

## REPORT ON BOILERS.

No. 6190.

Received at London Office 1 NOV 1937

Date of writing Report 9-9-1937 When handed in at Local Office

9/9/1937 Port of Yokohama

No. in Survey held at Uraga

Date, First Survey 24-12-36 Last Survey 29-7-1937

Reg. Book.

on the ~~Steam~~ Steel Single Screw HOPPER BARGE "KAMTCHATSKAYA"

(Number of Visits 11) Gross 764 Tons Net

Master Built at Uraga By whom built Uraga Dock Co. Ltd. Yard No. 406 When built 1937

Engines made at Osaka By whom made Yutani Engineering Works Ltd. Engine No. 108 When made 1937

Boilers made at Uraga By whom made Uraga Dock Co. Ltd. Boiler No. 406 When made 1937

Nominal Horse Power 108 Owners U. S. S. R. Port belonging to Vladivostok.

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

Manufacturers of Steel Nippon Seitetsu K.K., Yawata Steel Works.

(Letter for Record S)

Total Heating Surface of Boilers 1660 sq. ft. Is forced draught fitted yes

Coal or Oil fired coal

No. and Description of Boilers One - Single ended cylindrical boiler.

Working Pressure 200 lb./sq. in.

Tested by hydraulic pressure to 350 lb./sq. in. Date of test 29-5-37 No. of Certificate 60. Can each boiler be worked separately ✓

Area of Firegrate in each Boiler 45 sq. ft. No. and Description of safety valves to each boiler Two Spring loaded. 2 3/4" dia. each.

Area of each set of valves per boiler { per Rule 9.65 sq. in. as fitted 11.88 sq. in. Pressure to which they are adjusted 200 lb./sq. in. 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 6'-9" Is oil fuel carried in the double bottom under boilers ✓

Smallest distance between shell of boiler and tank top plating 1'-4" Is the bottom of the boiler insulated yes.

Largest internal dia. of boiler 13'-0" Length 11'-6" Shell plates: Material Mild Steel Tensile strength 28-35 T/eq. in.

Thickness 32 mm. Are the shell plates welded or flanged no. Description of riveting: circ. seams { end D.R. LAP. inter. ✓

long. seams T.R.D.B.S. Diameter of rivet holes in { circ. seams } 1 3/8" Pitch of rivets { 3.71" 8 3/4" }

Percentage of strength of circ. end seams { plate 59.2 % rivets 52.3 % Percentage of strength of circ. intermediate seam { plate % rivets % }

Percentage of strength of longitudinal joint { plate 84.2 % rivets 104.5 % combined 89.5 % Working pressure of shell by Rules 210 lb./sq. in.

Thickness of butt straps { outer 26 mm. inner 29 mm. No. and Description of Furnaces in each Boiler 3 - Morrison type corrugated furnace.

Material Mild Steel Tensile strength 26-30 T/eq. in. Smallest outside diameter 3'-1 1/8"

Length of plain part { top 8" bottom 8" Thickness of plates { crown 16 mm. bottom 16 mm. Description of longitudinal joint ✓

Dimensions of stiffening rings on furnace or, s.c. bottom ✓ Working pressure of furnace by Rules 216 lb./sq. in.

End plates in steam space: Material Mild Steel Tensile strength 26-30 T/eq. in. Thickness 32 mm. Pitch of stays 1'-7" x 1'-5"

How are stays secured Nuts &amp; washers. Working pressure by Rules 224 lb./sq. in.

Tube plates: Material { front Mild Steel back " " Tensile strength { 26-30 T/eq. in. Thickness { 23 mm. 21 mm. }

Mean pitch of stay tubes in nests 8 7/8" Pitch across wide water spaces 14 1/2" x 8 1/2" Working pressure { front 378 lb./sq. in. back 315 " }

Girders to combustion chamber tops: Material Mild Steel Tensile strength 28-35 T/eq. in. Depth and thickness of girder

at centre 10 3/4" x 23 x 23 Length as per Rule 3'-1 1/2" Distance apart 10" wings No. and pitch of stays

in each 3 - 8" Working pressure by Rules 224.9 lb./sq. in. Combustion chamber plates: Material Mild Steel

Tensile strength 26-30 T/eq. in. Thickness: Sides 20 mm. Back 18 mm. Top 20 mm. Bottom 23 mm.

Pitch of stays to ditto: Sides 10" x 8" + 9 1/2" x 8 3/4" Back 8 1/4" x 8 1/2" Top 10" x 8" Are stays fitted with nuts or riveted over Nuts.

Working pressure by Rules 265 lb./sq. in. Front plate at bottom: Material Mild Steel Tensile strength 26-30 T/eq. in.

Thickness 23 mm. Lower back plate: Material Mild Steel Tensile strength 26-30 T/eq. in. Thickness 23 mm.

Pitch of stays at wide water space 14 1/2" x 8 1/2" Are stays fitted with nuts or riveted over Nuts.

Working Pressure 235 lb./sq. in. Main stays: Material Mild Steel Tensile strength 28-35 T/eq. in.

Diameter { At body of stay, 75 mm. or 3 1/4" No. of threads per inch 6 Area supported by each stay 320 sq. in. max.

Working pressure by Rules 222 lb./sq. in. Screw stays: Material Mild Steel Tensile strength 26-30 T/eq. in.

Diameter { At turned off part, 1 7/8", 2 1/8", 2 1/4" No. of threads per inch 9 Area supported by each stay 80, 96, 128 sq. in.



Working pressure by Rules  $210 \frac{lb}{sq. in.}$  Are the stays drilled at the outer ends no. Margin stays: Diameter { At turned off part,  $2\frac{1}{8}"$  2  $2\frac{1}{4}"$  Over threads }  
No. of threads per inch 9 Area supported by each stay  $96 \frac{sq. in.}{128}$  Working pressure by Rules  $255; 220 \frac{lb}{sq. in.}$   
Tubes: Material Mild Steel External diameter { Plain  $3"$  Thickness { L.S. & No. 8  $\frac{5}{16}"$   $\frac{3}{8}"$   $\frac{7}{16}"$  No. of threads per inch 9 Stay  $3"$  Working pressure by Rules  $348$  Manhole compensation: Size of opening in  
Pitch of tubes  $4\frac{1}{8}" \times 4\frac{1}{4}"$  Section of compensating ring  $189 \frac{sq. cm.}{6}$  No. of rivets and diameter of rivet holes  $38 - \frac{1}{16}"$   
shell plate Oval  $1'-9\frac{1}{2}" \times 1'-5\frac{1}{2}"$  Outer row rivet pitch at ends  $10"$  Depth of flange if manhole flanged  $3\frac{7}{8}"$  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 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  
Number of elements Material of tubes Steel forgings  
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 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,  
Y. Murata Manufacturer:

Dates of Survey { During progress of 1936-Dec-24, 29, Feb-2, Mar-31 Are the approved plans of boiler and superheater forwarded herewith 19-8-36 (If not state date of approval.)  
while building { May-14, 18, 29.  
board vessel { June-17, 29, July-7, 29 Total No. of visits 11

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.)

This Boiler has been built under Special Survey in accordance with the Rules and Approved plans. Materials and Workmanship good.

This Boiler has been securely fitted onboard and the boiler examined under steam with satisfactory results. Safety valves adjusted to 200 lbs per sq. in, and steam accumulation tests carried out and found in order.

This Boiler and the machinery of this vessel are eligible in my opinion to be classed  $\frac{1}{2}$ -LMC 8.37 in the Register Book.

Survey Fee ... charged on Eng. Rpt. When applied for, 19  
Travelling Expenses (if any) £ : : When received, 19

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

Committee's Minute

Assigned

See Ma. JE 619a



© 2020

Lloyd's Register Foundation