8 m/m as per rule 13.3 m/m Is the after end of the liner made watertight in the

thickness in way of bushes as per Rule 17.7 m/m as fitted 19 m/m as fitted 14.8 m/m Yes

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

it 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 /

fitted, is the shaft lapped or protected between the liners / Is an approved Oil Gland or other appliance fitted at the after

ft. No Length of Bearing in Stern Bush next to and supporting propeller 1410 m/m

ft. 1'-3" Pitch 11'-9" No. of blades 4 Material Bronze whether Moveable Yes Total Developed Surface 72 sq. feet

ing 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 at top, 45 m/m Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

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

pumps, No. 4. Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

ed from the Main Engines, No. One Diameter 130 m/m Stroke 140 m/m Can one be overhauled while the other is at work /

the Main Bilge Line No. and Size Three:- 1.- 200 ton Bilge & Ballast. 1.- 100 ton Bilge & G.S.

How driven Electric motors. 1.- 50 ton Bilge.

o. and size Two.. 1.- 200 ton. Lubricating Oil Pumps, including Spare Pump, No. and size 2.- 15 cm. per hour.

Duplex., 1.- 100 ton. 1.- 2.4 cm. per hour.

means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

-In Machinery Spaces 4 @ 3 1/2". 2 @ 2". 1 @ 2" (No. 1 C.D.), 1 @ 2" (No. 2 C.D.), Tunnel well 1 @ 2 1/2".

1 Hold 2 @ 3". No. 2 Hold 2 @ 3 1/2". Deep Tank 2 @ 7". No. 4 Hold 2 @ 3 1/2".

r Pump Direct Suctions to the Engine Room Bilges, No. and size One at 8". Two at 5".

tion pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces

ble mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes

ons fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Both.

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.

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

the bunkers / How are they protected /

the deep tanks / Have they been tested as per Rule /

alves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

lves 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

Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform

means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork at Bridge deck level.

s. No. Two. No. of stages 3 Diameters 560/510/120 Stroke 350 m/m Driven by Main engine.

essors, No. Two. No. of stages 3 Diameters 325/290/65 Stroke 180 m/m Driven by Elec. motor.

ompressors, No. One. No. of stages 2 Diameters 110/35 Stroke 120 m/m Driven by Oil engine.

s, No. One - Double. Diameter Rotary-10594 cu ft. per min. Stroke / Driven by Elec. motor.

nk shafts, diameter as per Rule /

as fitted /

S:- Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes.

f the receivers be examined Yes. What means are provided for cleaning their inner surfaces Manhole, - LP Receiver. Handhole, - HP Receiver.

ent fitted at the lowest part of each receiver Yes.

eivers, No. Six. Cubic capacity of each 800 litres. Internal diameter 540 m/m thickness 25 m/m

One. 150 " Internal diameter 300 m/m thickness 15 m/m

ted longitudinal joint Seamless Material Steel Range of tensile strength 28-35 ton sq. in. Working pressure by Rules 98.1 kg/sq. cm.

97.2 "

Receivers, No. One. Total cubic capacity 5 C.M. Internal diameter 1200 m/m thickness 13/16"

ted or riveted longitudinal joint T.R.D.B.S. Material Steel. Range of tensile strength 28-35 ton Working pressure by Rules 438.7 lbs

Ends 26-30 ton

W1247-0209

Lloyd's Register Foundation

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 **No. (Glasgow)** 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.

NAGASAKI WORKS, MITSUBISHI ZOSEN KAISHA, LTD.

S. Kawai

Manufacturer.

GENERAL MANAGER.

Dates of Survey while building: 1927. Sep. 21. Oct. 22. Nov. 7. 16. 25. 29. Dec. 2. 8. 10. 12. 14. 16. 20. 22. 24. 27. 29. 1928. Jan. 7. 9. 11. 13. 14. 17. 21. 25. 26. 28. 31. Feb. 1. 3. 6. 10. 13. 16. 21. 23. 24. 25. 27. 28. Mar. 2. 5. 6. 7. 8. 9. 10. 12. 13. 14. 17. 20. 21. 23. 26. 27. 30. Apr. 4. 5. 6. 7. 10. 13. 14. 16. 17. 18. 19. 20. 25. 26. 27. 30. May. 1. 2. 3. 5. 8. 9. 10. 11. 12. 16. 17. 18. 19. 21. 22. 24. 25. 26. 30. 31. June 1. 2. 7. 8. 9. 11. 12. 13. 14. 15. 16. 20. 22. 25. 26. 27. 29. July 2. 3. 4. 6. 7. 10. 11. 12. 18. 20. 21. 24. 25. 31. Aug. 1. 2. 3. 4. Total No. of visits 133.

Dates of Examination of principal parts - Cylinders 1-2-28 to 15-3-28 Covers 1-2-28 to 17-3-28 Pistons 1-2-28 to 6-4-28 Rods 5-3-28 Connecting rods 5-3-28

Crank shaft 25-11-27 (Prague) and Thrust shaft 29-10-27 (Dusseldorf) Flywheel shaft and Intermediate shafts Tube shaft

Screw shaft 22-5-28 Propeller 1-5-28 Stern tube 11-6-28 Engine seatings 14-6-28 Engines holding down bolts 2-7-28

Completion of fitting sea connections 19-6-28 Completion of pumping arrangements 24-7-28 Engines tried under working conditions 30-7-28

Crank shaft, Material Ingot steel Identification Mark LLOYD'S No. 6487-6488. & thrust Flywheel shaft, Material Ingot steel Identification Mark 29-10-27.

Thrust shaft, Material Identification Mark Intermediate shafts, Material Ingot stl. Identification Marks LLOYD'S No. 201232-2. 201237-2. 201222-2 201504-1 G.A.

Tube shaft, Material Identification Mark Screw shaft, Material Ingot steel. Identification Mark LLOYD'S No. 201242-1 G. 22-5-28.

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.) 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 8-28**

The amount of Entry Fee ... £ 60:00 When applied for, Special ... £ 1561:50 14. 8. 19 28 Donkey Boiler Fee ... £ 50:00 When received, Air Receiver ... £ 31:50 30. 10. 19 Travelling Expenses (if any)

Committee's Minute TUE. 2 OCT 1928 Assigned LMO 8-28 Oil Engines

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

