

REPORT ON OIL ENGINE MACHINERY.

No. 1976

26 JUL 1934

Received at London Office

Date of writing Report 26th June 34 When handed in at Local Office 26th June 1934 Port of NAGASAKI.

No. in Survey held at NAGASAKI. Date, First Survey 3rd July 1933 Last Survey 16th June 9 34
Reg. Book. Number of Visits 180 (Mag).

40264 on the Single Deck Triple Expansion Screw vessel "KANO MARU". Tons ^{Gross} _____ _{Net} _____

Built at Uraga. By whom built Uraga Dock Co. Ltd. Yard No. 386 When built _____

Engines made at Nagasaki. By whom made Mitsubishi Jukogyo Kaisha. Engine No. 555 When made 1934

Donkey Boilers made at / By whom made / Boiler No. / When made /

Brake Horse Power 7,600. Owners Kokusai Kisen Kabushiki Kaisha. Port belonging to Tokio.

Nom. Horse Power as per Rule 2,195. ²¹⁸⁷ Is Refrigerating Machinery fitted for cargo purposes / Is Electric Light fitted _____

Trade for which vessel is intended All Seas. ^{29/16} ^{47/4}

II ENGINES, &c.—Type of Engines Mitsubishi-Sulzer. Type 7DSD76. 2 or 4 stroke cycle 2 Single or double acting Double

Maximum pressure in cylinders 49 Kg/cm² Diameter of cylinders 760 m/m Length of stroke 1200 m/m No. of cylinders 7 No. of cranks 7

Mean Indicated Pressure 5.2 Kg/cm² Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1020 m/m Is there a bearing between each crank Yes

Revolutions per minute 113 Flywheel dia. 2827 m/m Weight 8033 Kg. Means of ignition Compression Kind of fuel used Diesel Oil.

Crank Shaft, dia. of journals ^{as per Rule} App:Lon: ^{as fitted} 510 m/m Crank pin dia. 510 m/m Crank Webs ^{Mid. length breadth} 870 m/m ^{Thickness parallel to axis} 320 m/m
^{as fitted} 510 m/m ^{Mid. length thickness} 320 m/m ^{shrunken} ^{Thickness around eyehole} 242.5 m/m

Flywheel Shaft, diameter ^{as per Rule} App:Lon: ^{as fitted} 510 m/m Intermediate Shafts, diameter ^{as per Rule} _____ ^{as fitted} _____ Thrust Shaft, diameter at collars ^{as per Rule} 442 m/m ^{as fitted} 510 m/m

Tube Shaft, diameter ^{as per Rule} _____ ^{as fitted} _____ Screw Shaft, diameter ^{as per Rule} _____ ^{as fitted} _____ Is the ^{tube} ^{screw} shaft fitted with a continuous liner _____

Bronze Liners, thickness in way of bushes ^{as per Rule} _____ ^{as fitted} _____ Thickness between bushes ^{as per Rule} _____ ^{as fitted} _____ Is the after end of the liner made watertight in the _____

_____ 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 _____

_____ 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 _____

_____ If so, state type _____ Length of Bearing in Stern Bush next to and supporting propeller _____

_____ dia. _____ Pitch _____ No. of blades _____ Material _____ whether Moveable _____ Total Developed Surface _____ sq. feet

_____ od of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication _____

_____ reed Thickness of cylinder liners 45 to 40 m/m. Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with _____

_____ ducting material Lagged If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine _____

_____ ng Water Pumps, No. Two:- Jacket & Piston cooling Centrifugal pump Is the sea suction provided with an efficient strainer which can be cleared within the vessel _____

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

_____ ps connected to the Main Bilge Line ^{No. and Size} _____ ^{How driven} _____

_____ cooling water led to the bilges. No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping _____

_____ ments _____

_____ st Pumps, No. and size _____ Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size _____

_____ no independent means arranged for circulating water through the Oil Cooler _____ Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge _____

_____ s, No. and size:—In Machinery Spaces _____ In Pump Room _____

_____ lds, &c. _____

_____ pendent Power Pump Direct Suctions to the Engine Room Bilges, No. and size _____

_____ ll the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes _____ Are the Bilge Suctions in the Machinery Spaces _____

_____ m easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges _____

_____ l Sea Connections fitted direct on the skin of the ship _____ Are they fitted with Valves or Cocks _____

_____ y fixed sufficiently high on the ship's side to be seen without lifting the platform plates _____ Are the Overboard Discharges above or below the deep water line _____

_____ y each fitted with a Discharge Valve always accessible on the plating of the vessel _____ Are the Blow Off Cocks fitted with a spigot and brass covering plate _____

_____ pipes pass through the bunkers _____ How are they protected _____

_____ pipes pass through the deep tanks _____ Have they been tested as per Rule _____

_____ re all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times _____

_____ s 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 _____

_____ mpartment to another _____ Is the Shaft Tunnel watertight _____ Is it fitted with a watertight door _____ worked from _____

_____ f a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork _____

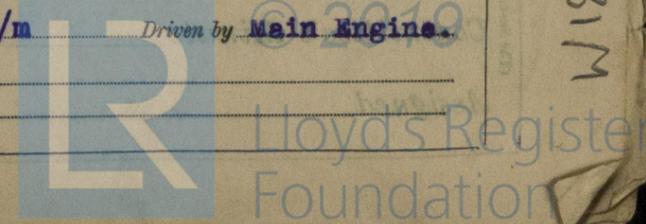
_____ ain Air Compressors, No. _____ No. of stages _____ Diameters _____ Stroke _____ Driven by _____

_____ uxiliary Air Compressors, No. _____ No. of stages _____ Diameters _____ Stroke _____ Driven by _____

_____ Small Auxiliary Air Compressors, No. _____ No. of stages _____ Diameters _____ Stroke _____ Driven by _____

_____ Scavenging Air Pumps, No. One:- 2 Cyl. Tandem. D. Acting. Diameter 2100 m/m Stroke 860 m/m Driven by Main Engine.

_____ Auxiliary Engines crank shafts, diameter ^{as per Rule} _____ ^{as fitted} _____



W184-0139

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

Can the internal surfaces of the receivers be examined and cleaned. **Yes** Is a drain 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 Actual

Starting Air Receivers, No. **Two** for Auxiliary Total cubic capacity **2 x 14 Cub.M.** Internal diameter **1800 m/m** thickness **31 m/m**

Seamless, lap welded or riveted longitudinal joint **T.R.D.B.S.** Material **Steel** Range of tensile strength **Min. 28-32 tons sq/in.** Working pressure by Rules **31.7 Kg.** Actual **30 Kg.**

IS A DONKEY BOILER FITTED? If so, is a report now forwarded?

Is the donkey boiler intended to be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting **20-2-33 & 20-4-33** Receivers **9-10-33** Separate Tanks

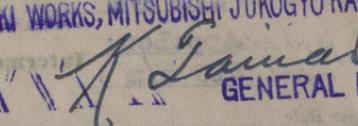
Donkey Boilers General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied **Yes, - See Separare list.**

State the principal additional spare gear supplied

The foregoing is a correct description,

NAGASAKI WORKS, MITSUBISHI JUKOGYO KABUSHIKI KAISHA.

GENERAL MANAGER

Dates of Survey while building	During progress of work in shops	1933 July 3, 7, 22, 26, 29 Aug 5, 7, 8, 9, 10, 13, 14, 17, 18, 19, 20, 21, 24, 25, 26, 28, 29, 30 Nov 1, 7, 22, 28, 29, 30 Dec 1, 5, 6, 7, 8, 9, 11, 12, 14, 15, 16, 18, 19, 20, 22, 23, 24, 25, 27, 30, 31
	During erection on board vessel	1934 Jan 6, 8, 9, 10, 11, 12, 13, 16, 18, 19, 20, 22, 23, 24, 25, 27, 30, 31 Feb 1, 2, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 22, 23, 24, 28, 29, 30, 31 Mar 1, 2, 3, 5, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 25, 26, 28, 29, 30, 31 Apr 4, 5, 6, 7, 9, 10, 12, 13, 14, 16, 17, 18, 19, 20, 21, 23, 25, 26, 28, 29, 30, 31 May 1, 2, 4, 7, 10, 11, 18
	Total No. of visits	180.

Dates of Examination of principal parts—Cylinders **21-2-34 to 25-5-34** Covers **19-7-33 to 25-5-34** Pistons **4-8-33 to 8-6-34** Rods **5-12-33 to 28-5-34** Connecting rods **27-11-33 to 5-3-34**

Crank shaft **15-9-33 to 5-2-34** Flywheel shaft **and** Thrust shaft **16-1-34 to 24-2-34** Intermediate shafts Tube shaft

Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts

Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions **on test bed, 24-25-5-34**

Crank shaft, Material **Ingot steel** Identification Mark **LLOYD'S No. 8998899-A HDB 5-2-34** Flywheel shaft, Material **Ingot steel** Identification Mark **LLOYD'S No. 91 TK 24-2-34**

Thrust shaft, Material **Ingot steel** Identification Mark **See Flywheel shaft** Intermediate shafts, Material Identification Marks

Tube shaft, Material Identification Mark Screw shaft, Material Identification Mark

Is the flash point of the oil to be used over 150° F.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo If so, have the requirements of the Rules been complied with

If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with

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.)

This machinery has been constructed under Special Survey in accordance with the terms of the Rules and Approved plans.

The materials have been tested found efficient & the workmanship throughout is good.

Full power & overload tests were carried out on test bed, with engine connected to dynamometer, found satisfactory, afterwards engine opened up examined and found in good condition.

This machinery has now been sent to Uraga Dock Co. Ltd., where it is intended to be installed on their Vessel No. 386. This case is eligible in our opinion to have the record of **LMC in the Register Book, after installation and satisfactory sea trial.**

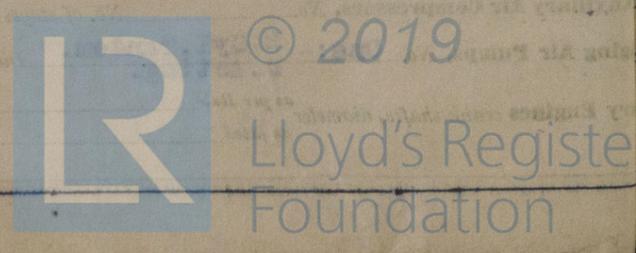
Copies of Forging & Casting certificates forwarded herewith.

The amount of Entry Fee .. £ 6-0-0 : When applied for, ..	Special 4/5% ... £ 154-17-0 : 21. 6. 19 34
Donkey Boiler Fee ... £ : : When received, ..	2 Air Receivers ... £ 10-10-0 : 23. 8. 19 34
Travelling Expenses (if any) £ : : ..	23

H. D. Buchanan & T. Kurishiki
 Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute **OCT 1934**

Assigned **See Yka SE 5343**



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