

## 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. &amp; 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. &amp; 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- &amp; WALZWERKE THYSSEN OF MÜLHEIM RUHR

(Letter for Record S. ✓)

Heating Surface of Boilers OIL FIRED 1139.88 &amp; GAS 1369.6 &amp; 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/cm<sup>2</sup>. ✓

by hydraulic pressure to

14 kg/cm<sup>2</sup>

Date of test

30.6.33.

No. of Certificate

3589.

Can each boiler be worked separately ✓

Firegrate in each Boiler

37.5 ft

No. and Description of safety valves to each boiler

2- 3 1/2" DIAM SPRING LOADED.

each set of valves per boiler

per Rule ✓

as fitted

2- 3 1/2" ✓

Pressure to which they are adjusted

100 LBS/SQ

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. ✓

T.R. D.B.S. ✓

Diameter of rivet holes in

circ. seams

15/16" ✓

Pitch of rivets

78 mm. ✓

age of strength of circ. end seams

plate

69.5

Percentage of strength of circ. intermediate seam

plate

✓

age of strength of longitudinal joint

plate

85.8

Working pressure of shell by Rules

10.5 kg/cm<sup>2</sup>.

age of strength of longitudinal joint

rivets

34.2

combined

30.5

age of strength of longitudinal joint

outer

19 mm.

No. and Description of Furnaces in each Boiler

2. MORRISON. ✓

STEEL. ✓

Tensile strength

41-47 kg/mm<sup>2</sup>. ✓

Smallest outside diameter

3'-7 1/4" ✓

Rule of plain part

top

5/8" ✓

Thickness of plates

crown

5/8" ✓

Description of longitudinal joint

WELDED. ✓

ons of stiffening rings on furnace or c.c. bottom ✓

Working pressure of furnace by Rules

14.75 kg/cm<sup>2</sup>.

ites in steam space: Material

STEEL. ✓

Tensile strength

41-47 kg/mm<sup>2</sup>. ✓

Thickness

25 mm. ✓

Pitch of stays

380 mm. ✓

e stays secured

DOUBLE NUTS &amp; WASHERS. ✓

Working pressure by Rules

9.5 kg/cm<sup>2</sup>.

ates: Material

front

STEEL. ✓

Tensile strength

41-47 kg/mm<sup>2</sup>. ✓

Thickness

22 mm. ✓

back

STEEL. ✓

Tensile strength

41-47 kg/mm<sup>2</sup>. ✓

Thickness

19 mm. ✓

tech of stay tubes in nests

318 mm

271 mm.

Pitch across wide water spaces

350 mm. ✓

Working pressure

front 10.85 kg/cm<sup>2</sup>.back 11.9 kg/cm<sup>2</sup>.

to combustion chamber tops: Material

STEEL. ✓

Tensile strength

44-50 kg/mm<sup>2</sup>. ✓

Depth and thickness of girder

180 mm x 19 mm. ✓

Length as per Rule

727 mm.

Distance apart

235 mm. ✓

No. and pitch of stays

2 x 225 mm. ✓

Working pressure by Rules

9.4 kg/cm<sup>2</sup>.

Combustion chamber plates: Material

STEEL. ✓

strength

41-47 kg/mm<sup>2</sup>. ✓

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. ✓

pressure by Rules

9.06 kg/cm<sup>2</sup>.

Front plate at bottom: Material

STEEL. ✓

Tensile strength

41-47 kg/mm<sup>2</sup>. ✓

22 mm. ✓

Lower back plate: Material

STEEL. ✓

Tensile strength

41-47 kg/mm<sup>2</sup>. ✓

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/cm<sup>2</sup>.

Main stays: Material

STEEL. ✓

Tensile strength

44-50 kg/mm<sup>2</sup>.

At body of stay,

2 1/2" ✓

No. of threads per inch

6. ✓

Area supported by each stay

3360" ✓

pressure by Rules

Screw stays: Material

STEEL. ✓

Tensile strength

41-47 kg/mm<sup>2</sup>. ✓

At turned off part,

2" ✓

1 3/4" ✓

1 1/2" ✓

No. of threads per inch

9. ✓

Area supported by each stay

1836" x 136" x 95" x 70" ✓

Over threads



Working pressure by Rules  $12.2 \text{ kg/cm}^2$ . 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  $136.1 \text{ in}^2$ . Working pressure by Rules  $12.2 \text{ kg/cm}^2$ .  
Tubes: Material STEEL. External diameter { Plain 3" 2 1/2" Thickness { LSG 11. LSG 10. No. of threads per inch 9.  
Stay 3" 2 1/2" 5/16" 5/16".  
Pitch of tubes  $89 \times 95 \text{ mm}$ .  $105 \times 107 \text{ mm}$ . Working pressure by Rules Manhole compensation: Size of 58.  
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.  $15/16"$ .  
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  
stays Inner radius of crown Working pressure by Rules  
How connected to shell Size of doubling plate under dome Diameter of rivet holes  
of rivets in outer row in dome connection to shell

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  
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  
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, 2.6.33, 6.6.33, 17.6.33, 22.6.33. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
while building { 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 N.R. and found sound & tight; afterwards efficiently installed in the vessel, and the safety valves adjusted under steam to  $7 \text{ kg/cm}^2$  (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 25.1.00 When applied for, 192  
Travelling Expenses (if any) £ : : When received, 192

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

Committee's Minute

Assigned

See other report. Kol. 8433

TUE. 30 JAN 1934

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Lloyd's Register  
Foundation