

REPORT ON BOILERS.

Received at London Office 21 JAN 1957

Date of writing Report.....19..... When handed in at Local Office.....19..... Port of.....**KOBE**.....

No. in Reg. Book..... Survey held at.....**Osaka, Japan**..... Date, First Survey.....**25th May, 1956**..... Last Survey.....**6th August, 1956**.....

on the..... (Number of Visits.....) Tons {Gross..... Net.....}

Built at..... By whom built..... Yard No. **815** When built.....

Engines made at..... By whom made..... Engine No. **617** When made.....

Boilers made at.....**Osaka, Japan**..... By whom made.....**Hirano Iron Works Co., Ltd.**..... Boiler No. **617** When made.....**Aug., 1956**.....

MN as per Rule..... Owners.....**Mitsubishi Kaiun, K. K.**..... Port belonging to.....

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel **Plates; Tsurumi Iron Works Nippon Kokan, K.K. Tubes; Kawasaki Iron Works Nippon Kokan K.K.**

Total Heating Surface of Boilers **Gas 142.4 M² Oil 77.6 M²** Of Superheaters.....

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

No. and Description of Boilers **1. Dry Combustion Multitubular boiler** Working Pressure **10 kg/cm²**

Tested by hydraulic pressure to **18.5 kg/cm²** Date of test **6-8-56**. No. of Certificate **B-770** Can each boiler be worked separately.....

Area of Firegrate in each Boiler..... No. and Description of safety valves to each boiler.....

Area of each set of valves per boiler {per Rule..... as fitted.....} Pressure to which they are adjusted..... Are they fitted with easing gear.....

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.....

Smallest distance between boilers or uptakes and bunkers or woodwork..... Is the bottom of the boiler insulated.....

Largest internal dia. of boilers **3850 mm.** Length **2246 mm.** Shell plates: Material **Boiler Steel** Tensile strength **47.3-49.4kg/mm²**

If fusion welded, state name of welding Firm..... Have all the requirements of the Rules for Class I vessels been complied with.....

Thickness **24 mm.** Are the shell plates welded or flanged **Riveted** Description of riveting: circ. seams {end **Double Zigzag** inter.....} long. seams **Double butt strap** Diameter of rivet holes in {circ. seams **33.5 mm.** long. seams **29.5 mm.**} Pitch of rivets {**89.5 mm.** **180 mm.**}

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 **19 mm.** inner **22 mm.**} No. and Description of Furnaces in each Boiler **1. Morison's Corrugated furnace.**

Material..... Tensile strength **43.7 Kg/mm²** Smallest outside diameter **1074 mm.**

Length of plain part {top **100 mm.** bottom **100 mm.**} Thickness of plates **12 mm.** Description of longitudinal joint **welded**

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

End plates in steam space: Material **Boiler Steel** Tensile strength **44.5-45.6kg/mm²** Thickness **24 mm.** Pitch of stays **420mm. x 350mm.**

How are stays secured **Screwed and Nut.**

Tube plates: Material {front **Boiler Steel** back " " } Tensile strength {**44.4 - 46.6 kg/mm²** } Thickness {Top, **24mm.** Bottom **23mm.** }

Mean pitch of stay tubes in nests **300mm. x 196mm.** Pitch across wide water spaces **350mm. x 98mm.**

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 Steel** Tensile strength **44.4 - 46.6 kg/mm²**

Thickness **23 mm.** Lower back plate: Material **Boiler Steel** Tensile strength **44.4 - 46.6 kg/mm²** Thickness **23 mm.**

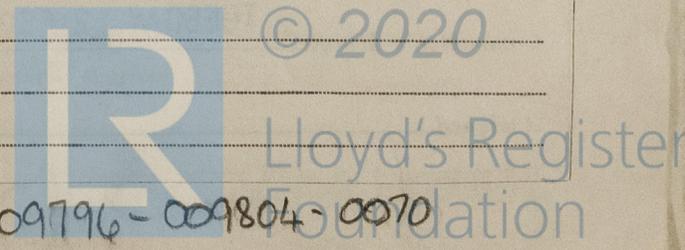
Pitch of stays at wide water space..... Are stays fitted with nuts or riveted over.....

Main stays: Material **Boiler Steel** Tensile strength **46.3 - 49.3 kg/mm²**

Diameter {At body of stay..... **65 mm.** or Over threads..... **73 mm.**} No. of threads per inch **6**

Screw stays: Material..... Tensile strength.....

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



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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 OH Steel External diameter ^{Plain... 70mm. W.T. 60.3mm.} _{Stay... 70mm.} Thickness ^{4mm. W.T. 4mm.} _{9.5 mm.} No. of threads per inch 9

Pitch of tubes Plain Tube 100mm. x 98mm. Water Tube 110mm. Manhole compensation: Size of opening in shell plate 480mm. x 580mm. Section of compensating ring 6770.4mm² x 2 No. of rivets and diameter of rivet holes 40; 35.5 mm.

Outer row rivet pitch at ends 154.3mm. 100mm. Depth of flange if manhole flanged 100 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,

..... Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1956; May, 25. June, 14, 19, 22, 25. Are the approved plans of boiler and superheater forwarded herewith 16-4-56.
 { During erection on board vessel - - - } July, 11, 13, 19, 23. Aug. 6. (If not state date of approval.)

Total No. of visits..... 10

Is this Boiler a duplicate of a previous case..... **Yes**..... If so, state Vessel's name and Report No..... Ship No. 807

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

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

The material and workmanship are sound and good.

The boiler has been examined under hydraulically and found satisfactory.

Survey Fee £ 48.00 } When applied for, SEP. 2.7. 1956.....19.....
 Travelling Expenses (if any) £ 1.00 } When received.....19.....

.....
 Engineer Surveyor to Lloyd's Register of Shipping.

TUESDAY 12 FEB 1957

Committee's Minute.....

Assigned.....



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