

REPORT ON OIL ENGINE MACHINERY.

No. 5665

21 MAY 1927

Received at London Office

Date of writing Report 7-4-27 When handed in at Local Office 15-4-27 Port of Kobe

Survey held at Haama Date, First Survey 5.3.26 Last Survey 6-4-27

Book. Single on the Twin Triple Quadruple Screw vessel "CHOAN MARU" Tons Gross 2607 Net 1399

built at Haama By whom built Kobe Steel Works Haama Shyd. Yard No. 123. When built 1927. Engines made at Kobe By whom made Kobe Engine No. 69. When made 1927. Smoke Boilers made at Annan By whom made Bachran + Co. Ltd. Boiler No. 10046. When made 1926. Brake Horse Power 2250. Owners Osaka Shosen Kaisha. Port belonging to Osaka. Net Horse Power as per Rule 582. Is Refrigerating Machinery fitted for cargo purposes Yes. Is Electric Light fitted Yes. Made for which vessel is intended Japan - North China passenger + cargo service.

ENGINES, &c. Type of Engines SULZER DIESEL 2 or 4 stroke cycle Single or double acting SINGLE Minimum pressure in cylinders 43.59/cm Diameter of cylinders 600 mm Length of stroke 1060 mm No. of cylinders 6 No. of cranks 6 No. 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 10200 Kgs. Means of ignition CONPRESSION Kind of fuel used DIESEL OIL Crank Shaft, dia. of journals as per Rule 400.85 mm as fitted 405.0 mm Crank pin dia. 405 mm Crank Webs Mid. length breadth 550 mm Mid. length thickness 225 mm Thickness parallel to axis shrunk Thickness around eye-hole Thrust Shaft, diameter as per Rule 400.35 mm as fitted 405.0 mm Intermediate Shafts, diameter as per Rule 11.84 as fitted 12.5 Thrust Shaft, diameter at collars as per Rule 315.9 mm as fitted 390.0 mm Propeller Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 12.92 as fitted 13.25 Is the shaft fitted with a continuous liner Yes

Cylinder Liners, thickness in way of bushes as per Rule 23/32 as fitted 3/4 Thickness between bushes as per rule 17/32 as fitted 9/16 Is the after end of the liner made watertight in the after boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Yes 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 Yes Two liners are fitted, is the shaft lapped or protected between the liners Yes 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 YES 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 when detached YES Means of lubrication OILED Thickness of cylinder liners 45-20 mm Are the cylinders fitted with safety valves YES Are the exhaust pipes and silencers water cooled or lagged with 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 YES

Working Water Pumps, No. 2 JACKET COOLING - CENTRIFUGAL Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES Piston - PLUNGER Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work Auxiliary Pumps connected to the Main Bilge Line No. and Size 1 - BILGE @ 50 Tons/hr 1 - BALLAST @ 100 Tons/hr 1 - GENERAL SERVICE @ 100 Tons/hr How driven ELECTRIC MOTOR ELECTRIC MOTOR ELECTRIC MOTOR

Ballast Pumps, No. and size 1 @ 100 Tons/hr Lubricating Oil Pumps, including Spare Pump, No. and size 2 - 200 GALLONS/hr 2 - 200 GALLONS/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 4 at 3" BUNKER RECESS 2 at 2" BUNKER 2 at 2" Holds, &c. FOREHOLD 2 at 3 1/2" FORE COFFERDAM. 1 at 2 1/2" AFT HOLD 4 at 3" COFFERDAM No 3/4 1 at 2 1/2" COFFERDAM No 4/5 - 1 at 2 1/2" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2 at 4" Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes YES Are the Bilge Suctions in the Machinery Spaces 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 At pipes pass through the bunks BILGE SUCTION How are they protected WOOD COVERING BOARDS At 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 if not Is the Shaft Tunnel watertight YES Is it fitted with a watertight door YES worked from UPPER PLATFORM On wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork YES

Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 120 x 510 x 520 mm Stroke 350 mm Driven by MAIN SHAFT Auxiliary Air Compressors, No. 1 No. of stages 3 Diameters 65 x 300 x 325 mm Stroke 180 mm Driven by ELECTRIC MOTOR All Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 35 x 110 mm Stroke 120 mm Driven by HOT BULB ENGINE Inverting Air Pumps, No. 1 Diameter Stroke BROWN-BOVERI BLOWER 11,200 cu ft/min Driven by ELECTRIC MOTOR Auxiliary Engines crank shafts, diameter as per Rule M.A.N. Type. SEE BREMEN CERTIFICATES Nos 298/1, 298/2, 298/3 of 10/8/26. as fitted RIVETTED Material STEEL Range of tensile strength 25/32 Working pressure by Rules 411

RECEIVERS: - Is each receiver, which can be isolated, fitted with a safety valve as per Rule YES. Are the internal surfaces of the receivers be examined YES. What means are provided for cleaning their inner surfaces HOLE = 10 5/8" DIAM. TOP + BOTTOM. Are there a drain arrangement fitted at the lowest part of each receiver YES. (See DUSSELDORF certificate of 31/8/26. Internal diameter thickness 22/1/25) High Pressure Air Receivers, No. 8. Cubic capacity of each 150 (See SHEFFIELD Working pressure by Rules 7/8) Seamless, lap welded or riveted longitudinal joint Material 200 lbs See BREMEN certificate of (19/7/26) No 298/1 Thickness 3-1/2 Range of tensile strength 25/32 Working pressure by Rules 411 Riveting Air Receivers, No. 1 Total cubic capacity 176 cu ft Internal diameter 3-1/2 Thickness 7/8 Seamless, lap welded or riveted longitudinal joint RIVETTED Material STEEL Range of tensile strength 25/32 Working pressure by Rules 411

IS A DONKEY BOILER FITTED?

PLANS. No approved plans are forwarded with this Report. ^{YES.} The following are the dates of the Kobe letters concerned with these plans. Are approved plans forwarded herewith for Shafting 14/10/26 14/4/26 Receivers 7/10/26. Separate Tanks 12/1/27. If so, is a report now forwarded? No. See GLASGOW REPORT No. 5b.

Donkey Boilers ✓ General Pumping Arrangements 18/6/26. Oil Fuel Burning Arrangements ✓

SPARE GEAR See attached list.

The foregoing is a correct description.

		<i>Shirata.</i>		Manufacturer.		
		The Kobe Steel Works, Ltd., Harima Shipyard.				
Dates of Survey while building	During progress of work in shops -	1926 - March 5, 6, 9, 10, 11, 16, 18, 20, 21, 23, 24, 30. April 5, 7, 9, 12, 13, 14, 17, 19, 22, 24, 27, 28, 29, 30. May 6, 8, 10, 13, 14, 21, 24, 25, 26, 28. June 7, 21, 26, 27, 11, 16, 17, 21, 23, 25, 29.	July 2, 5, 7, 8, 9, 10, 12, 13, 14, 17, 22, 24, 29. Aug. 3, 4, 10, 11, 12, 13, 17, 18, 19, 20, 21, 26, 28. Sept. 1, 2, 7, 13, 15, 25, 27, 28, 30. Oct. 1, 3, 4, 5, 8, 9, 12, 16, 18, 19, 20, 21, 26, 27, 28, 29, 30.	Nov. 2, 3, 5, 6, 7, 8, 12, 13, 17, 18, 22, 29, 30, 26. Dec. 1, 2, 3, 4, 6, 9, 10, 16, 17, 21, 23, 27, 24.		
	During erection on board vessel -	1927 - Jan. 14, 25, 28. Feb. 3, 9, 21, 28.	March 1, 3, 14, 17, 22, 23, 25, 28, 29, 31.	April 1, 6.		
	Total No. of visits	146.				

Dates of Examination of principal parts - Cylinders 12-10-26 Covers 16-10-26 Pistons 17-11-26 Rods 26-11-26 Connecting rods 26-11-26
 Crank shaft 2-10-26 Flywheel shaft 2-10-26 Thrust shaft 2-10-26 Intermediate shafts 16-12-26 } Tube shaft ✓
 Screw shaft 17-12-26 Propeller Stern tube 13-12-26 Engine seatings 24-12-26 Engines holding down bolts 25-1-27.
 Completion of fitting sea connections 17-12-26 Completion of pumping arrangements 22-3-27 Engines tried under working conditions 22-3-27.
 Crank shaft, Material F.S. Identification Mark No 594 28-9-26 Flywheel shaft, Material F.S. Identification Mark No 996 28-9-26
 Thrust shaft, Material F.S. Identification Mark No 996 28-9-26 Intermediate shafts, Material F.S. Identification Marks No 1045 24
 Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material F.S. Identification Mark No 554 10.
 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 of this vessel has been constructed under special survey according to the Rules & approved plans, & the materials & workmanship are sound & good.
 The machinery has been efficiently installed on board, tried under working conditions & found satisfactory & is in my opinion eligible for the notation + Line 4.27.

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

The amount of Entry Fee ... * 60: - ✓ When applied for, 14/4/1927
 Special ... * 1561: 50: ✓
 Donkey Boiler Fee ... * 50: - ✓ When received, 2/6/27
 Travelling Expenses (if any) £
 See three Rep.
 Committee's Minute
 Assigned + L.M.C. 4: 27 CR
 Oil Engines D.H. 100lb

J. Incunian.
 Engineer Surveyor to Lloyd's Register of Shipping
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