

Rpt. 4b

REPORT ON OIL ENGINE MACHINERY

No. 5767
25 JUL 1927

Received at London Office

Date of writing Report 10 When handed in at Local Office 10

Port of KOBÉ

No. in Survey held at KOBÉ + OSAKA
Reg. Book.

Date, First Survey 5-3-26

Last Survey 18TH JUNE 1927

Number of Visits 129

on the ^{Single}
~~Triple~~ Screw vessel
^{Quadruple}

"CHOIKO MARU"

Tons Gross 2618.47
Net 1395.43

Built at OSAKA

By whom built OSAKA IRON WORKS

Yard No. 1095 When built 1927

Engines made at KOBÉ

By whom made KOBÉ STEEL WORKS

Engine No. 70 When made 1927

Donkey Boilers made at ANNAN, SCOTLAND

By whom made COCHRAN

Boiler No. 17156 When made 6-26

Brake Horse Power 2250

Owners OSAKA SHOSHEN KAISHA

Port belonging to OSAKA

Nom. Horse Power as per Rule 582

Is Refrigerating Machinery fitted for cargo purposes YES

Is Electric Light fitted YES

Trade for which vessel is intended JAPAN & NORTH CHINA PASSENGER & CARGO SERVICE

OIL ENGINES, &c. Type of Engines SULZER, DIESEL. 2 or 4 stroke cycle 2 Single or double acting SINGLE

Maximum pressure in cylinders 43 kg/cm² Diameter of cylinders 600 mm Length of stroke 1060 mm No. of cylinders 6 No. of cranks 6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 840 mm Is there a bearing between each crank YES

Revolutions per minute 110 Flywheel dia. 2100 mm Weight 102,000 kg Means of ignition COMPRESSION Kind of fuel used DIESEL OIL

Crank Shaft, dia. of journals as per Rule 400.85 mm Crank pin dia. 405 mm Crank Webs Mid. length breadth 550 mm Thickness parallel to axis as fitted 405.0 mm Mid. length thickness 225 mm Thickness around eye-hole

Flywheel Shaft, diameter as per Rule 400.85 mm Intermediate Shafts, diameter as per Rule 11.34" Thrust Shaft, diameter at collars as per Rule 315.9 mm as fitted 405.0 mm as fitted 12.5" as fitted 390.0 mm

Tube Shaft, diameter as per Rule 13.92" Is the shaft fitted with a continuous liner YES

Screw Shaft, diameter as per Rule 13.25" Is the screw shaft fitted with a continuous liner YES

Bronze Liners, thickness in way of bushes as per Rule 3/32" Thickness between bushes as per rule 1/32" 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

Length of Bearing in Stern Bush next to and supporting propeller 4' 7"

Propeller, dia. 13' 0" Pitch 13' 9" No. of blades 4 Material BRONZE whether Moveable MOVEABLE Total Developed Surface 59.7 sq. feet

Method of reversing Engines DIRECT Is a governor or other arrangement fitted to prevent racing of the engine YES Means of lubrication FORCED

Thickness of cylinder liners 45/20 mm Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled & 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. 2 ROTARY, JACKET COOLING PUMPS 2 RECIP. PISTON 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 - 50 TON / HR BILGE ONE - 100 TON / HR BALLAST ONE - GENERAL SERVICE - 100 TON / HR J.C.M. PUMP ENERGY

How driven ELECTRIC MOTOR ELECTRIC MOTOR ELECTRIC MOTOR ELECTRIC MOTOR

Ballast Pumps, No. and size ONE, 100 TONS / PR HOUR Lubricating Oil Pumps, including Spare Pump, No. and size 2 3300 gal/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 2, 3" DIA FORW. 2, 3" DIA: AFT. 1, 2 1/4" DIA: DOWNTON PUMP SUCTION, 2 IN BUNKER 2 3/4" DIA (1 REIS)

In Holds, &c. FOR 1 @ 2" DIA: 1 COFF. DAM 2 @ 3 1/2" DIA: (BOILER RM 1 @ 2 1/2" DIA) AFT - 4 @ 2" DIA: 1 @ 2 1/2" TO COFF. DAM & 1 @ 2 1/2" DIA TUNNEL WELL

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 6" DIA: 1 @ 5" DIA: 2 @ 4" 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 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 BILGE & BALLAST SUCTIONS How are they protected STRONG WOOD CASINGS

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

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 UPPER DE LEVEL

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. 2 No. of stages 3 Diameters 120 x 510 x 560 Stroke 350 mm Driven by MAIN SHAFT

Auxiliary Air Compressors, No. 1 No. of stages 3 Diameters 65 x 300 x 325 Stroke 180 mm Driven by ELECTRIC MOTOR

Small Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 35 x 110 Stroke 120 mm Driven by 1/2 HP BULB ENGINE

Scavenging Air Pumps, No. 1 BROWN-ROVER TURBO-BLOWER of 11200 cu ft/min. Driven by ELECTRIC MOTOR

Auxiliary Engines crank shafts, diameter as per Rule M.A.N Type. SEE BREMEN CERTIFICATE DATED 26-5-27; 1-6-26 & as fitted 24-6-26 ENGINES NOS 276510, 276520 & 277650

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 HOSE: 10 1/2" DIA. TOP & BOTTOM

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

High Pressure Air Receivers, No. 8 Cubic capacity of each 800 LITRES Internal diameter 150" SEE DUSSELDORF CERTIFICATE of 31/6/26 thickness 22 1/2"

Seamless, lap welded or riveted longitudinal joint Material Range of tensile strength Working pressure by Rules 7 1/2"

Starting Air Receivers, No. 1 Total cubic capacity 176 cu ft Internal diameter 3' 1 1/2" 3' 1 1/4" thickness 7/8"

Seamless, lap welded or riveted longitudinal joint RIVETTED Material STEEL Range of tensile strength 25/32" Working pressure by Rules 4 1/2"

" STARTING AIR RECEIVER of 200 LITRES CAPACITY for AUX. ENGINES SEE BREMEN CERTIFICATE of 12/7/26 N° 298/2

W1331-0052

IS A DONKEY BOILER FITTED?

PLANS. Are approved plans forwarded herewith for Shafting (If not, state date of approval)

Donkey Boilers

SPARE GEAR

YES. SEE TOBE LETTERS OF RECEIVERS 7/10/26
14/10/26
5/11/26

If so, is a report now forwarded? NO. SEE GLASGOW RPTIN 45785

Separate Tanks
Oil Fuel Burning Arrangements

Rpt. 5b.

Date of writing Report

No. in Survey Reg. Book

on the

Built at

Engines made at

Boilers made at

Owners

VERTICAL

Made at Annan

Manufacturers of

Total Heating Sur

No. and Descripti

Tested by hydraul

Area of Firegrate

Area of each set o

State whether stea

or woodwork

22

Shell plates: Mo

Are the shell plat

Dia. of rivet holes

Working pressur

Shell Crown: V

Tensile strength

Description of

Thickness

Pitch of support

Diameter of stay

Thickness of Og

Combustion Ch

Radius if dishe

Length as per r

Diameter of sto

Tube Plates:

If comprising s

Is each alterna

Girders to con

Depth and thic

Distance apart

The foregoing is a correct description
OKAKA IRON WORKS, LTD.,

Manufacturer.

Dates of Survey while building
During progress of work in shops--
During erection on board vessel--
Total No. of visits
From 5/3/26 to 13/2/27 Total visits 109.
From APRIL 9TH to JUNE 18TH 1927. Total VISITS 20
129.

Dates of Examination of principal parts--Cylinders 23.12.26 Covers 18.1.27 Pistons 24.12.26 Rods 24.12.26 Connecting rods 22.1.27
Crank shaft 2.12.26 Flywheel shaft 23.12.26 Thrust shaft 23.12.26 Intermediate shafts 13-7-26 Tube shaft 13-7-26

Screw shaft 25.5.27 Propeller 4.4.27 Stern tube fitted 12.3.27 Engine seatings 7-4-27 Engines holding down bolts 22-4-27
Engines tried under working conditions 30-5-27

Completion of fitting sea connections 2-4-27 Completion of pumping arrangements 30-5-27 Identification Mark N° 64 14.12.26

Crank shaft, Material F.S. Identification Mark N° 559 14.12.26 Flywheel shaft, Material F.S. Identification Marks N° 909 4-4-27 H.D.B.

Thrust shaft, Material F.S. Identification Mark N° 561 14.12.26 Intermediate shafts, Material F.S. Identification Marks N° 903 23-2-27 H.D.B.

Tube shaft, Material F.S. Identification Mark N° 561 14.12.26 Screw shaft, Material F.S. Identification Mark 23-2-27 H.D.B.

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

Is this machinery duplicate of a previous case YES. If so, state name of vessel "CHOAN MARU" (Kamima N° 723)

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

The machinery of this vessel has been constructed under special survey in accordance with the Rules & approved plans. All materials have been tested, found efficient, & the workmanship throughout is good. This machinery has been efficiently installed on board & tried under full working conditions with satisfactory results. This case is eligible in my opinion to have the Record of + L.M.C. 6-27 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 6.27. CL.

Oil Engines 2 SC.SA. 582 NHP.
6 Cy. 23 5/8" - 4 1/4" DB 100 TB.

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 ... £63
Special ... { 1250/- ERECT 12-2-1927
Donkey Boiler Fee ... { 327/- INSTAL 18-6-1927
Travelling Expenses (if any) ... SEE REPORT
SEE HULL RPT.

Committee's Minute

Assigned

+ L.M.C. 6:27 CL.
Oil Engines DB 100 TB.

J. McManus & H. Buchanan
Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation