

REPORT ON BOILERS.

No. 9536.

13 JUN 1936

Received at London Office

Date of writing Report 12th May 1936 When handed in at Local Office 20th May 1936 Port of Kobe.No. in Survey held at OH, HARIMA. Date, First Survey Sept. 9th 1935 Last Survey Apr. 1st 1936

on the SINGLE SCREW VESSEL "KASHII MARU" (Number of Visits 12) Gross 6823 Tons Net 3663.

Master Built at OH, HARIMA By whom built HARIMA S & E. CO. LTD. Yard No. 215 When built 1936

Engines made at KOBE By whom made KOBE STEEL WORKS, LTD. Engine No. 232 When made 1935.

Boilers made at OH, HARIMA By whom made HARIMA S & E. CO. LTD. Boiler No. When made

Nominal Horse Power Owners KOKUSAI KISEN KAISHA Port belonging to TOKIO

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

Manufacturers of Steel The Steel Company of Scotland, Ltd. (Letter for Record S.)

Total Heating Surface of Boilers 218 M² 2350 ft² Is forced draught fitted no. Oil fired & ex. gasNo. and Description of Boilers One, two furnace multitubular Working Pressure 7 kgp/cm²Tested by hydraulic pressure to 14 kgp/cm² Date of test 23/12/35 No. of Certificate 4846 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler two spring loaded x 115 mm dia.

Area of each set of valves per boiler {per Rule 16500 mm² as fitted 20700 Pressure to which they are adjusted 7 kgp/cm² Are they fitted with easing gear yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no main boilers.

Smallest distance between boilers or uptakes and bunkers or woodwork no woodwork Is oil fuel carried in the double bottom under boilers no.

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

Largest internal dia. of boilers 3800 mm. Length 3500 mm. Shell plates: Material Steel Tensile strength 44-50 kgp/mm²

Thickness 22 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 24 mm. long. seams 24 mm. Pitch of rivets {75 mm. 166 mm. ✓

Percentage of strength of circ. end seams {plate 68 rivets 45. Percentage of strength of circ. intermediate seam {plate 85.6 rivets ✓

Percentage of strength of longitudinal joint {plate 85.6 rivets 95.5. combined 90.2. Working pressure of shell by Rules 10.55 kgp/cm².

Thickness of butt straps {outer 19 mm inner 22 mm No. and Description of Furnaces in each Boiler 2 Morrison Corrugated. ✓

Material Steel Tensile strength 41-47 kgp/mm² Smallest outside diameter 1099 mm ✓

Length of plain part {top 198 mm bottom 198 mm Thickness of plates {crown 16 mm bottom 16 mm Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 14.95 kgp/cm².End plates in steam space: Material Steel Tensile strength 41-47 kgp/mm² Thickness 25 mm Pitch of stays 360 mm.How are stays secured Double nuts. Working pressure by Rules 7 kgp/cm².Tube plates: Material {front Steel back Steel Tensile strength {41-47 kgp/mm² Thickness {22 mm 19 mm ✓Mean pitch of stay tubes in nests 277 mm Pitch across wide water spaces 350 x 180 mm Working pressure {front 10.8 kgp/cm² back 11.8 kgp/cm² ✓Girders to combustion chamber tops: Material Steel Tensile strength 44-50 kgp/mm² Depth and thickness of girder

at centre 200 x 19 mm x 2. Length as per Rule 717 mm Distance apart 300 mm No. and pitch of stays

in each 2 @ 200 mm Working pressure by Rules 11.4 kgp/cm² Combustion chamber plates: Material SteelTensile strength 41-47 kgp/mm² Thickness: Sides 16 mm Back 14 mm Top 16 mm Bottom 19 mm ✓

Pitch of stays to ditto: Sides 200 x 300 Back 240 x 200 Top 200 x 300 Are stays fitted with nuts or riveted over nuts.

Working pressure by Rules 9.6 kgp/cm² Front plate at bottom: Material Steel Tensile strength 41-47 kgp/mm² ✓Thickness 22 mm Lower back plate: Material Steel Tensile strength 41-47 kgp/mm² Thickness 22 mm ✓

Pitch of stays at wide water space 200 x 350 mm Are stays fitted with nuts or riveted over nuts.

Working Pressure 13.5 kgp/cm² Main stays: Material Steel Tensile strength 44-50 kgp/mm² ✓

Diameter {At body of stay 2 1/2" No. of threads per inch 6. Area supported by each stay 360 x 410 mm ✓

Working pressure by Rules 13.6 kgp/cm² Screw stays: Material Steel Tensile strength 41-47 kgp/mm² ✓

Diameter {At turned off part 1 1/2" No. of threads per inch 9. Area supported by each stay 240 x 200 mm ✓

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Working pressure by Rules 11.8 kg/cm² Are the stays drilled at the outer ends yes Margin stays: Diameter 44.5 mm (At turned off part, or Over threads)

No. of threads per inch 9 Area supported by each stay 200 x 345 mm Working pressure by Rules 11.9 kg/cm²

Tubes: Material Steel External diameter 2 1/2" Thickness 5/16" No. of threads per inch 9

Pitch of tubes 95 x 90 mm Working pressure by Rules 12.35 kg/cm² Manhole compensation: Size of opening in shell plate 430 x 530 mm Section of compensating ring 447 x 22 mm No. of rivets and diameter of rivet holes 48 @ 24 mm

Outer row rivet pitch at ends 166 mm Depth of flange if manhole flanged 85 mm Steam Dome: Material none

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 none Manufacturers of Tubes ☒ Steel castings ☒

Number of elements ☒ Material of tubes ☒ Internal diameter and thickness of tubes ☒

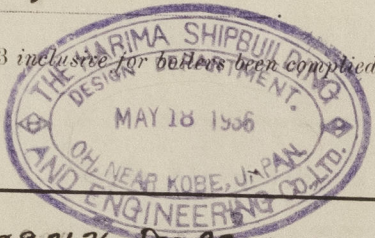
Material of headers ☒ Tensile strength ☒ Thickness ☒ Can the superheater be shut off and the boiler be worked separately ☒

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, correct Manufacturer.

Dates of Survey 1935 During progress of work in shops - 9/9 Oct 21, 30, Nov 9, 21, 26, Dec 23 Are the approved plans of boiler and superheater forwarded herewith 29/7/35 (If not state date of approval.)

while building 1936 During erection on board vessel - Jan 1, 27, Feb 5, 17, April 1 Total No. of visits 12

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

This boiler has been constructed under Special Survey in accordance with the Rules & approved plans.

The materials & workmanship are good.

The boiler was tested by hydraulic pressure to 14 kg. per sq. cm & found sound & tight, afterwards being installed in the vessel in accordance with the Rules & the safety valves adjusted under steam to 100 lb per square inch.

This boiler, in our opinion, is eligible to have the record of D.B. 10076.

Survey Fee £ 33 - 8 - 0 When applied for, Apr. 18th 1936

Travelling Expenses (if any) £ : : When received, Apr. 25th 1936

C. Macpherson & Y. Hamada
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 23 JUN 1936

Assigned See other Kob. F.C. 9536