

# REPORT ON OIL ENGINE MACHINERY.

No. **3177**Received at London Office **11 JAN 1956****K O B E**

Writing Report 19 When landed in at Local Office **DEC. 30. 1955** 19 Port of **K O B E**

Survey held at **Tamano** Date, First Survey **28th Dec., 1954** Last Survey **9th September 19 55**  
Number of Visits **63**

Single on the Main Triple Quadruple Screw vessel **M.V. "MEIKI MARU"** Tons Gross **7613.59** Net **4285.30**

Tamano, Japan By whom built **Mitsui Shipbuilding & Engr. Co., Ltd.** Yard No. **599** When built **Sept., 55**

made at **Tamano, Japan** By whom made **Mitsui Shipbuilding & Engr. Co., Ltd.** Engine No. **562** When made **Sept., 55**

Boilers made at **Tamano, Japan** By whom made **Mitsui Shipbuilding & Engr. Co., Ltd.** Boiler No. **386** When made **Sept., 55**

orse Power **6250** Owners **Meiji Kaiun K.K.** Port belonging to **Kobe**

er as per Rule  **1250** Is Refrigerating Machinery fitted for cargo purposes  Is Electric Light fitted  **Yes**

which vessel is intended

**GINES, &c.** —Type of Engines **Mitsui B & W. D.E. 574V TBF 160** 2 or 4 stroke cycle  **2** Single or double acting  **single**

pressure in cylinders  **55 kg/cm<sup>2</sup>** Diameter of cylinders  **740mm.** Length of stroke  **1600mm** No. of cylinders  **5** No. of cranks  **5**

icated Pressure  **7.9 kg/cm<sup>2</sup>** Ahead Firing Order in Cylinders **1-4-3-2-5** Span of bearings, adjacent to the crank, measured  
er edge to inner edge  **972.6mm** Is there a bearing between each cranks  **Yes** Revolutions per minute  **115**

dia  **2430mm** Weight  **8068 kg** Moment of inertia of flywheel (lbs.in<sup>2</sup> or Kg.cm.<sup>2</sup>) **65,000,000** Means of ignition  **Compression** Kind of fuel used  **Diesel oil**

Solid forged dia. of journals as per Rule  **510.73 mm** Crank pin dia.  **550 mm** Crank webs Mid. length breadth  **1180 mm** Thickness parallel to axis  **335 mm**  
Semi built dia. of journals as fitted  **550 mm** Mid. length thickness  **280 mm** shrunk Thickness around eyehole  **250 mm.**  
All built

Shaft, diameter as per Rule  **373.685mm.** Intermediate Shafts, diameter as per Rule  **380mm** Thrust Shaft, diameter at collars as fitted  **500mm (160mm Center hole)**  
as fitted  **380mm** as per Rule  **452.36mm**

t, diameter as per Rule  **429.522mm** Is the  **tube** shaft fitted with a continuous liner  **Yes**  
as fitted  **435mm** as per Rule  **15.583mm**

ners, thickness in way of bushes as per Rule  **20,777mm** Thickness between bushes as per Rule  **22.5mm** Is the after end of the liner made watertight in the  
boss  **yes** as fitted  **25mm** as fitted  **22.5mm**

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner

or 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-  
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  
shaft  **No** If so, state type  Length of bearing in Stern Bush next to and supporting propeller  **1800mm**

dia  **5350mm** Pitch  **4231.9mm** No. of blades  **4** Material  **ManBSc** whether moveable  **Moveable** Total developed surface  **101.9** sq. feet **23/1/56**

f inertia of propeller (lbs.in<sup>2</sup> or Kg.cm.<sup>2</sup>)  **156,000,000** Kind of damper, if fitted

Direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched  **Yes** Means of  
forced Thickness of cylinder liners  **52mm** Are the cylinders fitted with safety valves  **Yes** Are the exhaust pipes and silencers water cooled  
with non-conducting material  **Yes** If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned  
engine  **2** by oil motor Is the sea suction provided with an efficient strainer which can be cleared within the vessel  **Yes**  
s worked from the Main Engines, No.  **2** by steam

ected to the Main Bilge Line (No. and size)  **1-Ballast pump 150mm Diameter 200mm Stroke 2-Bilge pump 1-Bilge pump** Can one be overhauled while the other is at work  **No**  
 **2-20m<sup>3</sup>/h x 70m 1-100m<sup>3</sup>/h x 70m 2-20m<sup>3</sup>/h x 40m 20m<sup>3</sup>/h x 50m**

g water led to the bilges  **No** If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping  
ts

ps, No. and size  **1-220m<sup>3</sup>/h x 70m** Power Driven Lubricating Oil Pumps, including spare pump, No. and size  **1-170m<sup>3</sup>/h x 125m Main eng. driven**  
 **1-170m<sup>3</sup>/h x 35m Steam driven**

pendent means arranged for circulating water through the Oil Cooler  **Yes** Suctions, connected to both main bilge pumps and auxiliary  
No. and size:—In machinery spaces Fore P 1-3" Aft S 1-3" Well S 1-4" Emerg.  **1-7" Coff.dam 1-3" 1-2" TK Top(P 1-2" S 1-2")**  
No. 1  **1-3" 1-3" 1-3" 1-3" 1-3" deep tank P 1-2" 1-2" 1-2"** In pump room Bilge hat 1-3"  
S 1-3" 1-3" 1-3" 1-3" 1-3" S 1-2" 1-2"

t Power Pump Direct Suctions to the engine room bilges, No. and size  **1-5" Ballast pump 1-3" G.S. Pump**

ilge suction pipes in holds and tunnel well fitted with strum-boxes  **Yes** Are the bilge suction in the machinery spaces led from easily  
d-boxes, placed above the level of the working floor, with straight tail pipes to the bilges  **Yes**

onnections fitted direct on the skin of the Ship  **Yes** Are they fitted with valves or cocks  **Both** Are they fixed  
gh 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  **below**  
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**

ass through the bunkers  **None** How are they protected

ass through the deep tanks  **None** Have they been tested as per Rule

s, cocks, valves and pumps in connection with the machinery and all boiler mountings accessible at all times  **Yes**

gement 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  
om one compartment to another  **Yes** Is the shaft tunnel watertight  **Yes** Is it fitted with a watertight door  **Yes** worked from  **upper deck**

essel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

ompressors, No.  **2** No. of stages  **2** diameters  **3"** stroke  **4"** driven by  **steam engine**

ir Compressors, No.  **2** No. of stages  **2** diameters  **9"** stroke  **4"** driven by  **steam engine**

ary Air Compressors, No.  **1** No. of stages  **2** diameters  **50mm** stroke  **80mm** driven by  **Hand**

on is made for first charging the air receivers by small hand compressor

Blower No.  **2 Turbo blower** diameter  **148.48mm** stroke  **2 (steam)** driven by  **Main eng. exh. gas.**  
 **1 Emergency blower** as per Rule  **170mm** as fitted  **170mm** Position  **Port side built seat on tank top**

ines crank shafts, diameter  **170mm**

of Visiary engines been constructed under special survey  **Yes** Is a report sent herewith  **Yes**

**AIR RECEIVERS:**—Have they been made under survey... Yes  
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule... 1-20mm spring loaded escape valve & 1-20mm fusible plug  
 Can the internal surfaces of the receivers be examined and cleaned... Yes Is a drain fitted at the lowest part of each receiver... Yes  
 Injection Air Receivers, No... Cubic capacity of each... Internal diameter... thickness...  
 Seamless, welded or riveted longitudinal joint... Material... Range of tensile strength... Working pressure...  
 Starting Air Receivers, No... 2 Total cubic capacity... 14 m<sup>3</sup> Internal diameter... 1718 mm thickness... 25 mm  
 Seamless, welded or riveted longitudinal joint... Welded Material... O.H. Steel Range of tensile strength... Working pressure...  
 Shell 50.0 to 50.1 kg/cm<sup>2</sup>

**IS A DONKEY BOILER FITTED** Yes If so, is a report now forwarded... Yes  
 Is the donkey boiler intended to be used for domestic purposes only... No  
**PLANS.** Are approved plans forwarded herewith for shafting... 28 - 4-1955 Kobe Receivers... 11-4-1955 Kobe Separate fuel tank...  
 Donkey boilers... 11-3-1955 Kobe General pumping arrangements... 9-2-1955 Kobe Pumping arrangements in machinery space... 29-3-1955  
 Oil fuel burning arrangements... 9-2-1955 Kobe  
 Have Torsional Vibration characteristics been approved... Yes Date of approval... 30-8-1955 Kobe  
*London 22/1/55*  
*Borneo Speed 29-36 Rev*

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied... Yes  
 State the principal additional spare gear supplied... 3-Exhaust valves, 1-Starting valve, 1-Relief valve,  
 4 sets - Piston ring for one cylinder, 4 sets - Fuel pipes for one cylinder,  
 1 set - Turbo charger, 1 set - cylinder liner, 1 set - cylinder cover,  
 1 - Propeller blade.

MITSUI SHIPBUILDING & ENGINEERING CO., LTD., TAMANO WORKS.

The foregoing is a correct description of *parts* for S. Tanaka  
 Senior Managing Director, Manufacturer.

|   |                                      |  |  |
|---|--------------------------------------|--|--|
| Dates of Survey while building          | During progress of work in shops - - | 1954 Dec. 28   | 1955 Jan. 13, 18, 25 Feb. 11, 15, 22, 25 Mar. 1, 4, 11, 17, 23, 29 Apr. 1, 6, 9, 12, 15, 26, 30          |
|   | During erection on board vessel - -  | 1955 June 7, 22, Aug. 8, 17, 26, 30 Sep. 2, 5, 9   | June 5, 10, 17, 20, 27, 29, 30, 31 Jun. 5, 4, 6, 7, 11, 14, 16, 18, 22, 25, 25 Jul. 2, 8, 12, 15, 19, 25 |
| Total No. of visits                     |                                      | 68   |  |
| Dates of examination of principal parts |                                      | Cylinders 31-5-55 Covers 14-6-55 Pistons 7-6-55 Rods 25-4-55 Connecting rods 13-5-55 Tube shaft 9-5-55   |  |
| Crank shaft                             |                                      | 9-5-55 Flywheel shaft - Thrust shaft 9-5-55 Intermediate shafts 13-5-55  |  |
| Screw shaft                             |                                      | 23-5-55 Propeller 19-7-55 Stern tube 4-6-55 Engine seatings 8-8-55 Engine holding down bolts 8-8-55  |  |
| Completion of fitting sea connections   |                                      | 22-6-55 Completion of pumping arrangements 30-8-55 Engines tried under working conditions -  |  |
| Crank shaft, material                   |                                      | F.S. & C.S. Identification mark K-CK 462 Flywheel shaft, material - Identification mark Y6395  |  |
| Thrust shaft, material                  |                                      | O.H. Steel Identification mark K-F 1849 Intermediate shafts, material O.H. Steel Identification mark K-F 1849  |  |
| Tube shaft, material                    |                                      | - Identification mark - Screw shaft, material O.H. Steel Identification mark -   |  |
| Identification marks on air receivers   |                                      | No. 628 LLOYD'S TEST KOB W.T.P. 41 kg/cm <sup>2</sup> W.P. 25 kg/cm <sup>2</sup> JN LR 27-5-55<br>No. 629 LLOYD'S TEST KOB W.T.P. 41 kg/cm <sup>2</sup> W.P. 25 kg/cm <sup>2</sup> JN LR 27-5-55 |  |

Welded receivers, state Makers' Name... Mitsui Shipbuilding & Engineering Co., Ltd., Tamano Works, Tamano  
 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  
 Description of fire extinguishing apparatus fitted... Steam pipe & CO<sub>2</sub> gas pipe leading to eng. & boiler room. 8-9 ltr. foam portable ext.  
 2 - horse connection (by ballast & G.S. Pump) 1-45 ltr. foam  
 1 - Fire pump in Steering room (Capacity 318m<sup>3</sup>/h x 45m)  
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo... Yes If so, have the requirements of the Rules been complied with...  
 If the notation for ice strengthening is desired, state whether the requirements in this respect have 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, Speed restrictions, etc.)  
 The machinery of this vessel has been constructed under Special Survey in accordance with the Rule, approved plans and Secretary's letters.  
 The workman ship and materials are sound and good.  
 The machinery was examined under working condition during shop trial and comprehensive sea trials and found satisfactory.  
 In our opinion this machinery is worthy to have a record of +LMC 9,55, T.S.(CL) 9,55 and D.B.S.9,55 W.P.  
 T.S. (CL) 8-55 and D.B.S. 9-55 W.P. 10 kg (CERD)? *Notice board re board speed?*

K O B E  
 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 ... £ 738,000 :  
 Special ... £ :  
 Donkey Boiler Fee... £ :  
 Travelling Expenses (if any) - Su Rpt. 1 :  
 When applied for DEC. 30. 1955  
 When received 19

*Shunichi J. Kono*  
 Engineer Surveyor to Lloyd's Register

Committee's Minute  
 Assigned... HMC 9.55 (with Tors. Expt.)  
 CL.

