

REPORT ON BOILERS.

No. 10268

Received at London Office

OCT 21 1937

Date of writing Report 17th SEPT 1937 When handed in at Local Office 30th SEPT 1937 Port of KOBE

No. in Survey held at OSAKA AND MATSUE Date, First Survey 16th SEPTEMBER 1936 Last Survey 3rd AUGUST 1937

on the STEEL SINGLE SCREW TUG-BOAT "HINCHUK"

(Number of Visits 28) Gross 72.00 Tons Net

Master Built at MATSUE By whom built ISHIBASHI TEKKOSHO Yard No. 961 When built 1937

Engines made at MATSUE By whom made ISHIBASHI TEKKOSHO Engine No. 1301 When made 1937

Boilers made at OSAKA By whom made YAMANE TEKKOSHO Boiler No. 301 When made 1937

Nominal Horse Power 34 Owners U.S.S.R. Port belonging to VLADIVOSTOK

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel NIPPON SEITETSU KABUSHIKI KAISHA YAWATA WORKS (Letter for Record S)

Total Heating Surface of Boilers 69.66 M² Is forced draught fitted No Coal or Oil fired COAL

No. and Description of Boilers ONE, SINGLE ENDED MULTITUBULAR Working Pressure 8.4 Kg/cm²

Tested by hydraulic pressure to 16.2 Kg/cm² Date of test 14.7.37 No. of Certificate 6508 Can each boiler be worked separately

Area of Firegrate in each Boiler 2.33 M² No. and Description of safety valves to each boiler TWO SPRING LOADED

Area of each set of valves per boiler { per Rule 4489MM² as fitted 5104MM² Pressure to which they are adjusted 8.4 Kg/cm² 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 on woodwork 230 MM. Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 500 M.M. Is the bottom of the boiler insulated No

Largest internal dia. of boilers 2520 MM. Length 2855 MM. Shell plates: Material STEEL Tensile strength 44-50 Kg/cm²

Thickness 16 MM. Are the shell plates welded or flanged No Description of riveting: circ. seams { end DOUBLE RIVETED LAPPED inter. 75 M.M. long. seams TREBLERIVETED DOUBLE BUTT STRAPS Diameter of rivet holes in { circ. seams 24 M.M. long. seams 24 M.M. Pitch of rivets { 110 M.M.

Percentage of strength of circ. end seams { plate 68.0 rivets 61.6 Percentage of strength of circ. intermediate seam { plate rivets

Percentage of strength of longitudinal joint { plate 78.1 rivets 118 combined 95.8 Working pressure of shell by Rules 10.3 Kg/cm²

Thickness of butt straps { outer 12 M.M. inner 12 M.M. No. and Description of Furnaces in each Boiler TWO, PLAIN TYPE (ADAMSON JOINT)

Material STEEL Tensile strength 41-47 Kg/cm² Smallest outside diameter 800 M.M.

Length of plain part { top 1100 M.M. 930 M.M. bottom 1100 M.M. 930 M.M. Thickness of plates { crown 13 M.M. bottom 13 M.M. Description of longitudinal joint WELDED

Dimensions of stiffening rings on furnace or c.c. bottom 16 M.M. x 80 M.M. Working pressure of furnace by Rules 11.8 Kg/cm²

End plates in steam space: Material STEEL Tensile strength 41-47 Kg/cm² Thickness 16 M.M. Pitch of stays 270 x 450

How are stays secured DOUBLE NUTS AND WASHERS Working pressure by Rules 8.4 Kg/cm²

Tube plates: Material { front STEEL back STEEL Tensile strength { 41-47 Kg/cm² Thickness { 16 M.M. 16 M.M.

Mean pitch of stay tubes in nests 207 M.M. Pitch across wide water spaces 310 M.M. Working pressure { front 11.1 Kg/cm² back 14.8 Kg/cm²

Girders to combustion chamber tops: Material STEEL Tensile strength 44-50 Kg/cm² Depth and thickness of girder at centre 190 x 32 M.M. Length as per Rule 615 M.M. Distance apart 235 M.M. No. and pitch of stays in each 2 x 220 M.M. Working pressure by Rules 16.8 Kg/cm² Combustion chamber plates: Material STEEL Tensile strength 41-47 Kg/cm² Thickness: Sides 13 M.M. Back 13 M.M. Top 13 M.M. Bottom 13 M.M. Pitch of stays to ditto: Sides 190 M.M. x 200 M.M. Back 200 M.M. x 205 M.M. Top 220 M.M. x 235 M.M. Are stays fitted with nuts or riveted over NUTS AND WASHERS Working pressure by Rules 9.8 Kg/cm² Front plate at bottom: Material STEEL Tensile strength 41-47 Kg/cm² Thickness 16 M.M. Lower back plate: Material STEEL Tensile strength 41-47 Kg/cm² Thickness 16 M.M. Pitch of stays at wide water space 200 M.M. x 310 M.M. Are stays fitted with nuts or riveted over NUTS AND WASHERS Working Pressure 8.4 Kg/cm² Main stays: Material STEEL Tensile strength 44-50 Kg/cm² Diameter { At body of stay, or over threads 50 M.M. No. of threads per inch 9 Area supported by each stay 270 x 418 Working pressure by Rules 10.2 Kg/cm² Screw stays: Material STEEL Tensile strength 41-47 Kg/cm² Diameter { At turned off part, or over threads 38 M.M. No. of threads per inch 9 Area supported by each stay 200 x 205

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Working pressure by Rules 13.8 Kgs/CM^2 Are the stays drilled at the outer ends No Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part, } \checkmark \\ \text{or} \\ \text{Over threads } 44 \text{ MM} \end{array} \right.$

No. of threads per inch 9 Area supported by each stay $250 \times 200 \text{ M.M.}$ Working pressure by Rules 12.9 Kgs/CM^2

Tubes: Material STEEL External diameter $\left\{ \begin{array}{l} \text{Plain } 63.5 \text{ M.M.} \\ \text{Stay } 63.5 \text{ M.M.} \end{array} \right.$ Thickness $\left\{ \begin{array}{l} 3 \text{ M.M.} \\ 8 \text{ M.M.} \end{array} \right.$ No. of threads per inch 9

Pitch of tubes $90 \times 90 \text{ M.M.}$ Working pressure by Rules 9 Kgs/CM^2 Manhole compensation: Size of opening in shell plate $300 \times 400 \text{ M.M.}$ Section of compensating ring $16 \times 155 \text{ M.M.}$ No. of rivets and diameter of rivet holes 32 - 24 M.M.

Outer row rivet pitch at ends 110 M.M. Depth of flange if manhole flanged 44 M.M. 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 $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$

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 $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel castings} \end{array} \right.$

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 22 inclusive for boilers been complied with YES

ISHIBASHI TEKKO SHO
(ISHIBASHI IRON WORKS CO.,)
DIRECTOR S. Ishibashi

The foregoing is a correct description,
YAMANE TEKKO SHO E. Yamane Manufacturer.

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops - -} \\ \text{while building} \end{array} \right.$ $\left\{ \begin{array}{l} \text{During erection on board vessel - - -} \end{array} \right.$

1936. SEPT. 1, 8, 11. OCT. 6, 12. NOV. 26. 1937. JAN. 18. Are the approved plans of boiler and superheater forwarded herewith 3. 2. 37
21. FEB. 17. MAR. 22. APR. 13. 30. MAY. 5. 11. 23. JUN. 6. 3. 14. (If not state date of approval.)
26. JUL. 14. 16. 17.
18. 19. 20. 23. 29. AUG. 3. Total No. of visits 28

Is this Boiler a duplicate of a previous case No. If so, state Vessel's name and Report No. _____

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 MATERIALS AND WORKMANSHIP ARE GOOD.

THE BOILER WAS TESTED BY HYDRAULIC PRESSURE TO 16.2 Kgs/CM^2 AND FOUND SOUND AND TIGHT, AFTERWARD EFFICIENTLY INSTALLED IN THE VESSEL, AND THE SAFETY VALVES ADJUSTED UNDER STEAM TO 8.4 Kgs/CM^2 .

Survey Fee £ : : : When applied for, 19

Travelling Expenses (if any) £ : : : When received, 19

A. Arima A. Ridgell
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 26 OCT 1937

Assigned See other. Kob. J.C. 10268

