

# REPORT ON BOILERS.

No. 4231.

20 NOV 1928

Received at London Office

Date of writing Report 15<sup>th</sup> October 1928 When handed in at Local Office

192

Port of YOKOHAMA

No. in Survey held at Uraga

Date, First Survey 14<sup>th</sup> May

Last Survey 11<sup>th</sup> October 1928

on the Steel S.S. "CANTON MARU"

(Number of Visits 17)

Gross 2811.32  
Net 1613.75  
Tons

Master \_\_\_\_\_ Built at Uraga By whom built Uraga Dock Co. Ltd. Yard No. 329 When built 1928  
 Engines made at Uraga By whom made Uraga Dock Co. Ltd. Engine No. 329 When made 1928  
 Boilers made at Uraga By whom made Uraga Dock Co. Ltd. Boiler No. 329 When made 1928  
 Indicated Horse Power 435 Owners Osaka Shosen Kaisha Port belonging to Osaka

## TITUBULAR BOILERS—MAIN, ~~AUXILIARY, OR DONKEY.~~

Manufacturers of Steel Messrs Gutehoffnungshütte Oberhausen Aktiengesellschaft Oberhausen (Letter for Record (S))  
 Heating Surface of Boilers 6843 sq ft Is forced draught fitted Yes Coal or Oil fired Coal  
 Description of Boilers 3 Single Ended Working Pressure 200 lb.  
 Working hydraulic pressure to 400 lb. Date of test 21-8-28 & 23-8-28 No. of Certificate 14, 15 & 16 Can each boiler be worked separately Yes  
 Firegrate in each Boiler 58 sq ft No. and Description of safety valves to each boiler 2 Spring loaded  
 each set of valves per boiler per Rule 13.26 sq in Pressure to which they are adjusted 205 lb. Are they fitted with easing gear Yes  
as fitted 16.5 sq in.  
 If donkey boilers, state whether steam from main boilers can enter the donkey boiler Yes  
 distance between boilers or uptakes and bunkers or woodwork 18" Is oil fuel carried in the double bottom under boilers No  
 distance between shell of boiler and tank top plating 18 1/4" Is the bottom of the boiler insulated Yes  
 internal dia. of boilers 14' 3" Length 12' 0" Shell plates: Material Mild steel Tensile strength 28-35 tons  
1.3125" Are the shell plates welded or flanged Yes Description of riveting: circ. seams end Double riveted lap  
inter.  
 Type of butt strap Double butt strap Diameter of rivet holes in circ. seams 1.375" Pitch of rivets 4"  
long. seams 1.375"  
 Percentage of strength of circ. end seams plate 65.4% Percentage of strength of circ. intermediate seam plate  
rivets 46.6% rivets  
 Percentage of strength of longitudinal joint plate 85.53% Working pressure of shell by Rules 203 lb.  
rivets 91.76%  
combined 89.4%  
 Type of butt straps outer 1" No. and Description of Furnaces in each Boiler 3 Morrison's Suspension 3 cf.  
inner 1.125" Tensile strength 26-30 tons Smallest outside diameter 3' 7 1/4"  
 Material mild steel Thickness of plates crowns .625" Description of longitudinal joint Yes  
bottom  
 Presence of stiffening rings on furnace or c.c. bottom Yes Working pressure of furnace by Rules 211 lb.  
 Material Mild steel Tensile strength 26-30 tons Thickness 1.3125" Pitch of stays 20"  
 stays secured Through plates, nuts on each side Working pressure by Rules 206 lb.  
 Material front mild steel Tensile strength 26-30 tons Thickness .875"  
back mild steel 26-30 tons .45"  
 Pitch of stay tubes in nests 9.695" Pitch across wide water spaces 13.5" Working pressure front 240 lb.  
back 214 lb.  
 combustion chamber tops: Material Mild steel Tensile strength 28-35 tons Depth and thickness of girder  
10.5" x .875" Length as per Rule 33.56" Distance apart 11.375" No. and pitch of stays  
8" x 8" Working pressure by Rules 234 lb. Combustion chamber plates: Material Mild steel  
 Tensile strength 26-30 tons Thickness: Sides .75" Back .6875" Top .75" Bottom .875"  
 Stays to ditto: Sides 9" x 11" Back 8.33" x 9.25" Top 8" x 11.375" Are stays fitted with nuts or riveted over nuts  
 Working pressure by Rules 205 lb. Front plate at bottom: Material mild steel Tensile strength 26-30 tons  
 Thickness .875" Lower back plate: Material mild steel Tensile strength 26-30 tons Thickness .875"  
 Stays at wide water space 14" x 9 1/4" Are stays fitted with nuts or riveted over nuts  
 Working pressure 222 lb. Main stays: Material mild steel Tensile strength 28-35 tons  
 Diameter of body of stay 3.125" No. of threads per inch 6 Area supported by each stay 380 sq in.  
 or threads  
 Working pressure by Rules 224 lb. Screw stays: Material mild steel Tensile strength 26-30 tons  
 Diameter of turned off part 1.48" No. of threads per inch 9 Area supported by each stay 77.05 sq in.  
 or threads

Working pressure by Rules 235 lb. Are the stays drilled at the outer ends No. Margin stays: Diameter 1.6"  
 No. of threads per inch 9 Area supported by each stay 94.5 sq ins Working pressure by Rules 226 lb.  
 Tubes; Material Wrought Iron External diameter 3" Thickness 5/16" & 3/8" No. of threads per inch 9  
 Pitch of tubes 4.25" x 4.125" Working pressure by Rules 250 lb. Manhole compensation: Size of opening in  
 shell plate 21.5" x 17 1/2" Section of compensating ring 25.15 sq ins No. of rivets and diameter of rivet holes 36 x 1.4375"  
 Outer row rivet pitch at ends 9 1/2" Depth of flange if manhole flanged 3.125" Steam Dome: Material Nil.  
 Tensile strength  Thickness of shell  Description of longitudinal joint   
 Diameter of rivet holes  Pitch of rivets  Percentage of strength of joint   
 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 Nil. Manufacturers of 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 23 inclusive for boilers been complied with Yes.  
 The foregoing is a correct description,  
[Signature] Manufacturer.

Dates of Survey May 14<sup>th</sup> June 25<sup>th</sup> July 11<sup>th</sup> 25<sup>th</sup> Aug 8<sup>th</sup> 10<sup>th</sup> Are the approved plans of boiler and superheater forwarded herewith No.  
 while building Sept 1<sup>st</sup> 14<sup>th</sup> Oct 2<sup>nd</sup> 6<sup>th</sup> 11<sup>th</sup> (If not state date of approval.) 22-10-27 Kobe.  
 Total No. of visits 17

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The boilers of this vessel have been constructed and installed in accordance with the Society's Rules and the approved plans for a working pressure of 200 lb. The materials and workmanship have been found good. The boilers are eligible in my opinion to be classed in the Register Book with record of + L M C 10.28.

Survey Fee ... .. £ See Machinery Report When applied for, 192  
 Travelling Expenses (if any) £ See Machinery Report When received, 192

J. Brooke Smith  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 27 NOV 1928

Assigned See minute on YKa Rpt. 4231 attached

