

# REPORT ON BOILERS.

No. 743

Received at London Office 28 JUN 1952

Writing Report 2 June 1952 When handed in at Local Office 19 Port of Kobe, Japan

Survey held at Kobe Date, First Survey June 29, 1951 Last Survey Jan. 28, 1952

on the Single Screw Steel Vessel, M.V. "SEIHO MARU" (Number of Visits 18) Gross 13064.82 Tons Net 9368.29

Built at Kobe, Japan By whom built Kawasaki Dockyard Co., Ltd. Yard No. 912 When built Jan. 1952

made at Kobe, Japan By whom made Kawasaki Dockyard Co., Ltd. Engine No. 1134 When made Jan. 1952

made at Kobe, Japan By whom made Kawasaki Dockyard Co., Ltd. Boiler No. 1177 1178 When made Jan. 1952

Horse Power 187.159 x 2 Owners Iino Kaiun Co., Ltd. Port belonging to Tokyo

## MULTITUBULAR BOILERS MAIN, AUXILIARY OR DONKEY.

Plates:- Yawata Iron & Steel Co., Ltd., Yawata Works.  
Tubes:- Shin Fuso Metal Industries, Ltd., Steel Tube Works, Amagasaki. (Letter for Record)

Heating Surface of Boilers 2245.9065 sq. ft x 2 Is forced draught fitted Yes. Coal or Oil fired Oil

Description of Boilers 2 Set. Dry Combustion Cylindrical Multitubular Boiler Working Pressure 12.5 Kg/cm<sup>2</sup>

by hydraulic pressure to 22.25 Kg/cm<sup>2</sup> Date of test Nov. 24, 1951 Nov. 28, 1951 No. of Certificate B 305 B 307 Can each boiler be worked separately Yes.

of Firegrate in each Boiler - No. and Description of safety valves to each boiler 2 x 90 mm bore, Ordinary Type.

of each set of valves per boiler per Rule 93.4 cm<sup>2</sup> as fitted 127.0 cm<sup>2</sup> Pressure to which they are adjusted 12.8 Kg/cm<sup>2</sup> Are they fitted with easing gear Yes.

of donkey boilers, state whether steam from main boilers can enter the donkey boiler No Main Boiler Fitted

st distance between boilers or uptakes and bunkers or woodwork 500 mm Is oil fuel carried in the double bottom under boilers No

st distance between shell of boiler and tank top plating No tank under the boiler Is the bottom of the boiler insulated Yes.

st internal dia. of boilers 4,300 mm Length 2,302 mm Shell plates: Material Boiler Steel Tensile strength B305-34.1-34.9 Ton/in<sup>2</sup> B307-31.4-34.9 " (Shell Q.) Double Riveted

32 mm Are the shell plates welded or flanged - Description of riveting: circ. seams end - inter -

Triple riveted with double straps. Outer raw rivets is one half in each inner raws, inner raws are zigzag. Diameter of rivet holes in circ. seams 33.5 mm Pitch of rivets 102.3 mm 218.0 mm

age of strength of circ. end seams plate 57.6 % rivets 45.5 % Percentage of strength of circ. intermediate seam plate 84.6 % rivets 97.2 % combined 88.65%

ntage of strength of longitudinal joint Working pressure of shell by Rules 13.62 kg/cm<sup>2</sup>

ness of butt straps outer 26 mm inner 30 mm No. and Description of Furnaces in each Boiler 3 x Morison Corrugated With a deep Corrugation

Boiler Steel (Flange Q.) Tensile strength 28.3 - 29.9 Ton/in<sup>2</sup> Smallest outside diameter 832 mm

h of plain part top - bottom - Thickness of plates 17 mm Description of longitudinal joint Electric Fusion Welded

sions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules 15.95 kg/cm<sup>2</sup>

plates in steam space: Material Boiler Steel Tensile strength B305-29.7-30.0 T/in<sup>2</sup> B307-29.6-30.0 " Thickness 30 mm Pitch of stays 450 mm

are stays secured Nuts and washers from both sides of the plate. Working pressure by Rules -

plates: Material front do back do Tensile strength B305 28.6-30.0 T/in<sup>2</sup> B307 27.7-30.0 T/in<sup>2</sup> Upper 30mm, Lower 24mm Thickness 28.7-29.9 " 29.7-30.0 "

pitch of stay tubes in nests 198 mm Pitch across wide water spaces 320 mm Working pressure front - back -

rs to combustion chamber tops: Material - Tensile strength - Depth and thickness of girder

tre - Length as per Rule - Distance apart - No. and pitch of stays

h - Working pressure by Rules - Combustion chamber plates: Material -

2, e strength - Thickness: Sides - Back - Top - Bottom -

of stays to ditto: Sides - Back - Top - Are stays fitted with nuts or riveted over B305 28.6-28.8 T/in<sup>2</sup> B307 27.7-27.8 T/in<sup>2</sup>

ing pressure by Rules - Front plate at bottom: Material Boiler Steel Tensile strength (Flange Quality) 28.6-28.8 T/in<sup>2</sup> 27.7-27.8 T/in<sup>2</sup>

ness 24 mm Lower back plate: Material Boiler Steel Tensile strength B305 28.7-29.1 T/in<sup>2</sup> B307 29.7-29.9 " Thickness 24 mm

of stays at wide water space 320 mm Are stays fitted with nuts or riveted over Screwed and Nuts

ing pressure - Main stays: Material Mild Steel (Open hearth) Tensile strength 30.0 Ton/in<sup>2</sup>

eter At body of stay - No. of threads per inch Both - 6 Area supported by each stay 16.55 cm<sup>2</sup>

Over threads -

ing pressure by Rules 20.5 kg/cm<sup>2</sup> Screw stays: Material - Tensile strength -

At turned off part, - No. of threads per inch - Area supported by each stay -

Over threads -



Working pressure by Rules. Are the stays drilled at the outer ends. Margin stays: Diameter { At turned off part, or Over threads. No. of threads per inch. Area supported by each stay. Working pressure by Rules. Tubes: Material Cold drawn steel External diameter { plain 70 mm, Water tube 60mm 4.5mm, W.T. 4.5mm Stay 70 mm Thickness 9.5 mm No. of threads per inch 9 Pitch of tubes 100 x 98 mm, Water tube 110 mm Working pressure by Rules. Manhole compensation: Size of shell plate 580 x 480 mm Section of compensating ring 2x32x(300-33.5) No. of rivets and diameter of rivet holes 46 x 33.5 mm Outer row rivet pitch at ends abt. 100 mm Depth of flange if manhole flanged 85 mm Front plate at bottom 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 None 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 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 Rules Pressure to which the safety valves are adjusted Hydraulic tubes forgings and castings and after assembly in place Are 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,  
Takeso, Morimoto  
 Standing Director, Kawasaki Dockyard, No. 44171 & No. 44172  
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

Dates of Survey while building { During progress of work in shops June 29, July 12, 30, Oct. 1, 3, 5, 8, 10, 31, Nov. 7, 9, 12, 19, 24, 28, Dec. 5, 1951 During erection on board vessel Jan. 23, 1952, JAN. 28, 1952 Total No. of visits 18

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 Donkey Boilers of this vessel have been constructed under Special Survey in accordance with the Rules, Approved and Secretary's Letters. Materials were found to be sound and free from defects and the workmanship is good. The Donkey Boilers have been examined under steam, the safety valves were adjusted to 12.8 kg/cm<sup>2</sup> and found satisfactory.

Survey Fee ... £ (See 4 b)

Travelling Expenses (if any) £

When applied for, 19...

When received, 19...

TUES. 22 JUL 1952

Committee's Minute

Assigned

See F.E. Moly, spk.



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