

# REPORT ON BOILERS.

No. 2519

Received at London Office

TUE. 5-AUG. 1919

Date of writing Report

191

When handed in at Local Office

191

Port of Kobe

No. in Survey held at

Kobe

Date, First Survey 23<sup>rd</sup> Dec. 1918 Last Survey 17<sup>th</sup> April 1919

Reg. Book.

on the Steel Single Screw Steamer "Liverpool Maru"

(Number of Visits 15)

Gross Tons }  
Net Tons }

Builder

Built at Kobe

By whom built The Kawasaki Dockyard Co. Ltd. When built 1919

Engines made at

Kobe

By whom made The Kawasaki Dockyard Co. Ltd. When made 1919

Boilers made at

Do.

By whom made Do. When made 1919

Registered Horse Power

Owners The Kawasaki Kisen Kaisha Port belonging to Kobe

## MULTITUBULAR BOILERS—MAIN, AUXILIARY OR DONKEY.—Manufacturers of Steel Carnegie, Man Wood, Special Tube

Letter for record S Total Heating Surface of Boilers 11320 Is forced draft fitted yes No. and Description of

Boilers One S. & Aux. Boiler Working Pressure 200 lbs. Tested by hydraulic pressure to 200 lbs. Date of test 24<sup>th</sup> Feb. 1919

No. of Certificate 400 W. 24/2/19 A.W. R. Can each boiler be worked separately yes Area of fire grate in each boiler 330 No. and Description of

Safety valves to each boiler Two Direct Spring Area of each valve 5.930 Pressure to which they are adjusted 205 lbs.

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 18" Mean dia. of boilers 10' 10" Length 10' 6"

Material of shell plates Steel Thickness 1" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No.

Description of riveting: cir. seams Double riv. long. seams Double rivet. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 2 1/2" + 3 1/2"

Gap of plates or width of butt straps 1 1/2" x 1" Per centages of strength of longitudinal joint rivets 95.2 Working pressure of shell by plate 84.6

Rules 200 lbs. Size of manhole in shell 12" x 16" Size of compensating ring (1 1/4" flange) 1" No. and Description of Furnaces in each

Boiler Two "Maison" Material Steel Outside diameter 10 1/2" Length of plain part top 9 1/16" Thickness of plates bottom 9 1/16"

Description of longitudinal joint Weld No. of strengthening rings ✓ Working pressure of furnace by the rules 236 lbs. Combustion chamber

Plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 3/4" Pitch of stays to ditto: Sides 4 x 8 1/2" Back 4 1/2 x 8 1/2"

Top 4 x 8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 204 lbs. Material of stays Steel Area at

Smallest part 1.780 Area supported by each stay 660 Working pressure by rules 242 lbs. End plates in steam space: Material Steel Thickness 7/8"

Pitch of stays 15 1/2 x 14 1/2 How are stays secured Double nuts Working pressure by rules 202 lbs. Material of stays Steel Area at smallest part 5.27

Area supported by each stay 15 1/2 x 14 1/2 Working pressure by rules 238 lbs. Material of Front plates at bottom Steel Thickness 3/4" Material of

Lower back plate Steel Thickness 3/4" Greatest pitch of stays 13 1/2" at wide Working pressure of plate by rules 200 lbs. Diameter of tubes 3 1/2"

Pitch of tubes 4 3/4" mean Material of tube plates Steel Thickness: Front 7/8" Back 3/4" Mean pitch of stays 8 1/2" Pitch across wide

Water spaces 13 3/4" double 5/8" Working pressures by rules 200 lbs. Girders to Chamber tops: Material Steel Depth and thickness of

Girder at centre 8 x 13/16 (two) Length as per rule 27" Distance apart 8" Number and pitch of Stays in each 3 @ 4"

Working pressure by rules 256 lbs. Steam dome: description of joint to shell \_\_\_\_\_ % of strength of joint

Diameter \_\_\_\_\_ Thickness of shell plates \_\_\_\_\_ Material \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ Diam. of rivet holes \_\_\_\_\_

Pitch of rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Crown plates \_\_\_\_\_ Thickness \_\_\_\_\_ How stayed \_\_\_\_\_

SUPERHEATER. Type \_\_\_\_\_ Date of Approval of Plan \_\_\_\_\_ Tested by Hydraulic Pressure to \_\_\_\_\_

Date of Test \_\_\_\_\_ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler \_\_\_\_\_

Diameter of Safety Valve \_\_\_\_\_ Pressure to which each is adjusted \_\_\_\_\_ Is Easing Gear fitted \_\_\_\_\_

## VERTICAL DONKEY BOILER— No. \_\_\_\_\_ Description \_\_\_\_\_ Manufacturers of steel \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_ Working pressure \_\_\_\_\_

Tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_

No. of safety valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ If fitted with easing gear \_\_\_\_\_ If steam from main boilers can

enter the donkey boiler \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile

strength \_\_\_\_\_ Descrip. of riveting long. seams \_\_\_\_\_ Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_

Gap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_

Radius of do. \_\_\_\_\_ No. of Stays to do. \_\_\_\_\_ Dia. of stays \_\_\_\_\_ Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_

Thickness of furnace plates \_\_\_\_\_ Description of joint \_\_\_\_\_ Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown

plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ Stayed by \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_

Thickness of water tubes \_\_\_\_\_

The foregoing is a correct description,  
**Kawasaki Dockyard Co., Ltd.** Manufacturer.

Per. J. Otakawa Secretary.

Dates of Survey while building: During progress of work in shops - 23<sup>rd</sup> Dec. 1918, 9, 15, 20, 25, 29, 30 Jan.  
During erection on board vessel - 1, 7, 15, 17, 24 Feb., 8, 12, 17 April 1919  
Total No. of visits 15

Is the approved plan of main boiler forwarded herewith \_\_\_\_\_

" " " donkey " " \_\_\_\_\_

RE

Port of

No. in Reg. Book on Bu

Owners *Sh*

Yard No. *44*

DESCRIPTION

*Two se automatic 8" dia*

Capacity of Dyn

Where is Dyna

Position of Mai

Positions of au

*deck, 1*

*each bo*

If cut outs are

circuits

If vessel is wir

Are the cut outs

Are all cut outs

are perman

Are all switches

Total number o

A

B

C

D

E

*2 Mast*

*2*

*7*

If are lights, w

Where are the

DESCRIPTION

Main cable carr

Branch "

Branch cables co

" "

Branch cables co

" "

Leads to lamps

Cargo light cable

DESCRIPTION

Conduc

tape

by steel

Joints in cables,

protected

Are all the join

made in bu

Are there any j

How are the ca

additional

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

This auxiliary Main Boiler has been made + fitted under special Survey in accordance with the requirements of the Rules and the materials and workmanship are good.

This vessel is eligible in our opinion for the record aux. S. & B. 200 lbs.

Certificate (if required) to be sent to

The amount of Entry Fee ..	<i>Included</i>	When applied for,
Special .. .. .	<i>4 1/2 S.S. Fee</i>	19.....
Donkey Boiler Fee .. .. .	£	When received,
Travelling Expenses (if any) £	:	19.....

Committee's Minute

FRI. 8 - AUG. 1919

Assigned

*See Minute on attached report*

*N. L. Jones & Allatt.*

Engineer Surveyor to Lloyd's Register of Shipping.



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