

REPORT ON BOILERS.

No. 5932.

14 DEC 1936

Received at London Office

Date of writing Report 19th Nov 1936 When handed in at Local Office 19/11/1936 Port of YOKOHAMA

No. in Reg. Book. Survey held at YOKOHAMA

Date, First Survey 18 February Last Survey 5th November 1936

on the Steel screw motor vessel "HOYO MARU"

(Number of Visits 17) Gross Tons 8692 Net Tons 6042

Master Built at Yokohama By whom built Kaisha. Yokohama Dockyard No. 250 When built 1936
 Engines made at Yokohama By whom made Kaisha. Yokohama Dock Engine No. D.4606 When made 1936
 Boilers made at Yokohama By whom made Mitsubishi K.K. Yokohama Dock Boiler No. 250 When made 1936
 Nominal Horse Power 1166.8 1163 Owners Nippon Tanker Kabushiki Kaisha Port belonging to Tokio

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Japan Steel Works, Ltd 23458 (Letter for Record S. ✓)
 Total Heating Surface of Boilers 218 m² each boiler Is forced draught fitted Yes ✓ Coal or Oil fired Oil ✓
 No. and Description of Boilers 2 cylindrical marine type Working Pressure 11.5 kg/cm² ✓
 Tested by hydraulic pressure to 20.75 kg/cm² Date of test 12-9-36 No. of Certificate 46 Can each boiler be worked separately Yes ✓
 Area of Firegrate in each Boiler 19.5 m² No. and Description of safety valves to each boiler 2 spring loaded ✓
 Area of each set of valves per boiler {per Rule 10.00 16.40 as fitted 11.0450} Pressure to which they are adjusted 11.5 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 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 3800 mm ✓ Length 2550 mm ✓ Shell plates: Material Steel ✓ Tensile strength 44-55 ✓
 Thickness 25 mm ✓ Are the shell plates welded or flanged ✓ Description of riveting: circ. seams {end D.R. 100 ✓
 long. seams T.R.S.B.S. ✓ Diameter of rivet holes in {circ. seams 29.5 mm ✓ Pitch of rivets {90 mm ✓
 Percentage of strength of circ. end seams {plate 67.2% rivets 45.6% Percentage of strength of circ. intermediate seam {plate 85.4% rivets 93.3% ✓
 Percentage of strength of longitudinal joint {plate 85.4% rivets 93.3% combined Working pressure of shell by Rules 11.8 kg/cm² ✓
 Thickness of butt straps {outer 19 mm ✓ No. and Description of Furnaces in each Boiler 2 Dighton type ✓
 Material Steel ✓ Tensile strength 41-47 ✓ Smallest outside diameter 1178 mm ✓
 Length of plain part {top ✓ Thickness of plates {crown 14 mm ✓ Description of longitudinal joint Weld ✓
 Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 12.1 kg/cm² ✓
 End plates in steam space: Material Steel ✓ Tensile strength 41/47 ✓ Thickness 30 mm ✓ Pitch of stays 400 mm ✓
 How are stays secured Nuts & Washers both sides ✓ Working pressure by Rules 18.3 kg/cm² ✓
 Tube plates: Material {front Steel ✓ Tensile strength {41/47 ✓ Thickness {22 mm ✓
 Mean pitch of stay tubes in nests 306 x 330 mm ✓ Pitch across wide water spaces 330 mm ✓ Working pressure {front 12.1 kg/cm² ✓
 Girders to combustion chamber tops: Material ✓ Tensile strength ✓ Depth and thickness of girder ✓
 at centre ✓ Length as per Rule ✓ Distance apart ✓ No. and pitch of stays ✓
 in each ✓ Working pressure by Rules ✓ Combustion chamber plates: Material ✓
 Tensile strength ✓ Thickness: Sides ✓ Back ✓ Top ✓ Bottom ✓
 Pitch of stays to ditto: Sides ✓ Back ✓ Top ✓ Are stays fitted with nuts or riveted over ✓
 Working pressure by Rules ✓ Front plate at bottom: Material Steel ✓ Tensile strength 41/47 ✓
 Thickness 22 mm ✓ Lower back plate: Material Steel ✓ Tensile strength 41/47 kg/cm² ✓ Thickness 22 mm ✓
 Pitch of stays at wide water space ✓ Are stays fitted with nuts or riveted over ✓
 Working Pressure 12.5 kg/cm² ✓ Main stays: Material Steel ✓ Tensile strength 44/55 ✓
 Diameter {At body of stay, 63.5 mm ✓ No. of threads per inch 6 ✓ Area supported by each stay 400 mm² ✓
 Working pressure by Rules 15.5 kg/cm² ✓ Screw stays: Material ✓ Tensile strength ✓
 Diameter {At turned off part, ✓ No. of threads per inch ✓ Area supported by each stay ✓
 Over threads

Working pressure by Rules ☒ Are the stays drilled at the outer ends ☒ Margin stays: Diameter ☒ At turned off part, ☒ Over threads ☒
No. of threads per inch ☒ Area supported by each stay ☒ Working pressure by Rules ☒
Tubes: Material Steel ☒ External diameter ☒ Plain 3" ☒ Thickness ☒ 9 LSG ☒ No. of threads per inch 9 ☒
Pitch of tubes 1029 110 mm Working pressure by Rules 13.5 kgs/cm² Manhole compensation: Size of opening in
shell plate: 305 X 406 mm Section of compensating ring ☒ No. of rivets and diameter of rivet holes ☒
Outer row rivet pitch at ends ☒ Depth of flange if manhole flanged ☒ Steam Dome: Material Steel
Tensile strength 41-44 Thickness of shell 12 mm ☒ Description of longitudinal joint D.R. Lap. ☒
Diameter of rivet holes 23 mm ☒ Pitch of rivets 60 mm ☒ Percentage of strength of joint ☒ Plate 67.1%
Internal diameter 1200 mm ☒ Working pressure by Rules 12.6 kgs/cm² ☒ Thickness of crown 22 mm ☒ Rivets 74%
stays ☒ Inner radius of crown 1200 mm ☒ Working pressure by Rules 15.3 kgs/cm² ☒ No. and diameter of
How connected to shell D.R. ☒ Size of doubling plate under dome 1635 X 25 mm ☒ Diameter of rivet holes and pitch
of rivets in outer row in dome connection to shell 23 mm X 125 mm ☒

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 22 inclusive for boilers been complied with _____

The foregoing is a correct description,

M. Hattery

Manufacturer.

Dates of Survey ☒ During progress of work in shops - - - 18/2/36 - 12/9/36
☒ while building ☒ During erection on board vessel - - - 25/9/36 - 5/11/36

Are the approved plans of boiler and superheater forwarded herewith Yes 24/4/36
(If not state date of approval.)

Total No. of visits 17

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.) These boilers have been built under special survey in accordance with the Rules and approved plan. Materials & workmanship good.

These boilers have been securely fitted onboard and have been examined under steam. Safety valves adjusted to 11.5 kgs/cm² & accumulation tests carried out with satisfactory results.

These boilers are eligible in my opinion to be classed with the machinery of this vessel and have the record of LMC 11-36

Survey Fee £ 29 : 5 : 0 When applied for, 18-11-1936

Travelling Expenses (if any) £ all charged on engine report. When received, 19

J. Michalos

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 29 DEC 1936

TUE 2 FEB 1937

Assigned

See 28. Machy Report



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