

# REPORT ON OIL ENGINE MACHINERY.

Received at London Office

-5 NOV 1934

Date of writing Report 10-10-1934. When handed in at Local Office 19 Port of

No. in Survey held at **KOBE**. Date, First Survey Last Survey 5-10-1934.  
Reg. Book. Number of Visits 44.

on the <sup>Single</sup> ~~Twin~~ <sup>Triple</sup> ~~Quadruple~~ Screw vessel

## "KIYOSUMI MARU."

Tons { Gross 6992.  
Net 3829.

Built at **KOBE**. By whom built **KAWASAKI DOCKYARD & Co.** Yard No. 583 When built 1934.

Engines made at **NAGASAKI**. By whom made **MITSUBISHI JUKOGYO KAISHA** Engine No. 556 When made 1934.

Donkey Boilers made at **KOBE**. By whom made **KAWASAKI DOCKYARD & Co.** Boiler No. When made 1934.

Brake Horse Power **7600**. Owners **KOKUSAI KISEN KABUSHIKI KAISHA** Port belonging to **TOKIO**.

Nom. Horse Power as per Rule **2185**. Is Refrigerating Machinery fitted for cargo purposes **NO**. Is Electric Light fitted **YES**.

Trade for which vessel is intended **ALL SEAS.**

**II ENGINES, &c.**—Type of Engines **MITSUBISHI-SULZER TYPE 7DSO76** 2 or 4 stroke cycle **2**. Single or double acting **DOUBLE**.

Maximum pressure in cylinders **49 kg/cm<sup>2</sup>**. Diameter of cylinders **760 mm**. Length of stroke **1200 mm**. No. of cylinders **7**. No. of cranks **7**.

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge **1020 mm**. Is there a bearing between each crank **✓**.

Revolutions per minute **✓**. Flywheel dia. **✓**. Weight **✓**. Means of ignition **✓**. Kind of fuel used **✓**.

Crank Shaft, dia. of journals <sup>as per Rule</sup> **✓**. Crank pin dia. **✓**. Crank Webs <sup>Mid. length breadth</sup> **✓**. <sup>Thick. parallel to axis</sup> **✓**. <sup>shrunk</sup> **✓**. <sup>Thick. around eyehole</sup> **✓**.

Flywheel Shaft, diameter <sup>as per Rule</sup> **✓**. Intermediate Shafts, diameter <sup>as per Rule</sup> **417 mm**. Thrust Shaft, diameter at collars <sup>as per Rule</sup> **✓**. <sup>as fitted</sup> **424 mm**.

Tube Shaft, diameter <sup>as per Rule</sup> **✓**. Screw Shaft, diameter <sup>as per Rule</sup> **455 mm**. Is the <sup>tube</sup> **✓** <sup>screw</sup> **✓** shaft fitted with a continuous liner **YES**. <sup>as fitted</sup> **465 mm**.

Bronze Liners, thickness in way of bushes <sup>as per Rule</sup> **21.5 mm**. Thickness between bushes <sup>as per rule</sup> **16 mm**. Is the after end of the liner made watertight in the <sup>as fitted</sup> **25 mm**. <sup>as fitted</sup> **18 mm** **✓**.

propeller boss **YES**. **✓** 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 **✓**.

shaft **NO**. If so, state type **✓**. Length of Bearing in Stern Bush next to and supporting propeller **2410 mm**.

Propeller, dia. **5486.4 mm** Pitch **4.323 m**. No. of blades **4**. Material **Mn BRONZE** whether Moveable **YES**. Total Developed Surface **9,321.6 sq. feet**.

Method of reversing Engines **✓**. Is a governor or other arrangement fitted to prevent racing of the engine when declutched **✓**. Means of lubrication **✓**.

Thickness of cylinder liners **✓**. 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. **✓**. Is the sea suction provided with an efficient strainer which can be cleared within the vessel **YES**.

Bilge Pumps worked from the Main Engines, No. **✓**. Diameter **✓**. Stroke **✓**. Can one be overhauled while the other is at work **✓**.

Pumps connected to the Main Bilge Line { No. and Size **ONE CENT TYPE 8" SUC 250 M<sup>3</sup>/HR.** **ONE 205 x 205 mm 100 M<sup>3</sup>/HR.** **ONE 140 x 125 mm 30 M<sup>3</sup>/HR.** How driven **MOTOR DRIVEN**.

Ballast Pumps, No. and size **ONE CENT TYPE 8" SUC 250 M<sup>3</sup>/HR.** Lubricating Oil Pumps, including Spare Pump, No. and size **TWO CENT TYPE 70 M<sup>3</sup>/HR.**

Are two independent means arranged for circulating water through the Oil Cooler **YES**. Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge **✓** Pumps, No. and size:—In Machinery Spaces **3-200 mm**, **2-140 mm**, **6-90 mm**, **3-65 mm**, **3-50 mm** DIAMETER.

In Holds, &c. **N<sup>o</sup> 1 HOLD, 2-3 1/2"**. **N<sup>o</sup> 2 HOLD, 2-3 1/2"**. **N<sup>o</sup> 3 HOLD, 2-3 1/2"**. **N<sup>o</sup> 4 HOLD, 2-3 1/2"**. **C.D. 2-2"**. **N<sup>o</sup> 4 B HOLD, 2-3 1/2"**. **N<sup>o</sup> 5 HOLD, 2-3 1/2"**. **N<sup>o</sup> 6 HOLD, 2-3 1/2"**.

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size **3-200 mm**, **2-90 mm**, **1-140 mm** <sup>included in above</sup>.

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes **YES**. 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 **YES**.

Are all Sea Connections fitted direct on the skin of the ship **YES**. Are they fitted with Valves or Cocks **BOTH**.

Are they 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**.

Are they 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**.

What pipes pass through the bunkers **NONE**. How are they protected **✓**.

What pipes pass through the deep tanks **NONE**. 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 **YES**.

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 **YES**. Is the Shaft Tunnel watertight **YES**. Is it fitted with a watertight door **YES**. worked from **DECK**.

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. **✓**. No. of stages **✓**. Diameters **✓**. Stroke **✓**. Driven by **✓** **AUXILIARY GENERATOR**.

Auxiliary Air Compressors, No. **2**. No. of stages **3**. Diameters **HP 70 mm**, **NP 310-270 mm**. Stroke **180 mm**. Driven by **MOTOR**.

Small Auxiliary Air Compressors, No. **1**. No. of stages **2**. Diameters **HP 48 mm**, **LP 140 mm**. Stroke **135 mm**. Driven by **EMERGENCY GENERATOR**.

Scavenging Air Pumps, No. **✓**. Diameter **✓**. Stroke **✓**. Driven by **✓**.

Auxiliary Engines crank shafts, diameter <sup>as per Rule</sup> **AS APPROVED**. <sup>as fitted</sup> **170 mm**.

**AIR RECEIVERS**:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule **✓**.

Can the internal surfaces of the receivers be examined **✓**. What means are provided for cleaning their inner surfaces **✓**.

Is there a drain arrangement fitted at the lowest part of each receiver **✓**.

High Pressure Air Receivers, No. **✓**. Cubic capacity of each **✓**. Internal diameter **✓**. thickness **✓**.

Seamless, lap welded or riveted longitudinal joint **✓**. Material **✓**. Range of tensile strength **✓**. Working pressure by Rules **✓**.

Starting Air Receivers, No. **✓**. Total cubic capacity **✓**. Internal diameter **✓**. thickness **✓**.

Seamless, lap welded or riveted longitudinal joint **✓**. Material **✓**. Range of tensile strength **✓**. Working pressure by Rules **✓**.



IS A DONKEY BOILER FITTED?

YES.

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting 23-6-32. Receivers ✓ Separate Tanks 27.2.34. Donkey Boilers 2-11-33. General Pumping Arrangements 20.11.33. Oil Fuel Burning Arrangements ✓

SPARE GEAR (SEE NAGASAKI 1<sup>st</sup> ENTRY REPORT NO 1983.)

- FRESH WATER COOLER. 13 TUBES. OIL COOLER. 13 TUBES. LUBRICATING OIL PUMP. GEAR WHEELS 1 SET. BEARINGS 1 SET. FUEL OIL PUMP. GEAR WHEELS 1 SET. BEARINGS 1 SET. SUCTION & DELIVERY VALVES 1 SET EACH. PISTON RINGS. 30. BUGE PUMP. SUCTION & DELIVERY VALVES 1 SET. DONKEY BOILER. 40 TUBES. FEED CHECK VALVES 2 SET. SAFETY VALVE SPRINGS 2 SET. WATER GAUGE GLASSES 1 DOZEN. SEA WATER COOLING WATER PUMP. IMPELLER WITH SHAFT 1 SET. BEARINGS 1 SET. SAFETY VALVE SPRINGS 2 SET. FRESH WATER COOLING WATER PUMP. IMPELLER WITH SHAFT 1 SET. BEARINGS 1 SET.

The foregoing is a correct description,

Blashimoto Manufacturer.

Dates of Survey while building: During progress of work in shops - FEB 6.9.19.26. MAR 9.15.16.24.31. APR 4.16. MAY 4.14.23.31. JUNE 8.11.14.16.18.19.21.27 JULY 7.14.16.19. AUG 15.23.25.31. During erection on board vessel - JULY 4. 19.20. AUG 15.23.25. SEPT 5.7.12.14.22.28. OCT 5. Total No. of visits 44.

Dates of Examination of principal parts - Cylinders ✓ Covers ✓ Pistons ✓ Rods ✓ Connecting rods ✓ Crank shaft ✓ Flywheel shaft ✓ Thrust shaft ✓ Intermediate shafts 8-6-34. Tube shaft ✓ Screw shaft 25-8-34. Propeller 19-6-34. Stern tube 15-6-34. Engine seatings 27-6-34. Engines holding down bolts 4-9-34. Completion of fitting sea connections 27-6-34. Completion of pumping arrangements 4-9-34. Engines tried under working conditions TRIAL TRIP 12-9-34. Crank shaft, Material ✓ Identification Mark ✓ Flywheel shaft, Material ✓ Identification Mark ✓ Thrust shaft, Material ✓ Identification Mark ✓ Intermediate shafts, Material STEEL Identification Marks F.91.92.215.216.221. Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material STEEL Identification Mark F.140. F.214.

Is the flash point of the oil to be used over 150° F. YES. Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with YES. Is the vessel (not being an oil tanker) fitted for carrying oil as cargo NO. If so, have the requirements of the Rules been complied with ✓. Is this machinery duplicate of a previous case YES. If so, state name of vessel "KANO MARU."

General Remarks (State quality of workmanship, opinions as to class, &c. (SEE ALSO NAGASAKI 1<sup>st</sup> ENTRY REPORT NO 1983) This machinery has been constructed under Special Survey in accordance with the Rules, and approved plans. The materials and workmanship are good. On completion the machinery was efficiently installed in the vessel and tested under full working conditions, and is eligible in our opinion for classification with the record of LMC 10,34 OIL ENGINE D.B. 100LBS and TS (CL) 10,34.

Certificate (if required) to be sent to (The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee ... £ 38 : 14 : 3 When applied for, 9th Oct. 1934. Donkey Boiler Fee ... £ 26 : 16 : 0 When received, 11th Oct. 1934. Travelling Expenses (if any) £ :

A.E. Munro. Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 9 NOV 1934 Assigned + Lmc, 10.34 DB-100lb Oil Eng. Cf. CERTIFICATE WRITTEN.

