

Rpt. 5a.

# REPORT ON BOILERS.

No. FE-3026

14 OCT 1955

Received at London Office

Date of writing Report 19 When handed in at Local Office SEP. 26. 1955 19 Port of Kobe, Japan

No. in Reg. Book. Survey held at Kobe Date, First Survey 11-2-1955 Last Survey 18-7-1955

on the Steel Single Screw M.V. "HIKAWA MARU" (Number of Visits 20) Tons {Gross 8092.32 Net 5600.79

Built at Kobe By whom built Kawasaki Dockyard Co., Ltd. Yard No. 940 When built 7-'55

Engines made at Kobe By whom made Kawasaki Dockyard Co., Ltd. Engine No. 1175 When made 7-'55

Boilers made at Kobe By whom made Kawasaki Dockyard Co., Ltd. Boiler No. 1200 When made 7-'55

MN as per Rule Owners Nippon Kisen Co., Ltd. Kawasaki Kisen Co., Ltd. Port belonging to Kobe, Japan.

## MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Plates:- Yawata Iron and Steel Company Ltd.

Manufacturers of Steel Tubes:- Sumitomo Metal Industries, Ltd., Steel Tube Works. Amagasaki

Total Heating Surface of Boilers 324 M<sup>2</sup> Of Superheaters ---

Total for Register Book Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers One (1), Dry Combustion Cylindrical Multitubular Boiler Working Pressure 10 Kg/cm<sup>2</sup>

Tested by hydraulic pressure to 18.5 Kg/cm<sup>2</sup> Date of test 6-6-'55 No. of Certificate B625 Can each boiler be worked separately ---

Area of Firegrate in each Boiler --- No. and Description of safety valves to each boiler Two (2) x Spring loaded high lift type

Area of each set of valves per boiler {per Rule as approved as fitted 100.5 cm<sup>2</sup> Pressure to which they are adjusted 10 kg/cm<sup>2</sup> Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler ---

Smallest distance between boilers or uptakes and bunkers or woodwork --- Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 900 mm Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 4.744 mm Length 3.652 mm Shell plates: Material Boiler plate Tensile strength 48.2 - 51.0 Kg/mm<sup>2</sup>

If fusion welded, state name of welding Firm Kawasaki Dockyard Co., Ltd. Have all the requirements of the Rules for Class I vessels been complied with Yes Thickness 28mm Are the shell plates welded or flanged Welded Description of riveting: circ. seams {end --- inter ---

long. seams --- Diameter of rivet holes in {circ. seams --- long. seams --- Pitch of rivets {---

Percentage of strength of circ. end seams {plate --- rivets --- Percentage of strength of circ. intermediate seam {plate --- rivets ---

Percentage of strength of longitudinal joint {plate --- rivets --- combined ---

Thickness of butt straps {outer --- inner --- No. and Description of Furnaces in each Boiler Three (3), Morison Corrugated Type

Material Boiler plate Tensile strength 44.0 46.3 Kg/mm<sup>2</sup> Smallest outside diameter (960) mm 958 at throat

Length of plain part {top --- bottom --- Thickness of plates (16) mm 14 on floor Description of longitudinal joint Welded 1158

Dimensions of stiffening rings on furnace or c.c. bottom ---

End plates in steam space: Material Boiler plate Tensile strength 45.8-46.8 Kg/mm<sup>2</sup> Thickness 28 mm Pitch of stays 400 mm

How are stays secured Nuts and washers from both side of the plate.

Tube plates: Material {front Boiler plate back do. Tensile strength {46.4 - 46.8 kg/mm<sup>2</sup> 300 corner 45.8 - 45.9 kg/mm<sup>2</sup> Thickness {28 mm 28 mm

Mean pitch of stay tubes in nests 196 mm x (200) mm Pitch across wide water spaces 320 mm

Girders to combustion chamber tops: Material --- Tensile strength --- Depth and thickness of girder at centre --- Length as per Rule --- Distance apart --- No. and pitch of stays in each ---

Combustion chamber plates; Material ---

Tensile strength --- Thickness: Sides --- Back --- Top --- Bottom ---

Pitch of stays to ditto: Sides --- Back --- Top --- Are stays fitted with nuts or riveted over ---

Front plate at bottom: Material Boiler plate Tensile strength 44.0 - 44.1 kg/mm<sup>2</sup> Thickness 28 mm

Lower back plate: Material Boiler plate Tensile strength 45.9 kg/mm<sup>2</sup> Thickness 28 mm

Pitch of stays at wide water space Front 1,670 mm, Back 1880 mm Are stays fitted with nuts Yes

Main stays: Material O. H. Steel Tensile strength 47.2 - 49.0 kg/mm<sup>2</sup>

Diameter {At body of stay 65 mm & 59 mm or 65 mm & 65 mm No. of threads per inch 6

Screw stays: Material --- Tensile strength ---

Diameter {At turned off part --- or --- No. of threads per inch ---



Are the stays drilled at the outer ends  Margin stays: Diameter  { At turned off part.  or  Over threads

No. of threads per inch

Tubes: Material O. H. Steel External diameter { Plain 70mm, water tube 60.3mm } Thickness { 3.5mm W.T. 3.5mm } No. of threads per inch 9  
 { Stay 70 mm }  
 Pitch of tubes 98 x 100 mm Water tube 110 mm Manhole compensation: Size of opening in shell plate 480mm x 580 mm Section of compensating ring 2 x 28 x 257mm No. of rivets and diameter of rivet holes

Outer row rivet pitch at ends  Depth of flange if manhole flanged 110 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  Thickness of crown  No. and diameter of stays  Inner radius of crown

How connected to shell  Size of doubling plate under dome  Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell

Type of Superheater  Manufacturers of { Tubes  Steel forgings  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 and 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

Pressure to which the safety valves are adjusted  Hydraulic test pressure tubes  forgings and castings  and after assembly in place  Are drain cocks or valves fitted to free the superheater from water where necessary

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

The foregoing is a correct description,  
*Saburo Yamana* Manufacturer  
 Managing Director of Kawasaki Dockyard Co., Ltd.

Dates of Survey while building { During progress of work in shops -- } Feb. 11, 21, Mar. 18, 22, 25, Apr. 1, 4, 13, 16, 19, 20, 22, 25, 28 May 16, 26 June 6 Are the approved plans of boiler and superheater forwarded herewith 4-4-1955 (If not state date of approval.)  
 { During erection on board vessel --- } July 4, 15, 18, 1955 Total No. of visits 20

Is this Boiler a duplicate of a previous case No If so, state Vessel's name and Report No.

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

The Boiler of this vessel has been constructed under Special Survey in accordance with the Rules, approved plans and Secretary's letters.

The Materials and workmanship are sound in good.

The Boiler has been examined under steam and the safety valves adjusted to 10 kg/cm<sup>2</sup> and found satisfactory.

Survey Fee ... .. ¥ 97,500 } When applied for AUG. - 3. 1955 19...  
 Travelling Expenses (if any) ¥ See Rpt. 4 c. } When received..... 19...

*Saburo Yamana*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUESDAY 10 JAN 1956

Assigned See Rpt. 4 c.