

REPORT ON OIL ENGINE MACHINERY.

No. 4710

16 FEB 1925

Date of writing Report 24/12/24 When handed in at Local Office 1924 Port of Kobe Received at London Office

No. in Survey held at Harima Date, First Survey 11 June 1924 Last Survey 23 December 1924

Reg. Book. Single on the Twin Screw vessel "FUKKO MARU." Number of Visits 24

Master Harima Built at Harima By whom built Kobe Steel Works Harima Dockyard Yard No. 93 When built 1924

Engines made at Winterthur By whom made Sulzer Bros & Co. Engine No. 5049 When made 1923

Donkey Boiler made at Harima By whom made Kobe Steel Works Harima Dockyard Boiler No. 93 When made 1924

Brake Horse Power 1600 (2 Engines) Owners Kobe Steel Works Port belonging to Kobe

Nom. Horse Power as per Rule 478 370 (2 Eng) Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

See also Winterthur Report No 35

OIL ENGINES, &c.—Type of Engines Sulzer Diesel engines 2 or 4 stroke cycle ✓ Single or double acting ✓

Maximum pressure in cylinders ✓ No. of cylinders ✓ No. of cranks ✓ Diameter of cylinders ✓

Length of stroke ✓ Revolutions per minute ✓ Means of ignition ✓ Kind of fuel used ✓

Is there a bearing between each crank ✓ Span of bearings (Page 92, Section 2, par. 7 of Rules) ✓

Distance between centres of main bearings ✓ Is a flywheel fitted ✓ Diameter of crank shaft journals as per Rule as fitted

Diameter of crank pins ✓ Breadth of crank webs as per Rule as fitted Thickness of ditto as per Rule as fitted

Diameter of flywheel shaft as per Rule as fitted Diameter of tunnel shafts as per Rule as fitted 8.2" 9" Diameter of thrust shafts as per Rule as fitted 8.625" 12"

Diameter of screw shafts as per Rule as fitted 8.93" 9.5" Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes

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 joints burned ✓

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 ✓ If without liners, is the shaft arranged to run in oil ✓

Type of outer gland fitted to stern tube ✓ Length of stern bush 3'-3" Diameter of propeller 8'-10"

Pitch of propeller 9'-10" No. of blades 4 state whether moveable Yes Total surface 61 square feet

Method of reversing ✓ Is a governor or other arrangement fitted to prevent racing of the engine when declutched ✓ Thickness of cylinder liners ✓

Are the cylinders fitted with safety valves ✓ Means of lubrication ✓ Are the exhaust pipes and silencers water cooled or lagged with non-conducting material LACCED If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine ✓

Exhausts led up funnel No. of cooling water pumps 1 Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

No. of bilge pumps fitted to the main engines ✓ Diameter of ditto ✓ Stroke ✓

Can one be overhauled while the other is at work ✓ No. of auxiliary pumps connected to the main bilge lines 2 How driven Electric Motor

Sizes of pumps BALLAST 4" dia. x 9" stroke No. and sizes of suctions connected to both main bilge pumps and auxiliary bilge pumps:—In engine room 2-3" 1-2 1/2"

and in holds, etc. NO. 1 HOLD 2-3" 2 THROW NO. 2 HOLD 2-3" AH HOLD 2-4 1/2" No. of ballast pumps 1 How driven Electric Motor Sizes of pumps 7" dia. x 9" stroke (2 throws)

Is the ballast pump fitted with a direct suction from the engine room bilges Yes State size 5" Is a separate auxiliary pump suction fitted in Engine Room and size Yes 5"

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine Room always accessible Yes

Are the sluices on Engine Room bulkheads always accessible ✓ Are all connections with the sea direct on the skin of the ship Yes

Are they valves or cocks Both Are they fixed sufficiently high on the ship's side to be seen without lifting the floor plates Yes

Are the discharge pipes 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 all pipes, cocks, valves and pumps in connection with the machinery accessible at all times Yes Are the bilge suction pipes, cocks and valves arranged so as to prevent any communication between the sea and the bilges Yes

Is the screw shaft tunnel watertight Yes Is it fitted with a watertight door Yes

worked from upper platform If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓

No. of main air compressors ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓

No. of auxiliary air compressors 1 No. of stages 3 Diameters See Winterthur Certificate of 20-3-23 Stroke ✓ Driven by ✓

No. of small auxiliary air compressors 1 No. of stages 2 Diameters See Winterthur Certificate of 16-8-23 Stroke ✓ Driven by ✓

No. of scavenging air pumps ✓ Diameter ✓ Stroke ✓ Driven by ✓

Diameter of auxiliary Diesel Engine crank shafts as per Rule as fitted See Winterthur Report No 162 Are the air compressors and their coolers made so as to be easy of access ✓

IR RECEIVERS:—No. of high pressure air receivers ✓ Internal diameter ✓ Cubic capacity of each ✓

material ✓ Seamless, lap welded or riveted longitudinal joint ✓ Range of tensile strength ✓

thickness ✓ working pressure by Rules ✓ No. of starting air receivers 10 See Winterthur letter of 17/12/23 Internal diameter 17 1/2"

Total cubic capacity ✓ Material ✓ Seamless, lap welded or riveted longitudinal joint ✓

Range of tensile strength ✓ thickness ✓ Working pressure by rules ✓ 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 Yes

IS A DONKEY BOILER FITTED?

Yes.

If so, is a report now forwarded?

Yes.

HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS					
" " COVERS					
" " JACKETS					
" PISTON WATER PASSAGES					
MAIN COMPRESSORS—1st STAGE					
" 2nd "					
" 3rd "					
AIR RECEIVERS—STARTING					
" INJECTION					
AIR PIPES					
FUEL PIPES					
FUEL PUMPS					
SILENCER					
" WATER JACKET					
SEPARATE FUEL TANKS					

See Whitehouse Report
no 35.

See Whitehouse Report no 35.

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

Receivers

Separate Tanks

SPARE GEAR

See attached list.

The foregoing is a correct description,

J. Urata

Manufacturer.

Dates of Survey while building	During progress of work in shops--	5-9-24	19-9-24	10-10-24	27-10-24	3-11-24	14-11-24	2-12-24
	During erection on board vessel--	11-6-24	10-9-24	20-9-24	16-10-24	6-11-24	24-11-24	12-12-24
		10-7-24	15-9-24	24-9-24	19-10-24	13-11-24	28-11-24	19-12-24
	Total No. of visits	24.						
Dates of Examination of principal parts—Cylinders	✓	5-9-24	Covers	✓	28-6-24	Pistons	✓	5-9-24
Crank shaft	Thrust shaft	5-9-24	Tunnel shafts	15-9-24	Screw shaft	10-9-24	Propeller	10-9-24
Engines holding down bolts	2-12-24	Completion of pumping arrangements	23-12-24	Engines tried under working conditions	12-12-24			
Completion of fitting sea connections	20-9-24	Stern tubes	15-9-24	Screw shafts and propellers	20-9-24			
Material of crank shaft	✓	Identification Mark on Do.	✓	Material of thrust shaft	F.S.	Identification Mark on Do.	Nº 500	R
Material of tunnel shafts	F.S.	Identification Marks on Do.	10-9-24	Material of screw shafts	F.S.	Identification Marks on Do.	Nº 498	R
Is the flash point of the oil to be used over 150° F.	Yes.							
Is this machinery duplicate of a previous case	✓	If so, state name of vessel						

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

The machinery of this vessel has been efficiently installed on board in accordance with the requirements of the Rules, and Section 35 of the Rules, and the materials and workmanship are sound and good.

The machinery has been tried under full working conditions and found satisfactory, and is eligible in my opinion to have the notation + Lmc 12-24 and "fitted for oil fuel 12-24 (F.P. above 150°)

The amount of Entry Fee ...	£ 62.00	When applied for,	
Special (Installation) ...	£ 294.00	When received,	19
Donkey Boiler Fee ...	£ 78.00		
Travelling Expenses (if any) ...	£ See three Rpts.		

Committee's Minute

FRI. 20 FEB 1925

Assigned

+ Lmb 12.24. C.L.
oil engines

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

FRI. 12 MAY 1925

FRI. 19 JUN 1925

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Foundation