

REPORT ON BOILERS.

No. 7207

Received at London Office

9 APR 1931

Date of writing Report 2-2-31 1931 When handed in at Local Office 2-2-31 1931 Port of Kobe

No. in Reg. Book. Survey held at Kobe Date, First Survey 18-8-30 Last Survey 12-1-31 1931

on the Steel Steam Gunter Ship "RYOYO MARU" (Number of Visits 8) Tons { Gross 5973.8 Net 3649.87

Master _____ Built at Kobe By whom built Kawasaki Dockyard Yard No. 562 When built 1930

Engines made at Augsburg, Germany By whom made M.A.N Engine No. _____ When made 1930

Boilers made at Kobe By whom made Kawasaki Dockyard Boiler No. 562 When made 1930

Nominal Horse Power _____ Owners Toyo Kisen Kaisha Port belonging to Osaka

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

Manufacturers of Steel Kawasaki Dockyard Fukui Plate & Sheet Mills (Letter for Record S)

Total Heating Surface of Boilers 231.73 sq. feet Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers One Single Ended Multitubular Working Pressure 100 lbs.

Tested by hydraulic pressure to 200 lbs. Date of test 8-10-30 No. of Certificate _____ Can each boiler be worked separately

Area of Firegrate in each Boiler 24.13 No. and Description of safety valves to each boiler 2 x 1 1/2 dia. Steel Spring

Area of each set of valves per boiler { per Rule _____ as fitted 3.14 Pressure to which they are adjusted 100 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 Is oil fuel carried in the double bottom under boilers None on tank deck

Smallest distance between shell of boiler and tank top plating 6" Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 5'-6" Length 6'-6" Shell plates: Material Steel Tensile strength 28-32

Thickness 7/16" Are the shell plates welded or flanged no Description of riveting: circ. seams { end single inter. yes

long. seams Double Lap Diameter of rivet holes in { circ. seams 13/16" Pitch of rivets { 1 3/4" inter. 2 1/2"

Percentage of strength of circ. end seams { plate 53.6 rivets 65-65 Percentage of strength of circ. intermediate seam { plate 67.6 rivets 78

Percentage of strength of longitudinal joint { plate 67.6 rivets 78 combined 73.9 Working pressure of shell by Rules 118.6 lbs.

Thickness of butt straps { outer inner No. and Description of Furnaces in each Boiler One Plain

Material Steel Tensile strength 26-30 Smallest outside diameter 2'-0 7/8"

Length of plain part { top 53.5 bottom 60.75 Thickness of plates { crown 7/16" Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 116.2 lbs.

End plates in steam space: Material Steel Tensile strength 26-30 Thickness 9/16" Pitch of stays 13"

How are stays secured double nuts & washers Working pressure by Rules 122

Tube plates: Material { front Steel back " Tensile strength { } 26-30 Thickness { 9/16" 9/16"

Mean pitch of stay tubes in nests 8 1/2" Pitch across wide water spaces Working pressure { front 118.4 back 118.4

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

at centre 4 1/4 x 7/8" Length as per Rule 17" Distance apart 7/4" No. and pitch of stays

in each 2 @ 6 1/4" Working pressure by Rules 141.5 Combustion chamber plates: Material Steel

Tensile strength 26-30 Thickness: Sides 7/16" Back 7/16" Top 7/16" Bottom 7/16"

Pitch of stays to ditto: Sides 6 1/4 x 6 1/4" Back 6 1/2 x 6 1/2" Top 6 1/4 x 7 1/4" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 138 Front plate at bottom: Material Steel Tensile strength 26-30

Thickness 9/16" Lower back plate: Material Steel Tensile strength 26-30 Thickness 9/16"

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

Working Pressure 398 lbs. Main stays: Material Steel Tensile strength 28-32

Diameter { At body of stay, 2" or Over threads _____ No. of threads per inch 6 Area supported by each stay 175.6 sq.

Working pressure by Rules 149 lbs. Screw stays: Material Steel Tensile strength 26-30

Diameter { At turned off part, 1 1/8" or Over threads _____ No. of threads per inch 9 Area supported by each stay 45.30

Working pressure by Rules 134 lb. Are the stays drilled at the outer ends no Margin stays: Diameter ^{At turned off part,} 1 1/4"
 No. of threads per inch 9 Area supported by each stay 48.7 Working pressure by Rules 165.6 lb.
 Tubes: Material Steel External diameter ^{Plain} 3 1/4" Thickness ^{Stay} 1/4" No. of threads per inch 9
 Pitch of tubes 8 1/2" x 8 1/2" Working pressure by Rules 152 lb. Manhole compensation: Size of opening in
 shell plate 14 1/2" x 18 1/2" Section of compensating ring 12.450" No. of rivets and diameter of rivet holes 52 @ 1 3/16"
 Outer row rivet pitch at ends 2 3/4" Depth of flange if manhole flanged 1 3/4" 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 _____ Rivets _____
 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 castings} _____
 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,
J. Minnie for Kawasaki D.Y. Co. Manufacturer.

Dates of Survey ^{During progress of work in shops - -} 1930 Aug. 18-25-27. Sept 10. Oct 8 Are the approved plans of boiler and superheater forwarded herewith _____
 while building ^{During erection on board vessel - - -} Dec. 15-27. Jan 1931, 12 (If not state date of approval.)
 Total No. of visits 8

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
This boiler has been constructed under special survey in accordance with the Rules and approved plans. The workmanship and materials are good and found to be tight & sound. The boiler was afterwards efficiently installed in the hull and the safety valves adjusted under steam to 100 lbs per sq. inch and eligible, in my opinion, to have record of D.B. 100 lbs.

Survey Fee ¥ 63.00 ✓ When applied for 22/1/1931
 Travelling Expenses (if any) (See Hull Report) } When received 6/2/1931

A. Morris
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 17 APR 1931
 Assigned See F.C. Rpt.

