

# REPORT ON BOILERS.

No. 5369

20 SEP 1926

Received at London Office

Date of writing Report 18/8/1926 When handed in at Local Office 19 Port of Kobe.

No. in Survey held at Kobe. Date, First Survey Nov. 25<sup>th</sup> 1925 Last Survey Aug. 9<sup>th</sup> 1926

on the STEEL MOTOR VESSEL "CUBA MARU" (Number of Visits 12) Tons <sup>Gross</sup> 5950. <sub>Net</sub> 3666.

Built at Kobe. By whom built Kawasaki Dockyard Co., Ltd. Yard No. 485 When built 1926.

Engines made at Glasgow (Clydebank). By whom made John Brown & Co., Ltd. Engine No. 502.B When made 1924.

Boilers made at Kobe. By whom made Kawasaki Dockyard Co., Ltd. Boiler No. 485 When made 1926.

Owners Kawasaki Kisen Kabushiki Kaisha. Port belonging to Kobe.

## VERTICAL DONKEY BOILER.

Made at Kobe. By whom made Kawasaki Dkyd Co., Ltd. Boiler No. 485. When made 1926. Where fixed Lower Eng:Rm.

Manufacturers of Steel Kawasaki Fukiai Steel Works.

Total Heating Surface of Boiler 364 Is forced draught fitted No. Coal or Oil fired Oil Fired.

No. and Description of Boilers One vertical Donkey Boiler (Cochran Type). Working pressure 120 lbs.

Tested by hydraulic pressure to 230 lbs. Date of test 24<sup>th</sup> May 1926 No. of Certificate LLOYD'S TEST N° 888

Area of Firegrate in each Boiler Oil fired. No. and Description of safety valves to each boiler One 2" dia. Twin, Spring loaded.

Area of each set of valves per boiler <sup>per rule</sup> 4.102 Sq." <sub>as fitted</sub> 6.28 Sq." Pressure to which they are adjusted 125 lbs. Are they fitted with easing gear Yes.

State whether steam from main boilers can enter the donkey boiler -- Smallest distance between boiler or uptake and tank bulkhead.

30" Is oil fuel carried in the double bottom under boiler No. Smallest distance between base of boiler and tank top plating 30"

30" Is the base of the boiler insulated Yes Largest internal dia. of boiler 72" Height 13'-4<sup>3</sup>/<sub>8</sub>"

Shell plates: Material O.H. Steel. Tensile strength 28 to 32 tons. Thickness 1/2"

Are the shell plates welded or flanged No. Description of riveting: circ. seams <sup>end</sup> Single. <sub>inter.</sub> Single to double. <sup>long seams</sup> D.R. lap.

No. of rivet holes in <sup>circ. seams</sup> 1-1/32" <sup>pitch of rivets</sup> 2-11/32" <sup>percentage of strength of circ. seams</sup> 56 <sup>plate</sup> 56 <sup>of Longitudinal joint</sup> 68.5 <sub>rivets</sub> 83.4 <sub>combined</sub> --

Working pressure of shell by rules 120 lbs. Thickness of butt straps <sup>outer</sup> -- <sub>inner</sub> --

Crown: Whether complete hemisphere, dished partial spherical, or flat Complete hemisphere. Material O.H. Steel.

Shell strength 26 to 30 tons. Thickness Top 7/8", Side 7/16" Radius 36" Working pressure by rules 163 lbs.

Description of Furnace: Plain, spherical, or dished crown Spherical Material O.H. Steel. Tensile strength 26 to 30 tons.

Thickness 1/2" External diameter <sup>top</sup> -- <sub>bottom</sub> -- Length as per rule -- Working pressure by rules --

No. of support stays circumferentially -- and vertically -- Are stays fitted with nuts or riveted over --

Diameter of stays over thread -- Radius of spherical or dished furnace crown 30" Working pressure by rule 137 lbs.

Thickness of Ogee Ring 29/32" Diameter as per rule <sup>D</sup> 72" <sub>d</sub> 60" Working pressure by rule 127 lbs.

Combustion Chamber: Material -- Tensile strength -- Thickness of top plate --

Is it dished -- Working pressure by rule -- Thickness of back plate -- Diameter if circular --

Thickness as per rule -- Pitch of stays -- Are stays fitted with nuts or riveted over --

Diameter of stays over thread -- Working pressure of back plate by rules --

Plates: Material <sup>front</sup> O.H. Steel. <sup>back</sup> -do- Tensile strength <sup>front</sup> 26 tons. <sup>back</sup> -do- Thickness <sup>front</sup> 1" <sup>back</sup> 13/16" Mean pitch of stay tubes in nests 10-13/32

Spacing shell, Dia. as per rule <sup>front</sup> 67 <sup>back</sup> 55 Pitch in outer vertical rows <sup>F-7<sup>1</sup>/<sub>2</sub></sup> B-7<sup>1</sup>/<sub>2</sub> Dia. of tube holes FRONT <sup>stay</sup> 2-11/16 <sup>stay</sup> 2-9/16" <sub>plain</sub> 2<sup>1</sup>/<sub>2</sub>"

Do alternate tube in outer vertical rows a stay tube Yes Working pressure by rules <sup>front</sup> 134 lbs. <sub>back</sub> 131 lbs.

Stays to combustion chamber tops: Material -- Tensile strength --

Length and thickness of girder at centre -- Length as per rule --

Distance apart -- No. and pitch of stays in each -- Working pressure by rule --

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# REPORT ON BOILERS

**Crown stays:** Material --- Tensile strength --- Working pressure by rules ---  
 No. of threads per inch --- Area supported by each stay --- Diameter { at body of stay, ---  
 or over threads, ---

**Screw stays:** Material --- Tensile strength --- Working pressure by rules ---  
 Area supported by each stay --- Diameter { at turned off part, ---  
 or over threads, --- No. of threads per inch ---

**Are the stays drilled at the outer ends** ---

**Tubes:** Material Lap Welded Steel. External diameter { plain 2 1/2"  
 stay 2 1/2" Thickness { 11 L.S.G.  
5/16" Working pressure by rules 125 lbs.

No. of threads per inch 9 Pitch of tubes 3 3/4 (Vert.) x 3-9/16 (Hov.) Section of compensating ring 6 5/8 x 5/8 No. of rivets and diam ---

**Manhole Compensation:** Size of opening in shell plate 16" x 12" Section of compensating ring 6 5/8 x 5/8 No. of rivets and diam ---  
 of rivet holes 44 of 29/32" Dia Outer row rivet pitch at ends 3 1/4" Depth of flange if manhole flanged ---

**Uptake:** External diameter --- Thickness of uptake plate ---

**Cross Tubes:** No. --- External diameters { --- Thickness of plates ---

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes.

**KAWASAKI DOCKYARD COMPANY, LTD**  
*M. Yamamoto*

Approved  
**12/Sept/26**  
*Office Copy*

1925 1926  
 Nov. 25: Jan. 18: Mar. 11, 18: Apr. 16:  
 May 15, 19, 21, 24:  
 July 6, 21: Aug. 9.

Is the approved plan of boiler forwarded herewith (If not state date of approval.)  
 Total No. of visits 12.

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.)

This Boiler has been constructed under special survey, according to the Rules and approved plans, the material have been tested found efficient and the workmanship is good. The Boiler has now been installed on board and tested under steam with satisfactory results, and eligible in my opinion to have the Record "D.B. 120 lbs" in Register Book.

Survey Fee £ --- When applied for, 19  
 Travelling Expenses (if any) £ --- When received, 19

*A. Watt*

Engineer Surveyor to Lloyd's Register of Shipping

FRI. 15 OCT 1926

FRI. 24 SEP 1926

Committee's Minute  
 Assigned see minute on Kobe Rpt  
 5369 attached

