

REPORT ON BOILERS.

No. 4500

24 APR 1930

Received at London Office

Date of writing 14 April 1930 When handed in at Local Office 4-4-1930 Port of YOKOHAMA

No. in Survey held at YOKOHAMA Date, First Survey 13/4/28 Last Survey 14 March 1930

Reg. Book. (Number of Visits) Gross 14499.61 Tons Net 10,286

on the Steel T. Sc. M.V. "CHICHIBU MARU"

Master Built at Yokohama By whom built Yokohama Dock Co. Ltd Yard No. 170 When built 1930

Engines made at Copenhagen By whom made Burmeister & Wain Ltd Engine No. 170 When made 1930

Boilers made at Yokohama By whom made Yokohama Dock Co. Ltd Boiler No. 170 When made 1930

Nominal Horse Power 3380 Owners Nippon Yusen Kaisha Port belonging to Yokio

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR DONKEY.~~

Manufacturers of Steel Gutehoffnungshutte Oberhausen Aktiengesellschaft. (Letter for Record S)

Total Heating Surface of Boilers 2 at 1015 sq ft = 2030 sq ft Is forced draught fitted no Coal or Oil fired Oil fired

No. and Description of Boilers 2 Cylindrical Single Ended Working Pressure 120 lbs.

Tested by hydraulic pressure to 230 lbs Date of test 5-10-28 No. of Certificate 19-20 Can each boiler be worked separately yes

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 2 Spring loaded.

Area of each set of valves per boiler {per Rule 11.280" as fitted 14.120" Pressure to which they are adjusted 120 lbs Are they fitted with easing gear yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no main boilers.

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 3'-3" Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 11'-3" Length 8'-6" Shell plates: Material Mild steel Tensile strength 28-32

Thickness 3/4" Are the shell plates welded or flanged flanged Description of riveting: circ. seams {end D.R. Lap. inter. ✓

long. seams D.R. D.B.S. Diameter of rivet holes in {circ. seams 1 1/16" Pitch of rivets { 3 1/2" long. seams 29/32"

Percentage of strength of circ. end seams {plate 69.6% rivets 55.5% Percentage of strength of circ. intermediate seam {plate 80.92% rivets 83.66% combined 89.73%

Percentage of strength of longitudinal joint {plate 80.92% rivets 83.66% combined 89.73% Working pressure of shell by Rules 134 lbs/sq ft

Thickness of butt straps {outer 5/8" inner 3/4" No. and Description of Furnaces in each Boiler 2 Deighton Corrugated Furnaces.

Material steel Tensile strength 26-30 tons Smallest outside diameter 3'-2 7/8"

Length of plain part {top ✓ bottom ✓ Thickness of plates {crown 7/16" bottom ✓ Description of longitudinal joint weld.

Dimensions of stiffening rings on furnace or c.e. bottom ✓ Working pressure of furnace by Rules 160 lbs.

End plates in steam space: Material Steel Tensile strength 26-30 Thickness 13/16" Pitch of stays 16" x 14"

How are stays secured Nuts on both sides also washers. Working pressure by Rules 132 lbs.

Tube plates: Material {front steel back steel Tensile strength { 26/30 tons/sq ft Thickness { 3/4" front 5/8" back 5/8"

Mean pitch of stay tubes in nests 9.6875 Pitch across wide water spaces 13.75" Working pressure {front 164 lbs. back 146 lbs.

Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder

at centre 20 6" x 1/2" Length as per Rule 23 1/4" Distance apart 8 1/2" No. and pitch of stays

in each 20 8" Working pressure by Rules 165 lbs. Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 5/8"

Pitch of stays to ditto: Sides 8" x 10" Back 9 1/2" x 8 1/2" Top 8" x 8 1/2" Are stays fitted with nuts or riveted over Nuts.

Working pressure by Rules 165 lbs. Front plate at bottom: Material Steel Tensile strength 26-30 tons/sq ft Thickness 3/4"

Thickness 3/4" Lower back plate: Material Steel Tensile strength 26-30 tons/sq ft Thickness 3/4"

Pitch of stays at wide water space 13 3/4" Are stays fitted with nuts or riveted over Nuts.

Working Pressure 174 lbs. Main stays: Material Steel Tensile strength 28-32 tons.

Diameter {At body of stay, 2" No. of threads per inch 6 Area supported by each stay 224 sq in.

Over threads 2 1/4" Screw stays: Material Steel Tensile strength 26-30 tons/sq ft

Working pressure by Rules 149 lbs. No. of threads per inch 9 Area supported by each stay 80.75 sq in.

Diameter {At turned off part, 1 1/2" Over threads 1 1/2"

Working pressure by Rules 155.5 lb Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part} 1 5/8"
 No. of threads per inch 9 Area supported by each stay 1190" Working pressure by Rules 152 lb
 Tubes: Material steel External diameter ^{Plain} 3" Thickness ^{Stay} 3" 9 Lsg. No. of threads per inch 9
 Pitch of tubes 4 1/4" x 4 1/8" Working pressure by Rules 190 lbs. Manhole compensation: Size of opening in
 shell plate 16" x 12" Section of compensating ring 7/8" x 6 1/2" No. of rivets and diameter of rivet holes 52 x 1 1/16"
 Outer row rivet pitch at ends 4" x 3 1/4" Depth of flange if manhole flanged 3" 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}
 Internal diameter Working pressure by Rules Thickness of crown No. and diameter of
 stays Inner radius of crown Working pressure by Rules
 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 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 Working pressure as per
 Rules Pressure to which the safety valves are adjusted Hydraulic test pressure:
 tubes, 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,
J. J. J. J. J. Manufacturer.

Dates of Survey ^{During progress of} 23/4 4/6 23/8 24/8 5/9 22/9 25/9 27/9 Are the approved plans of boiler and superheater forwarded herewith yes 23/11/29
^{work in shops - -} 2/10 5/10 9/10 7/12 29/1 1930 (If not state date of approval.)
^{while building} ^{During erection on} board vessel - - Total No. of visits 13

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

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

These boilers have been built under special survey in accordance with the Rules & approved plan. Materials and workmanship good. These boilers have now been securely fitted & chocked onboard. Both boilers have been examined under steam and their safety valves adjusted under steam to 120 lbs/sq". Accumulation test carried out on safety valves with satisfactory results.

Survey Fee ... YEN 302.00 When applied for, 4. 27. 1930
 Travelling Expenses (if any) £ ✓ When received, 24/4/30
For J.B. Smith & self. J. Micholas.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 6 MAY 1930
 Assigned See 3Ka. Rpt. 4500