

# REPORT ON BOILERS.

No. 2170

10 AUG 1954

Received at London Office.....

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

No. in Reg. Book. Survey held at..... Osaka Date, First Survey..... 10th Dec., 1953 Last Survey..... 31st May, 1954.

366975 on the M.S. "INUISAN MARU" (Number of Visits..... 11.....) Tons {Gross..... 7197.46 Net..... 4118.24

Built at..... Osaka By whom built..... Fujinagata Shipbuilding Co., Ltd. Yard No..... 31 When built..... 1954 6mo.

Engines made at..... Tanano By whom made..... Mitsui S.B. & Eng., Co., Ltd. Engine No..... 517 When made..... 1954 6mo.

Boilers made at..... Kobe By whom made..... Mitsubishi H.I. Reorganized Ltd. Boiler No..... 122 When made..... 1944 4mo. WHEN FITTED 1954 6mo.

MN as per Rule..... Owners..... Inui Kisen K.K. Port belonging to..... Kobe

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel..... Boiler not made under survey. Material test Certificates not available.

Total Heating Surface of Boilers..... 245.6M<sup>2</sup> Of Superheaters..... none fitted

Total for Register Book..... 245.6M<sup>2</sup> Is forced draught fitted..... Yes Coal or Oil fired..... Oil ✓

No. and Description of Boilers..... One-Howden-Johnson cylindrical multitubular boiler ✓ Working Pressure..... 10kgs/cm<sup>2</sup> ✓

Tested by hydraulic pressure to..... 18.5kg/cm<sup>2</sup> Date of test..... 15-3-54 No. of Certificate..... - Can each boiler be worked separately..... -

Area of Firegrate in each Boiler..... - No. and Description of safety valves..... One-110mm dia. Double spring ordinary safety V.

Area of each set of valves per boiler {per Rule..... 8.980mm<sup>2</sup> as fitted..... 9.503mm<sup>2</sup> Pressure to which they are adjusted..... 10kg/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..... -

Smallest distance between shell of boiler and tank top plating..... 5.320mm Is the bottom of the boiler insulated..... Yes ✓

Largest internal dia. of boilers..... 4600mm ✓ Length..... 2654mm ✓ Shell plates: Material..... Boiler plate ✓ Tensile strength..... -

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

Thickness..... 5mm ✓ Are the shell plates welded or flanged..... No ✓ Description of riveting: circ. seams {end..... double rivet lap inter..... joint ✓

long. seams..... double butt strap 3 ✓ Diameter of rivet holes in {circ. seams..... 41.5mm ✓ long. seams..... 43.5mm ✓ Pitch of rivets {..... 105.74mm ✓ ..... 293mm ✓

Percentage of strength of circ. end seams {plate..... 60.7 rivets..... 45.6 Percentage of strength of circ. intermediate seam {plate..... - rivets..... -

Percentage of strength of longitudinal joint {plate..... 85.0 rivets..... 84.5 combined..... 86.5

Thickness of butt straps {outer..... 36mm ✓ inner..... 38mm ✓ No. and Description of Furnaces in each Boiler..... 3 x Morison type corrugated ✓

Material..... Boiler plate ✓ Tensile strength..... - Smallest outside diameter..... 1,136mm ✓

Length of plain part {top..... 200mm bottom..... 200mm Thickness of plates..... 18mm ✓ Description of longitudinal joint..... fusion welded ✓

Dimensions of stiffening rings on furnace or c.c. bottom..... none fitted

End plates in steam space: Material..... Boiler plate ✓ Tensile strength..... - Thickness..... 32mm ✓ Pitch of stays..... 400mm x 420mm ✓

How are stays secured..... Nuts and washers both sides of plate ✓

Tube plates: Material {front..... Boiler plate ✓ back..... Boiler plate ✓ Tensile strength..... - Thickness {..... 32mm x 27mm ✓ ..... 32mm x 27mm ✓

Mean pitch of stay tubes in nests..... 229mm Pitch across wide water spaces..... 320mm ✓

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..... -

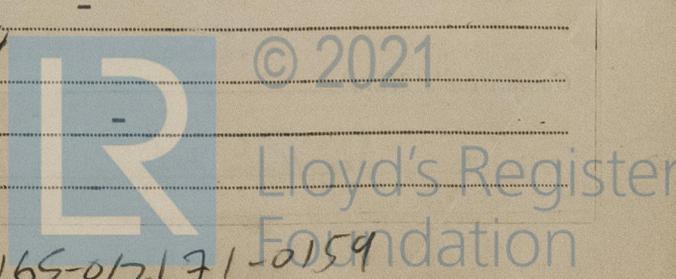
Pitch of stays to ditto: Sides..... - Back..... - Top..... - Are stays fitted with nuts or riveted over..... -

Front plate at bottom: Material..... Boiler plate ✓ Tensile strength..... - Thickness..... 27mm ✓ Lower back plate: Material..... Boiler plate ✓ Tensile strength..... - Thickness..... 27mm ✓

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

Main stays: Material..... Steel bar ✓ Tensile strength..... - Diameter {At body of stay..... 80mm ✓ or Over threads..... 90mm ✓ 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 Boiler tube ✓ External diameter { Plain..... 70mm ✓  
Stay..... 70mm ✓ Thickness { 4mm ✓  
9mm ✓ No. of threads per inch..... 9 ✓

Pitch of tubes..... 100mm x 98mm ✓ Manhole compensation: Size of opening in  
shell plate 480mm x 600mm ✓ Section of compensating ring as appd ✓ No. of rivets and diameter of rivet holes..... 36 x 43.59mm ✓

Outer row rivet pitch at ends..... 250mm ✓ Depth of flange if manhole flanged..... 90mm 105 ✓ 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 None fitted 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.....

The foregoing is a correct description,  
M. M. Brigg Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1953, Dec. 10 1954, Jan. 12, 19  
Feb. 8, 15, Mar. 11, 15, 16 Are the approved plans of boiler and superheater forwarded herewith 28-10-53  
(If not state date of approval.) App. date

{ During erection on board vessel - - - } 1954 May 21, 29, 31 Total No. of visits..... 11

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.).....

Boiler not built under the supervisions of the Society's Surveyor. Boiler opened up, examined,  
found or placed in good condition, tested by hydraulic pressure and found tight and sound, scantlings  
checked and found to be in accordance with the approved plan and boiler installed on board vessel in  
accordance with the Rules, examined under steam and found satisfactory. Safety valves adjusted as stat  
above.

Survey Fee ... .. £ 20,000 } When applied for JUL. 26. 1954 19.....  
Travelling Expenses (if any) £ See Rpt. 1 } When received..... 19.....

Stewart G. Kojima  
Engineer Surveyor to Lloyd's Register of Shipping.

TUESDAY 14 SEP 1954

Committee's Minute.....

Assigned See Rpt. 46

