

Rpt. 5a.

/ DONKEY

REPORT ON BOILERS.

No. 983

Received at London Office

4 FEB 1953

Date of writing Report 14-8-1952 When handed in at Local Office 1952 Port of KOBE

No. in Survey held at Innoshima Date, First Survey 7-2-52 Last Survey 20-7-1952

Reg. Book. on the T.S.S. "TSUKUSHI MARU" (Number of Visits 4) Gross 8135.67 Tons Net

Master - Built at Kobe By whom built Kawasaki Dockyard Yard No. 653 When built MAR. 1943

Engines made at Kobe By whom made Kawasaki Dockyard Engine No. PNo. 780 SNo. 778 When made Nov. 1942

Boilers made at " By whom made " Donkey Boiler No. 1069 When made Feb. 1943

Nominal Horse Power 96.67 Owners Pan Islamic Steam ship Co., Ltd., Port belonging to Karachi

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel No Record (Letter for Record)

Total Heating Surface of Boilers 107.77 M² = 1160 F² Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers One Scotch Boiler Working Pressure 10 Kg/cm²

Tested by hydraulic pressure to 15 kg/cm² Date of test 15-2-52 No. of Certificate - Can each boiler be worked separately -

Area of Firegrate in each Boiler - No. and Description of safety valves to each boiler Double Conical Spring Loaded Type, One set

Area of each set of valves per boiler per Rule 9.2 in² as fitted 384.7 mm² x 2 Pressure to which they are adjusted 10.2 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 No

Smallest distance between boilers or uptakes and bunkers or woodwork 871 Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 406 M/M Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 3,200 m/m Length 3,053 m/m Shell plates: Material M.S. Tensile strength No record

Thickness 21 M/m Are the shell plates welded or flanged Riveting Description of riveting: circ. seams end Double inter None long. seams 26.5 m/m 23.5 m/m Pitch of rivets 84 m/m 160 m/m

long. seams Treble Riveted Double Bottstrap joint Diameter of rivet holes in circ. seams 68.5 long. seams 52.2

Percentage of strength of circ. end seams plate 52.2 rivets 85.3 Percentage of strength of circ. intermediate seam plate - rivets -

Percentage of strength of longitudinal joint plate 90.2 rivets 89.1 combined Working pressure of shell by Rules 167.8 lbs/in²

Thickness of butt straps outer 16 m/m inner 19 m/m No. and Description of Furnaces in each Boiler 2 Corrugated Morison Type

Material Mild Steel Tensile strength No record Smallest outside diameter 978 m/m

Length of plain part top - bottom - Thickness of plates crown 14 bottom 14 Description of longitudinal joint Electric welding

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 207.5 lbs/in²

End plates in steam space: Material M.S. Tensile strength No record Thickness 22 mm Pitch of stays 380 mm

How are stays secured Washes and nuts (in & out sides) Working pressure by Rules 164.5 lbs/in²

Tube plates: Material front M.S. back M.S. Tensile strength No record Thickness 19

Mean pitch of stay tubes in nests 253 m/m Pitch across wide water spaces 102 Working pressure front 276 lbs/in² back 276 lbs/in²

Girders to combustion chamber tops: Material M.S. Tensile strength No record Depth and thickness of girder at centre 200mm & 16 mm Length as per Rule 614.17 mm Distance apart 200 mm No. and pitch of stays in each 2 x 230 mm Working pressure by Rules 174 lbs/in² Combustion chamber plates: Material M.S.

Tensile strength No record Thickness: Sides 16 m/m Back 16 m/m Top 16 m/m Bottom 16 m/m

Pitch of stays to ditto: Sides 180, 185, 190, 203 between Back 216 x 240 Top 200 Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules c.c. 230-255 170.8 lbs/in² Front plate at bottom: Material M.S. Tensile strength No record

Thickness 19 mm Lower back plate: Material M.S. Tensile strength No record Thickness 19 mm

Pitch of stays at wide water space 660 mm Are stays fitted with nuts or riveted over Nuts

Working pressure 215 lbs/in² Main stays: Material M.S. Tensile strength No record

Diameter At body of stay 60 Over threads 60 No. of threads per inch 6 Area supported by each stay 380mm x 356 mm

Working pressure by Rules 204.5 lbs/in² Screw stays: Material M.S. Tensile strength No record

Diameter At turned off part 42, 44, 46 Over threads " " No. of threads per inch 9 Area supported by each stay 240 x 216 m/m

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Working pressure by Rules. 145.8 lbs/in^2 Are the stays drilled at the outer ends. Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part,} \\ \text{or} \\ \text{Over threads.} \end{array} \right. \text{None}$
No. of threads per inch. Area supported by each stay. Working pressure by Rules.
Tubes: Material M.S. External diameter $\left\{ \begin{array}{l} \text{Plain} \\ \text{Stay} \end{array} \right. \begin{array}{l} 76 \\ 76 \end{array}$ Thickness $\left\{ \begin{array}{l} 3.5 \\ 8 \end{array} \right.$ No. of threads per inch 9
Pitch of tubes 100×102 Working pressure by Rules 190 lbs/in^2 Manhole compensation: Size of opening in
shell plate 305×405 Section of compensating ring $21 \text{ inch} \times$ No. of rivets and diameter of rivet holes $265 \phi \times 44$
Outer row rivet pitch at ends. Depth of flange if manhole flanged top 85 mm bot. 75 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 $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$
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 $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel forgings} \\ \text{Steel castings} \end{array} \right.$
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. forgings and 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.

The foregoing is a correct description,

Manufacturer.

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

Are the approved plans of boiler and superheater forwarded herewith.
(If not state date of approval.)

Total No. of visits.

Is this Boiler a duplicate of a previous case.

If so, state Vessel's name and Report No.

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

See Rpt. 9 attached hereto.

Survey Fee ... £ ~~20.00~~ 20.00

Travelling Expenses (if any) £ : :

When applied for. 23. JAN. 1953
LONDON
When received.

M. Lamakmal,

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 3 MAR 1953

Assigned See F.E. mch. rpt.



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