

REPORT ON BOILERS.

No. 1999

26 NOV 1934

Received at London Office

Date of writing Report 5th Nov. 1934 When handed in at Local Office 5th Nov. 1934 Part of NAGASAKI.

No. in Reg. Book 82167 Survey held at NAGASAKI. Date, First Survey 20th March 1934 Last Survey 14th Oct. 1934
See Machy. Rpt. (Number of Visits) Gross 7184.51 Net 4317.76

on the Steel Screw Motor Vessel "NOTO MARU"

Built at Nagasaki By whom built Mitsubishi Jukogyo Kaisha, Ltd. Yard No. 580 When built 1934

Engines made at Nagasaki By whom made Mitsubishi Jukogyo Kaisha, Ltd. Engine No. 580 When made 1934

Boilers made at Nagasaki By whom made Mitsubishi Jukogyo Kaisha, Ltd. Boiler No. 580 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. 580 When made 1934 Where fixed E.R. Upper.

Manufacturers of Steel Nippon Seitetsu Kaisha, 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/cm²

Tested by hydraulic pressure to 14 Kg/cm² Date of test 18-7-1934 No. of Certificate 158

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. Pressure to which they are adjusted 7 Kg/cm² Are they fitted with easing gear Yes
as fitted 5655 "

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

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

Boiler flat near and 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/cm² Thickness 12 m/m

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

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

Working pressure of shell by rules 7.94 Kg/cm² 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/cm² Thickness 21 m/m Radius 1900 m/m Working pressure by rules 7.9 Kg/cm²

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

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

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 / Working pressure by rule /
d /

Uptake Ogee Ring: Material Steel Tensile strength 41 to 47 Kg/cm² 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 { ~~XX~~ Steel Tensile strength { 41 to 47 kg/cm² Thickness { 30 m/m ~~XXX~~ pitch of ~~XX~~ tubes ~~XXXX~~ 177.9 x 191 m/m
~~XX~~ thimble

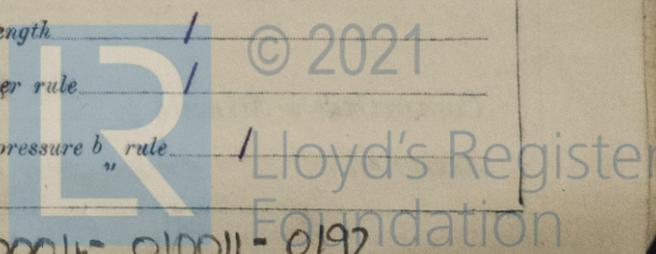
comprising shell, Dia. as per rule { front / Pitch in outer vertical rows { / (thimble) Dia. of tube holes { ~~XXXX~~ 83.4 m/m BACK { stay /
back / plain /

each alternate tube in outer vertical rows a stay tube / Working pressure by rules { ~~XX~~ 9.5 kg/cm²
~~XX~~

Orders 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 /



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REPORT ON BOILERS

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 end** External diameter ~~83~~ **83 m/m** Thickness { **No. 6 B.W.G.** /

No. of threads per inch / Pitch of tubes / Working pressure by rules **27.5 Kg/cm²**

Manhole Compensation: Size of opening in shell plate **455x355m/m** Section of compensating ring **Flanged 2x116m/m Thk.** No. of rivets and diam. of rivet holes **44 x 23 m/m** Outer row rivet pitch at ends **100 m/m** Depth of flange ~~80~~ **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,
T. Kumar Manufactur
GENERAL MANAGER.

Dates of Survey { During progress of work in shops - - } App. date. **20-11-33**
 while building { During erection on board vessel - - } Is the approved plan of boiler forwarded herewith (If not state date of approval.)
See Machinery Report. Total No. of visits - -

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 have been tested found efficient and the workmanship throughout is good. The safety valves were adjusted under steam, as stated, on the 29th September 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. 10-34** 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 15 and tested by hydraulic pressure of 17 kg/cm² 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 ... £ : : When applied for, 19
 Travelling Expenses (if any) £ : : When received, 19
See Machinery Report.

H. Buchanan / *T. Kumar*
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **18 DEC 1934**
 Assigned *See other Rpt. - Ref. J.C. 1999*

