

REPORT ON BOILERS.

No. 7477

Received at London Office 25 SEP 1931

Date of writing Report 28 Aug 1931 When handed in at Local Office 1931 Port of Kobe

No. in Reg. Book. Survey held at Harima Date, First Survey 26 Dec 1930 Last Survey 17 July 1931

on the S. S. MV. FUJISAN MARU (Number of Visits 14) Tons { Gross 9524.3 Net 5440.26

Master Built at Harima By whom built Harima S.B. Co Ltd Yard No. 179 When built 1931

Engines made at Augsburg By whom made Masch fabrik Augsburg Muenchen Engine No. 330590 When made 1931

Boilers made at Harima By whom made Harima S.B. Co Ltd Boiler No. 179 When made 1931

Nominal Horse Power Owners Lino Shoji K.K. Port belonging to Fuku

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Gutshofnungshutte A.G. (Letter for Record S)

Total Heating Surface of Boilers 4537.4 sq Is forced draught fitted 20 Coal or Oil fired oil

No. and Description of Boilers 2 S.B. Working Pressure 200 lbs

Tested by hydraulic pressure to 350 Date of test 23.3.31 No. of Certificate 23.3.31 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 252 sq No. and Description of safety valves to each boiler 2 Spring loaded

Area of each set of valves per boiler { per Rule 15.9 as fitted 19.2412 Pressure to which they are adjusted 200 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

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

Largest internal dia. of boilers 13'-0" Length 12'-0" Shell plates: Material steel Tensile strength 28 to 32

Thickness 1 3/16" Are the shell plates welded or flanged flanged Description of riveting: circ. seams { end D.R. inter. 3 1/2"

long. seams T.R.D.B.S. Diameter of rivet holes in { circ. seams 1 3/16" long. seams 1 3/16" Pitch of rivets { 8 1/2"

Percentage of strength of circ. end seams { plate 66.2 rivets 43.8 Percentage of strength of circ. intermediate seam { plate rivets

Percentage of strength of longitudinal joint { plate 85.8 rivets 96.75 combined 89.04 Working pressure of shell by Rules 201.4

Thickness of butt straps { outer 5/16" inner 1/16" No. and Description of Furnaces in each Boiler 2 Morrison

Material steel Tensile strength 26 to 30 Smallest outside diameter 47.375"

Length of plain part { top bottom Thickness of plates { crown 1/16" bottom 1/16" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 213

End plates in steam space: Material steel Tensile strength 26 to 30 Thickness 1/8" Pitch of stays 18.5 x 15

How are stays secured double nuts & washers Working pressure by Rules 207.1

Tube plates: Material { front steel back steel Tensile strength { 26 to 30 Thickness { 13/16" 13/16"

Mean pitch of stay tubes in nests 10.5" Pitch across wide water spaces 13 1/2" Working pressure { front 207 back 278

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

at centre 10' x 1 1/2" Length as per Rule 30 1/4" Distance apart 9 1/2" No. and pitch of stays

in each 3 @ 7 1/2" Working pressure by Rules 275 Combustion chamber plates: Material steel

Tensile strength 26 to 30 Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 7/8"

Pitch of stays to ditto: Sides 8 x 9 3/4" Back 8 1/2 x 8 3/4" Top 7 1/2 x 9 1/2" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 208 Front plate at bottom: Material steel Tensile strength 26 to 30

Thickness 13/16" Lower back plate: Material steel Tensile strength 26 to 30 Thickness 13/16"

Pitch of stays at wide water space 14 Are stays fitted with nuts or riveted over nuts

Working Pressure 202 Main stays: Material steel Tensile strength 28 to 32

Diameter { At body of stay, 3" No. of threads per inch 6 Area supported by each stay 277

Working pressure by Rules 242 Screw stays: Material steel Tensile strength 26 to 30

Diameter { At turned off part, 1 5/8" No. of threads per inch 9 Area supported by each stay 744

Working pressure by Rules 205 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 3/4" or Over threads ✓

No. of threads per inch 9 Area supported by each stay 88.3 Working pressure by Rules 205.5 + 216.8

Tubes; Material iron External diameter { Plain 3" Stay 3" Thickness { 8/16" No. of threads per inch 9

Pitch of tubes 4 1/4 x 4 1/8" Working pressure by Rules 262 Manhole compensation: Size of opening in shell plate 12 x 16" Section of compensating ring 24.35" No. of rivets and diameter of rivet holes 40 - 1 3/16"

Outer row rivet pitch at ends 8" Depth of flange if manhole flanged 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 ✓ Rivets ✓

Internal diameter ✓ Working pressure by Rules ✓ Thickness of crown ✓ No. and diameter of stays ✓

How connected to shell ✓ Inner radius of crown ✓ Working pressure by Rules ✓

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 23 inclusive for boilers been complied with yes

The foregoing is a correct description,

Shivata Manufacturer. 31st August 1931

Dates of Survey { During progress of work in shops -- Dec 1930, 26 Jan 1931, 14, 26 Feb 6, 10, 23, March 2, 13, 23, 31 Are the approved plans of boiler and superheater forwarded herewith 24.5.30 while building { During erection on board vessel --- June 3, 11, July 1, 17 (If not state date of approval.)

Total No. of visits 14

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The boilers have been made under Special Survey in accordance with the requirements of the Rules and approved plan, the workmanship and materials are good and on completion were tested by hydraulic pressure to 350 lbs per sq inch and found tight and sound and were afterwards efficiently fitted on board, examined under steam and safety valves adjusted to 200 lbs per sq inch. The boiler in my opinion are eligible for classification with the notation 2 D.B. 200 lbs

Survey Fee £ 414⁰⁰ When applied for, 27-8-1931

Travelling Expenses (if any) £ See Hull Rpt. When received, 1-9-1931

H. P. Garnett
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 2 OCT 1931

Assigned See F. E. Rpt.