

REPORT ON OIL ENGINE MACHINERY.

No. 5359

Received at London Office 28 AUG 1926

Date of writing Report 9-7-1926 When handed in at Local Office Harina Port of Kobe

No. in Survey held at Harina Date, First Survey 8-5-26 Last Survey 9-7-1926

Reg. Book. Single } Screw vessels **SHELL MARU** } Tons { Gross 134.03
Triple } } Net 69.38

Built at Harina By whom built Kobe Steel Works Harina Dockyard Yard No. 121 When built 1926

Engines made at Amsterdam By whom made H.V. Kromhout Hetroen Fabriek Engine No. 3607 When made 1926

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

Brake Horse Power 100 Owners Empire Shipping Co. Port belonging to Kobe

Nom. Horse Power as per Rule 29 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

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

Maximum pressure in cylinders See also Amsterdam Report + Certificate dated 18-3-26 No. of cylinders 2 Diameter of cylinders 18-3-26 No. of cranks 2 Length of stroke ✓

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 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 as per Rule Crank pin dia. as fitted Crank Webs Mid. length breadth Thickness parallel to axis shrunk Thickness around eye-hole as per Rule

Flywheel Shafts, diameter as per Rule Intermediate Shafts, diameter as fitted Thrust Shaft, diameter at collars as fitted

Tube Shafts, diameter as per Rule Screw Shaft, diameter as fitted Is the ✓ screw shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as fitted 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

Propeller, dia. 3'-11 1/2" Pitch 3'-3" No. of blades 4 Material Brongz whether Moveable no Total Developed Surface 6 sq. feet

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

Thickness of cylinder liners both Are the cylinders fitted with safety valves ✓ Are the exhaust pipes and silencers water cooled or lagged with non-conducting material both

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine 40 mainmast

Cooling Water Pumps, No. 1 Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Bilge Pumps fitted to the Main Engines, No. 1 Diameter 1-2" Suction Stroke main engine Can one be overhauled while the other is at work ✓

Pumps connected to the Main Bilge Line { No. and Size 1-2" Suction How driven main engine

Ballast Pumps, No. and size ✓ Lubricating Oil Pumps, including Spare Pump, No. and size ✓

Are two independent means arranged for circulating water through the Oil Cooler ✓ Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Engine 1-2" Suction 6 main engine pumps In Holds, &c. 1-2" Shell 1-1 1/2" App. Tank 1-2" O.F. Tank

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 as above

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Level with floor

Are all Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Valves

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 O.F. tanks Bilge Suction to hold 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 ✓

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 None 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. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

Auxiliary 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. ✓ Diameter ✓ Stroke ✓ Driven by ✓

Auxiliary Engines crank shafts, diameter as per Rule as fitted ✓

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. See Amsterdam Report + Certificate dated 18-3-26 thickness (Rpt No 10149)

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? *h* If so, is a report now forwarded?

HYDRAULIC TESTS:-

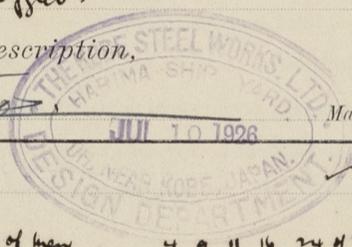
DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS					
" " COVERS					
" " JACKETS.....					
" PISTON WATER PASSAGES.....	See also Amsterdam Report + certificate dated 18/3/26.				
MAIN COMPRESSORS—1st STAGE.....					
" 2nd "					
" 3rd "					
AIR RECEIVERS—STARTING					
" INJECTION					
AIR PIPES					
FUEL PIPES					
FUEL PUMPS					
SILENCER					
" WATER JACKET					
SEPARATE FUEL TANKS					

PLANS. Are approved plans forwarded herewith for Shafting *See table letter No. 23.4.26* Receivers Separate Tanks
 Donkey Boilers General Pumping Arrangements *See table letter No. 23.4.26.* Oil Fuel Burning Arrangements

SPARE GEAR 1 cylinder cone (complete) 1 air valve
 12 piston rings 2 Ignition plates
 1 gudgeon pin 2 Governor springs
 1 set cranks + main bearing brasses (each) 2 sets each Cooling + help + pump valves + seats
 1 complete fuel pump. 26 crank Brass bolts
 4 fuel valves + 2 nozzles. 2 main bearing - do.
 No of springs etc.

The foregoing is a correct description.

J. W. McMillan Manufacturer.



Dates of Survey while building
 During progress of work in shops - -
 During erection on board vessel - - 7.8.12.17.21 of May, 4.9.11.16.24 of June, 3.9 of July
 Total No. of visits 12.

Dates of Examination of principal parts—Cylinders Covers Pistons Rods Connecting rods
 Crank shaft Flywheel shaft Thrust shaft Intermediate shafts Tube shaft
 Screw shaft { 8.5.26 9.6.26 Propeller 9.6.26 Stern tube 21.5.26 Engine seatings 9.6.26 Engines holding down bolts 24.6.26
 Completion of fitting sea connections 12.6.26 Completion of pumping arrangements 3.7.26 Engines tried under working conditions 3.7.26
 Crank shaft, Material Identification Mark Flywheel shaft, Material Identification Mark
 Thrust shaft, Material Identification Mark Intermediate shafts, Material Identification Marks
 Tube shaft, Material Identification Mark Screw shaft, Material Steel Identification Mark No 877. 9.6.26.

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 ship has been efficiently installed on board in accordance with the requirements of the Rules, Section 35 of the Rules, and the materials + workmanship are found good.

The machinery has been tried under working conditions at full power, + found satisfactory and is eligible in my opinion to have the notation + LMC 7/26

It is submitted that this vessel is eligible for THE RECORD. + LMC 7. 26. CL. Oil Engines, 2 SC. SA. 23 NHP. 20cy 11 13/16" - 12 3/16"

J. W. McMillan Engineer Surveyor to Lloyd's Register of Shipping.
 3/8/26

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 ... £ : When applied for, :
 Special *See Hull Report* : : 19
 Donkey Boiler Fee ... £ : : When received, :
 Travelling Expenses (if any) £ : : 19

Committee's Minute **FN. 3 SEPI 1926**
 Assigned + LMC 7. 26
 Oil Eng cl

