

REPORT ON BOILERS.

No. 8433.

26 JAN 1934

Received at London Office

Writing Report 29.12.1933. When handed in at Local Office

193 Port of **KOBE.**

Survey held at **HARIMA.** Date, First Survey **11-5-33.** Last Survey **30-9-33.** 192

on the **SINGLE SCREW MOTOR VESSEL "KOMAKI MARU."** (Number of Visits **9.**) Gross **6468.06.** Tons Net **3812.37.**

Built at **HARIMA** By whom built **HARIMA S.B. & ENG CO LD.** Yard No. **189** When built **1933.**

made at **KOBE.** By whom made **KOBE STEEL WORKS LTD KOBE.** Engine No. When made **1933.**

made at **HARIMA.** By whom made **HARIMA S.B. & ENG CO LD.** Boiler No. **189.** When made **1933.**

Horse Power **2185.** Owners **KOKUSAI KISEN KUBUSHIKI KAISHA** Port belonging to **OSAKA.**

TUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel **VEREINIGTE STAHLWERKE A.G. STAHL- & WALZWERKE THYSSEN OF MÜLHEIM RUHR** (Letter for Record **S.**)

Heating Surface of Boilers **OIL FIRED 1139.88 & EX GAS 1369.6** Is forced draught fitted **No.** Coal or Oil fired **OIL OR GAS EXH**

Description of Boilers **ONE SINGLE ENDED SCOTCH TYPE.** Working Pressure **7. KG/CM².**

Tested by hydraulic pressure to **14 KG/CM².** Date of test **30.6.33.** No. of Certificate **3589.** Can each boiler be worked separately **✓.**

Firegrate in each Boiler **37.5** No. and Description of safety valves to each boiler **2- 3/2" DIAM SPRING LOADED.**

Each set of valves per boiler { per Rule **14.9.** as fitted **2.96"** Pressure to which they are adjusted **100 LBS/D"** Are they fitted with easing gear **YES.**

of donkey boilers, state whether steam from main boilers can enter the donkey boiler **✓.**

distance between boilers or uptakes and bunkers or woodwork **✓.** Is oil fuel carried in the double bottom under boilers **BOILER BETWEEN DK.**

distance between shell of boiler and tank top plating **✓.** Is the bottom of the boiler insulated **YES.**

internal dia. of boilers **3.800 MM.** Length **3.500 MM.** Shell plates: Material **STEEL.** Tensile strength

22 MM. Are the shell plates welded or flanged **FLANGED.** Description of riveting: circ. seams { end **J.R. LAP JOINT.** inter. **✓.**

T.R. D.B.S. Diameter of rivet holes in { circ. seams **15/16"** long. seams **15/16"** Pitch of rivets { **78 MM.** **165 MM.**

Percentage of strength of circ. end seams { plate **69.5** rivets **45.7** Percentage of strength of circ. intermediate seam { plate **✓.** rivets **✓.**

Percentage of strength of longitudinal joint { plate **85.8** rivets **94.2** Working pressure of shell by Rules **10.5 KG/CM².**

combined **90.5.**

No. and Description of Furnaces in each Boiler **2. MORRISON.**

Thickness of plates { crown **5/8"** bottom **5/8"** Description of longitudinal joint **WELDED.**

Working pressure of furnace by Rules **14.75 KG/CM².**

plates in steam space: Material **STEEL.** Tensile strength **41-47 KG/MM².** Thickness **25 MM.** Pitch of stays **380 MM.**

Working pressure by Rules **9.5 KG/CM².**

Material { front **STEEL.** back **STEEL.** Tensile strength { **41-47 KG/MM².** Thickness { **22 MM.** **19 MM.**

Working pressure { front **10.85 KG/CM².** back **11.9 KG/CM².**

to combustion chamber tops: Material **STEEL.** Tensile strength **44-50 KG/MM².** Depth and thickness of girder

180 MM x 19 MM. Length as per Rule **727 MM.** Distance apart **295 MM.** No. and pitch of stays

2 x 225 MM. Working pressure by Rules **9.4 KG/CM².** Combustion chamber plates: Material **STEEL.**

Strength **41-47 KG/MM².** Thickness: Sides **16 MM.** Back **14 MM.** Top **16 MM.** Bottom **19 MM.**

stays to ditto: Sides **230 MM x 260 MM.** Back **200 MM x 230 MM.** Top **225 MM x 295 MM.** Are stays fitted with nuts or riveted over **NUTS.**

Working pressure by Rules **9.06 KG/CM².** Front plate at bottom: Material **STEEL.** Tensile strength **41-47 KG/MM².**

22 MM. Lower back plate: Material **STEEL.** Tensile strength **41-47 KG/MM².** Thickness **22 MM.**

stays at wide water space **200 MM x 350 MM.** Are stays fitted with nuts or riveted over **NUTS.**

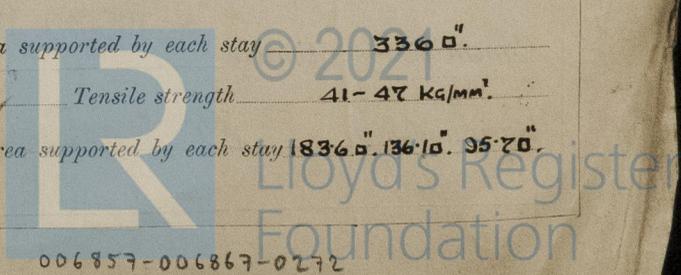
Pressure **13.7 KG/CM².** Main stays: Material **STEEL.** Tensile strength **44-50 KG/MM².**

At body of stay, **2 1/2"** No. of threads per inch **6.** Area supported by each stay **336"**

Over threads **✓.** Screw stays: Material **STEEL.** Tensile strength **41-47 KG/MM².**

Working pressure by Rules **9.06 KG/CM².** At turned off part, **2"** **1 3/4"** **1 1/2"** No. of threads per inch **9.** Area supported by each stay **1836"** **136"** **95"** **70"**

Over threads **✓.**



Working pressure by Rules 12.2 kg/cm^2 . Are the stays drilled at the outer ends NO. Margin stays: Diameter $1 \frac{3}{4}$ " (At turned off part, or Over threads)

No. of threads per inch 9. Area supported by each stay 136 in^2 . Working pressure by Rules 12.2 kg/cm^2

Tubes: Material STEEL. External diameter $3 \frac{1}{2}$ " (Plain) $3 \frac{1}{2}$ " (Stay) Thickness $5 \frac{1}{16}$ " $5 \frac{1}{16}$ ". No. of threads per inch 9

Pitch of tubes $89 \times 95 \text{ mm}$ $105 \times 107 \text{ mm}$. Working pressure by Rules 12.2 kg/cm^2 . Manhole compensation: Size of shell plate $450 \text{ mm} \times 550 \text{ mm}$. Section of compensating ring $22 \text{ mm} \times 370 \text{ mm}$. No. of rivets and diameter of rivet holes 48. $15 \frac{1}{16}$ "

Outer row rivet pitch at ends 165 mm . Depth of flange if manhole flanged 85 mm . Steam Dome: Material

Tensile strength. Thickness of shell. Description of longitudinal joint

Diameter of rivet holes. Pitch of rivets. Percentage of strength of joint (Plate Rivets)

Internal diameter. Working pressure by Rules. Thickness of crown. No. and diameter of stays

How connected to shell. Inner radius of crown. Working pressure by Rules

of rivets in outer row in dome connection to shell. Size of doubling plate under dome. Diameter of rivet holes

Type of Superheater. Manufacturers of (Tubes Steel castings)

Number of elements. Material of tubes. Internal diameter and thickness of tubes

Material of headers. Tensile strength. Thickness. Can the superheater be shut off from the boiler

the boiler be worked separately. Is a safety valve fitted to every part of the superheater which can be shut off from the boiler

Area of each safety valve. Are the safety valves fitted with easing gear. Working pressure

Rules. Pressure to which the safety valves are adjusted. Hydraulic test

tubes, castings and after assembly in place. Are drain cocks or cocks fitted to free the superheater from water where necessary

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

The foregoing is a correct description,
M. Nakagaki

Dates of Survey (During progress of work in shops - - -) $11.5.33, 25.5.33, 7.6.33, 8.6.33, 17.6.33, 27.6.33$. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

(During erection on board vessel - - -) $9.8.33, 30.9.33$. Total No. of visits 9 .

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

This boiler has been constructed under special survey in accordance with the Rules and approved plans; the materials and workmanship are good. The boiler was tested by hydraulic pressure to 14 kg/cm^2 and found sound & tight; afterwards efficiently installed in the vessel, and the safety valves adjusted under steam to 7 kg/cm^2 (100 lbs/sq in).

This boiler is eligible in my opinion to have the record of T.B. 100 lbs.

Survey Fee *See Enquiry Report* 25.00 When applied for. 192

Travelling Expenses (if any) £ : : When received. 192

A. E. Munro
 Engineer Surveyor to Lloyd's Register of Shipping

TUE. 30 JAN 1934

Committee's Minute

Assigned

See other report. Vol. 8433

