

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

AUG - 2 - 1938

Date of writing Report 14th June 1938 When handed in at Local Office 14th June 1938 Port of SHIMONOSEKI.

No. in Survey held at NAGASAKI.

Date, First Survey 2nd April 37 Last Survey 24th May 1938

Reg. Book.

(Number of Visits 113)

on the Single Screw Steamer "MINRYO MARU", ex "Sargiktraz".

Gross 2,194.59

38883

Net 1,162.42

Built at Nagasaki By whom built Kawaminami Kogyo K.K.

Yard No. 108

When built 1938

Koyagijima Zosensho.

Engines made at Nagasaki

By whom made "

Engine No. 108

When made 1938

Boilers made at "

By whom made "

Boiler No. 108

When made 1938

Registered Horse Power 1450

Owners Kawaminami Kogyo Kabushiki Kaisha Port belonging to Osaka

Nom. Horse Power as per Rule 294

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

Trade for which Vessel is intended All Seas.

## ENGINES, &amp;c.—Description of Engines Triple Expansion.

Revs. per minute 90

Dia. of Cylinders 480x810x1340m/m Length of Stroke 990 m/m No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule 268.9m/m as fitted 278 m/m Crank pin dia. 285 m/m Crank webs Mid. length breadth 178 m/m Mid. length thickness 334 m/m Thickness parallel to axis / Thickness around eye-hole /

Intermediate Shafts, diameter as per Rule 256.1 m/m as fitted 266 m/m Thrust shaft, diameter at collars as per Rule 268.9 m/m as fitted 278 m/m

Tube Shafts, diameter as per Rule / as fitted / Screw Shaft, diameter as per Rule 299.7 m/m as fitted 302 m/m Is the shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 16.7 m/m as fitted 22 m/m Thickness between bushes as per Rule 12.5 m/m as fitted 21 m/m 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 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 /

If so, state type / Length of Bearing in Stern Bush next to and supporting propeller 1230 m/m

Propeller, dia. 4220 m/m Pitch 4450 m/m No. of Blades 4 Material C.S. whether Moveable Yes Total Developed Surface 54,464 M<sup>2</sup> x

Feed Pumps worked from the Main Engines, No. 2 Diameter 100 m/m Stroke 508 m/m Can one be overhauled while the other is at work Yes

Bilge Pumps worked from the Main Engines, No. 2 Diameter 100 m/m Stroke 508 m/m Can one be overhauled while the other is at work Yes

Feed Pumps { No. and size 1 off, 305x215x455 m/m Pumps connected to the { No. and size 2 off, 100x580m/m: 1 off 305x305x330m/m: How driven Steam. Main Bilge Line How driven Main engine direct &amp; steam driven.

Ballast Pumps, No. and size 1 off, 305x305x330 m/m 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;—In Engine and Boiler Room 4x65 m/m bore in E.R: 4x65 m/m in B.R: 1x65 m/m in Shaft Tunnel.

In Pump Room / In Holds, &amp;c. 2 @ 65 m/m in No.1.2.3.4 &amp; Crossbunker Holds.

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 off, 180m/m Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 off, 120 m/m

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 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 stokehold 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 None How are they protected /

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

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 Bridge Dk and Eng. room.

MAIN BOILERS, &amp;c.—(Letter for record S.) Total Heating Surface of Boilers 429.08 Sq.M. 4617

Is Forced Draft fitted Yes No. and Description of Boilers 2 Single ended Multitubular. Working Pressure 14 Kg/cm<sup>2</sup>

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? /

Is the donkey boiler intended to be used for domestic purposes only /

PLANS. Are approved plans forwarded herewith for Shafting 4-2-37 Main Boilers 1-4-37 Auxiliary Boilers / Donkey Boilers /

Superheaters 31-3-37 General Pumping Arrangements 10-9-37 Oil fuel Burning Piping Arrangements /

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes

State the principal additional spare gear supplied 1 water valves for Main boiler. 1 water valves for Ballast pump.

1 water valves for Fresh water pump. 1 water valves for Aux.feed pump. 1 each escape valve for

H.P. M.P. &amp; L.P. : 1 each Piston ring for HP. MP &amp; LP:

Note:- 2 c.s. propeller blades with one set of studs &amp; nuts to be placed on board, Builders states that these have been ordered &amp; will be placed on board at first available opportunity.

The foregoing is a correct description.

J. Shirohara

Manufacturer. General Manager.

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1937:- April 2, 3, 13, 14 May 14, 17, 22, 24, 29, 31 June 3, 9, 16, 18, 19, 25 July 3, 5, 6, 9, 10, 13, 19, 20, 23, 26, 29, 30 Aug 6, 16, 20, 23, 30 Sep 7, 14, 17, 20, 24, 27, 28, 30, Oct 8, 9, 11, 12, 16, 19, 18, 21, 22, 23, 26, 27, 28, 29 Nov 1, 2, 4, 10, 11, 12, 15, 16, 17, 18, 19, 24, 25 Dec 2, 3, 6, 7, 10, 13, 20, 21, 22, 24, 27, 28, 29.  
1938:- Jan 11, 17, 18, 25, 27, 28 Feb 1, 10, 23, 24, 25, 28 Mar 14, 16, 18, 22, 25, 28, Apr 4, 5, 9, 11, 14, 22, 23, 30 May 3, 10, 14, 21, 24.  
During progress of work in shops - -  
Dates of Survey while building  
During erection on board vessel - -  
Total No. of visits 113.

Dates of Examination of principal parts—Cylinders 15, 28-10-37 Slides 2-11-37 Covers 28-10-37  
Pistons 2-11-37 Piston Rods 10-8-38 Connecting rods 1-11-37  
Crank shaft 1-11-37 Thrust shaft 15-11-37 Intermediate shafts 15-11-37  
Tube shaft / Screw shaft 16-10-37 Propeller 18-10-37  
Stern tube 29-9-37 Engine and boiler seatings 12-10-37 Engines holding down bolts 12-11-37  
Completion of fitting sea connections 18-10-37  
Completion of pumping arrangements 25-1-38 Boilers fixed 25-1-38 Engines tried under steam 10-5-38  
Main boiler safety valves adjusted 10-5-38 Thickness of adjusting washers Lock nut fitted.  
Crank shaft material Steel Identification Mark LR No. 6156 HDB. Thrust shaft material Steel Identification Mark LR No. 6514A. S.A.  
Intermediate shafts, material Steel Identification Marks See below Tube shaft, material / Identification Mark /  
Screw shaft, material Steel Identification Mark LR No. 6543 R.L. Steam Pipes, material Steel Test pressure 600 lbs Date of Test 10 & 12th Dec. 37.  
Is an installation fitted for burning oil fuel / Is the flash point of the oil to be used over 150°F. /  
Have the requirements of the Rules for the use of oil as fuel been complied with /  
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo / 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 Yes  
Is this machinery duplicate of a previous case Yes If so, state name of vessel "TENRYO MARU"

General Remarks (State quality of workmanship, opinions as to class, &c.  
Identification Marks for Intermediate Shafts:- LR No. 6392. 6394. 6400 & 6416. S.A.

The machinery of this vessel has been constructed under Special survey in accordance with the Rules and Approved plans, the materials have been tested, found efficient, and the workmanship is good. It has been efficiently installed on board tried under full working condition with satisfactory results. The Boiler safety valves were adjusted under steam, and accumulation test carried out and found safety valves adequate in size and working satisfactorily. The discharge valves fitted direct on the ship's side are not in accordance with the Rules being fitted with screw down valves at the request of the U.S.S.R. representative, but a relief valve has been fitted on the discharge side of all pumps to avoid increase of pressure in the discharge lines, also a relief valve has been fitted on the feed heater to ensure that an increase of the steam pressure in the heater will not be attended with serious consequences. Upon completion of trials, engines and boilers were opened up, examined all over and found good. This case is eligible in our opinion to have the record of LMC, 5-38, in the Reg. Book.

The amount of Entry Fee ... £ 4-0-0 : When applied for,  
Special ... £ 86-7-6 : 7. 7 1938  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : : 9/12 1938

For A. D. Buchanan  
H. S. R. Bellamy  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned + LMC 5.38 subject  
FD CL



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