Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 6839.

Received at London Office 21 MAR 1930

Date of writing Report 6-2- 1930 When handed in at Local Office Feb. 20th 1930 Port of KOBE

No. in Reg. Book. Survey held at Date, First Survey 20-11-29 Last Survey 6-2- 1930 Number of Visits 8

on the ~~Single~~ ~~Twin~~ ~~Triple~~ ~~Quadruple~~ Screw vessel "HINODE MARU" Tons Gross 316·53 Net 129·29

Built at TAMA By whom built MITSUI BUSSAN KAISHA, Yard No. 171 When built 1930

Engines made at AMSTERDAM. By whom made KROMHOUT MOTOREN FABRICK. Engine No. 5234 TYPE 4M5 When made 1929

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

Brake Horse Power 280 Owners RISING SUN PETROLEUM CO: Port belonging to YOKOHAMA

Nom. Horse Power as per Rule 80 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES

Trade for which vessel is intended COASTWISE TRADE- JAPAN.

OIL ENGINES, &c.—Type of Engines KROMHOUT OIL ENGINE 2 or 4 stroke cycle TWO Single or double acting SINGLE

Maximum pressure in cylinders 315 lbs/□ Diameter of cylinders 400 m/m Length of stroke 450 m/m No. of cylinders 4 No. of cranks 4

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 472 m/m Is there a bearing between each crank YES

Revolutions per minute 240 Flywheel dia. 950 m/m Weight 1750 Kg: Means of ignition HOT PLATE Kind of fuel used CRUDE OIL

Crank Shaft, dia. of journals as per Rule ✓ as fitted 170 m/m Crank pin dia. 170 m/m Crank Webs Mid. length breadth 226 m/m Mid. length thickness 96 m/m shrunk Thickness parallel to axis / Thickness around eyehole } SOLID

Flywheel Shaft, diameter as per Rule ✓ as fitted 135 m/m **Intermediate Shafts,** diameter as per Rule APPROVED as fitted 7½" ✓ **Thrust Shaft,** diameter at collars as per Rule ✓ as fitted 135 m/m

Tube Shaft, diameter as per Rule ✓ as fitted ✓ **Screw Shaft,** diameter as per Rule APPROVED as fitted 6" at cone 7½ body ✓ Is the ~~tube~~ / screw shaft fitted with a continuous liner YES

Bronze Liners, thickness in way of bushes as per Rule APPROVED as fitted ½" & 9/16" ✓ Thickness between bushes as per rule APPROVED as fitted ½" Is the after end of the liner made watertight in the 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 24

Propeller, dia. 72" ✓ Pitch 57 11/16" No. of blades 4 Material BRONZE whether Moveable NO Total Developed Surface 16 sq. feet

Method of reversing Engines DIRECT Is a governor or other arrangement fitted to prevent racing of the engine when declutched YES Means of lubrication FORCED Thickness of cylinder liners ✓ Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled or lagged with non-conducting 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 ✓

Cooling Water Pumps, No. TWO 125 m/m × 50 m/m STROKE 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. TWO Diameter 125 m/m Stroke 50 m/m Can one be overhauled while the other is at work YES

Pumps connected to the **Main Bilge Line** No. and Size ONE G.S.P. 125 m/m × 100 m/m & ONE B&S.P. 125 m/m × 50 m/m. How driven ERO. AUX^Y ENG: MAIN ENG:

Ballast Pumps, No. and size TWO 125 m/m × 100 m/m STROKE **Lubricating Oil Pumps,** including Spare Pump, No. and size TWO, (20 m/m DIA) & ONE HAND.

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 2 - 2½" DIA: & 2 - 2" DIA: ONE, 3" DIA: IN PUMP ROOM. CONNECT^D TO CARGO PUMP

In Holds, &c. ONE 2" DIA CONNECTED TO PORTABLE HAND PUMP ✓

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size ONE 2½" DIA ✓

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 YES

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 ✓

What pipes pass through the bunkers ✓ How are they protected ✓

What pipes pass through the deep tanks ✓ 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 ✓ Is it fitted with a watertight door ✓ worked from ✓

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. 1 REAVEL L.S.C.4.E No. of stages 2 Diameters 4½" - 3½" Stroke 4" Driven by MAIN ENG:

Auxiliary Air Compressors, No. ✓ No. of stages 2 Diameters 4½" - 3½" Stroke 4" Driven by AUX^Y ENG:

Small Auxiliary Air Compressors, No. ONE No. of stages 1 Diameters 75 m/m Stroke 100 m/m Driven by HAND

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

Auxiliary Engines crank shafts, diameter as per Rule ✓ as fitted E.R.I. 85 m/m E.R.O. 75 m/m

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 YES What means are provided for cleaning their inner surfaces MANHOLE

Is there a drain arrangement fitted at the lowest part of each receiver YES

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. TWO Total cubic capacity 80 ℄ Internal diameter 2'- 3½" thickness ½

~~Seamless, lap welded or~~ riveted longitudinal joint YES Material STEEL Range of tensile strength 28 TO 32 TONS Working pressure by Rules 300 LBS/□

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? ✓

PLANS. Are approved plans forwarded herewith for Shafting 21-9-29. (If not, state date of approval) Receivers ✓ Separate Tanks ✓

Donkey Boilers ✓ General Pumping Arrangements Oil Fuel Burning Arrangements ✓

SPARE GEAR, As per amsterdam Report Nº 11585 placed on board
also one set of shaft coupling bolts.

The foregoing is a correct description,

L. Mckay. Manufacturer.

Dates of Survey while building — During progress of work in shops: 1929 9/12 16/12 19/12 21/12 24/12 28/12 1930. 14/1 17/1 20/1 21/1 27/1 31/1 & 6/2

During erection on board vessel:

Total No. of visits 13.

Dates of Examination of principal parts—Cylinders ✓ Covers ✓ Pistons ✓ Rods ✓ Connecting rods ✓

Crank shaft ✓ Flywheel shaft ✓ Thrust shaft ✓ Intermediate shafts 26-12-29 Tube shaft ✓

Screw shaft 26-12-29 Propeller 21-12-29. Stern tube 9-12-29 Engine seatings 14-1-30 Engines holding down bolts 14-1-30.

Completion of fitting sea connections 21-12-29 Completion of pumping arrangements 27-1-30 Engines tried under working conditions 27-1-30

Crank shaft, Material ✓ Identification Mark ✓ Flywheel shaft, Material ✓ Identification Mark ✓

Thrust shaft, Material ✓ Identification Mark ✓ Intermediate shafts, Material STEEL Identification Marks LLOYDS Nº 2059 CB & 26-12-29.

Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material STEEL Identification Mark

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 ✓ If so, have the requirements of the Rules 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.) 11,28.

The machinery of this vessel has been installed under Special Survey in accordance with the Rules & approved plans. Materials & workmanship throughout are good, & when examined under working conditions the machinery worked satisfactorily. Full speed ahead engine made 216-220 revolutions per minute Slow ahead 90 revs. per min. Full speed astern 190 revs per min. & slow astern 95 revs. per min. In our opinion this vessel is eligible for the notations of +L.M.C. 2-30, T.S. C.L. & "Oil Engine" in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. +LMC 2.30.

Oil Engine 2 Scsa
4 Cy 15¾ - 17 11/16.
80 N.H.P. C.L.

J. D.H. 26/3/30

The amount of Entry Fee ... £20 ✓
Special ... ... £90 ✓
Donkey Boiler Fee ... £ ✓
Travelling Expenses (if any) £SEE HULL REPORT

When applied for, 10-2-1930
When received, 26.5.30

For C. Bell & self H.D. Buchanan
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute FRI. 28 MAR 1930

Assigned +Lmc. 2.30 C.L. Oil. Engs.

CERTIFICATE WRITTEN.

Certificate (if required) to be sent to

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