

## REPORT ON BOILERS.

No. 2005.

Received at London Office

-4 JAN 1935

Date of writing Report 6th Dec 1934 When handed in at Local Office 6th Dec 1934 Port of NAGASAKI.

No. in Survey held at NAGASAKI. Date, First Survey 20th March '34 Last Survey 30th Nov. 1934.  
Reg. Book

90510 on the Steel Single Screw Motor Vessel "N O S H I R O M A R U" (Number of Visits See Machy Rpt Gross 7183.61 Tons Net 4317.80)

Built at Nagasaki By whom built Mitsubishi Jukogyo Kaisha, Ltd. Yard No. 581 When built 1934

Engines made at Nagasaki By whom made Mitsubishi Jukogyo Kaisha, Ltd. Engine No. 581 When made 1934

Boilers made at Nagasaki By whom made Mitsubishi Jukogyo Kaisha, Ltd. Boiler No. 581 When made 1934

Owners Nippon Yusen Kabushiki Kaisha. Port belonging to Tokio.

## VERTICAL DONKEY BOILER.

Made at Nagasaki By whom made Mitsubishi Jukogyo K. Boiler No. 581 When made 1934 Where fixed E.R. Upper.

Manufacturers of Steel Nippon Seitetsu Kaisha, Ltd., Yawata.

Total Heating Surface of Boiler 58,310 sq.M. Is forced draught fitted No Coal or Oil fired Exhaust gas or Oil.

No. and Description of Boilers One, - Vertical Waste Heat Boiler. (Clarkson Type). Working pressure 7 Kg/cm<sup>2</sup>Tested by hydraulic pressure to 14 Kg/cm<sup>2</sup> Date of test 11th September 1934. No. of Certificate 161.

Area of Firegrate in each Boiler / No. and Description of safety valves to each boiler Spring loaded twin safety valves.

Area of each set of valves per boiler { per rule 2268 sq m/m 5-340 as fitted 5655 " Pressure to which they are adjusted 7 Kg/cm<sup>2</sup> Are they fitted with easing gear Yes

State whether steam from main boilers can enter the donkey boiler / Smallest distance between boiler or uptake and bunkers

or woodwork / Is oil fuel carried in the double bottom under boiler / Smallest distance between base of boiler and tank top plating

Boiler Flat near 2nd Dk aft E.R. Is the base of the boiler insulated Yes Largest internal dia. of boiler 2250 m/m Height 6110 m/m

Shell plates: Material Steel Tensile strength 44 to 50 Kg/cm<sup>2</sup> Thickness 12 m/m

Are the shell plates welded or flanged No Description of riveting: circ. seams { end S.R.L. inter. long. seams D.R.D.B.S.

Dia. of rivet holes in { circ. seams 20 m/m Pitch of rivets { 46&amp;46.5m/m Percentage of strength of circ. seams { plate 56.5% rivets 46% of Longitudinal joint { plate 75% rivets 100% combined -

Working pressure of shell by rules 7.94 Kg/cm<sup>2</sup> Thickness of butt straps { outer 8 m/m inner 11 m/m

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Dished Material Steel

Tensile strength 41 to 47 Kg/cm<sup>2</sup> Thickness 21 m/m Radius 1900 m/m Working pressure by rules 7.9 Kg/cm<sup>2</sup>

Description of Furnace: Plain, spherical, or dished crown / Material / Tensile strength /

Thickness External diameter { top / bottom / Length as per rule / Working pressure by rules /

Pitch of support stays circumferentially / and vertically / Are stays fitted with nuts or riveted over /

Diameter of stays over thread / Radius of spherical or dished furnace crown / Working pressure by rule /

Thickness of Ogee Ring / Diameter as per rule { D a Working pressure by rule

Uptake Ogee Ring: Material Steel Tensile strength 41 to 47 Kg/cm<sup>2</sup> Thickness of top plate 16 m/m

Radius if dished 1041 m/m Working pressure by rule 9.1 Kgs Thickness of back plate / Diameter if circular /

Length as per rule / Pitch of stays / Are stays fitted with nuts or riveted over /

Diameter of stays over thread / Working pressure of back plate by rules /

Tube Plates: Material { Steel Tensile strength { 41 to 47 Kg/cm<sup>2</sup> Thickness { 30 m/m thimble pitch of tubes 177.9x191 m/m

If comprising shell, Dia. as per rule { front / back Pitch in outer vertical rows { (thimble) Dia. of tube holes { 83.4 m/m BACK stay plain /

Is each alternate tube in outer vertical rows a stay tube / Working pressure by rules { 9.5 Kg/cm<sup>2</sup>

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 rule /

Crown stays: Material / Tensile strength / Diameter { at body of stay / or / over threads /  
No. of threads per inch / Area supported by each stay / Working pressure by rules /  
Screw stays: Material / Tensile strength / Diameter { at turned off part / or / over threads / No. of threads per inch /  
Area supported by each stay / Working pressure by rules / Are the stays drilled at the outer ends /  
Tubes: Material M.S. tube tapered & O.A. welded at ends External diameter { 83 m/m / Thickness { No. 6 B.W.G. /  
No. of threads per inch / Pitch of tubes / Working pressure by rules 27.5 Kg/cm<sup>2</sup>  
Manhole Compensation: Size of opening in shell plate 455x355 m/m Section of compensating ring 16m/m. Thk. No. of rivets and diameter  
of rivet holes 44 x 23 m/m Outer row rivet pitch at ends 100 m/m Depth of flange 80 m/m  
Uptake: External diameter 1032 m/m Thickness of uptake plate 16 m/m  
Cross Tubes: No. / External diameters { / Thickness of plates { /

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

The foregoing is a correct description,

NAGASAKI WORKS, MITSUBISHI JUKOGYO KABUSHIKI KAISHA.

*G. J. J. J.*  
GENERAL MANAGER.

Manufacturer.

Dates of Survey { During progress of work in shops - - }  
while building { During erection on board vessel - - }

See Machinery Report.

Is the approved plan of boiler forwarded herewith 20-11-33.  
(If not state date of approval.)

Total No. of visits

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. "Noto Maru" Nag. Rpt No. 1999.

#### 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 plan  
The materials have been tested found efficient and the workmanship throughout is good.  
The safety valves were adjusted under steam as stated, on the 12th November 1934.  
This Boiler has been efficiently installed on board, accumulation test carried out with satisfactory  
results and eligible in our opinion to have the notation of DBS. 11-34 in the Register Book.  
Fitted for oil fuel F.P. above 150° F.

Note:- A pressure feed water heater, has been installed, built in accordance with plan approved,

15th February 1934 and tested by hydraulic pressure of 17 Kg/cm<sup>2</sup> and found satisfactory.

This heater employs exhaust gases from the Diesel generator engines only, and it has a relief  
valve fitted and adjusted to safe working load.

Survey Fee ... £  
Travelling Expenses (if any) £

See Machinery Report.

When applied for, 10  
When received, 19

Committee's Minute  
Assigned

TUE. 8 JAN 1935

See other J.E. Rpt. No. 2003

Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register  
Foundation