

## REPORT ON BOILERS.

No. 2328

FEB 14 1938

Received at London Office

Date of writing Report 11th Jan. 38 When handed in at Local Office 11th Jan. 38 Port of NAGASAKI.

No. in Reg. Book. Survey held at NAGASAKI.

Date, First Survey 16th April 1937 Last Survey 23rd Dec. 19 37

37125 on the Single Screw Motor Vessel "AWATA MARU" (Number of Visits) See Machy. Rpt. Gross 7.398. Net 4.327.

Master / Built at Nagasaki By whom built Mitsubishi J.K.K. Yard No. 688 When built 1937

Engines made at Nagasaki By whom made Mitsubishi Jukogyo K.K. Engine No. 688 When made 1937

Boilers made at Nagasaki By whom made Mitsubishi Jukogyo K.K. Boiler No. 688 When made 1937

Nominal Horse Power 2,248. Owners Nippon Yusen Kabushiki Kaisha. Port belonging to Tokyo.

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Nagasaki Seiko-sho Mitsubishi Jukogyo K.K. (Letter for Record S) Nippon Seitetsu K.K. Yawata Seitetsu-sho.

Total Heating Surface of Boilers 258.82 sq. M. Is forced draught fitted No Coal or Oil fired Oil &amp; Exhaust

No. and Description of Boilers One Cylindrical Multitubular, Dry uptake. Working Pressure 7 Kg/cm<sup>2</sup>Tested by hydraulic pressure to 14 Kg/cm<sup>2</sup> Date of test 16-8-37 No. of Certificate 1846 Can each boiler be worked separately /

Area of Firegrate in each Boiler / No. and Description of safety valves to each boiler 4 Spring Loaded.

Area of each set of valves per boiler {per Rule 1531 m<sup>2</sup> as fitted 25446.8 m<sup>2</sup> Pressure to which they are adjusted 7 Kg. 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 hold bulkhead 420 m/m Is oil fuel carried in the double bottom under boilers /

Smallest distance between shell of boiler and tank top plating Located in E.R. at 2nd deck level, Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 3700 m/m Length 2650 m/m Shell plates: Material Steel Tensile strength 44-45 Kg.

Thickness 19 m/m Are the shell plates welded or flanged No Description of riveting: circ. seams {end Double inter. /

long. seams D.R. &amp; D.R.S. Diameter of rivet holes in {circ. seams 26.5 m/m Pitch of rivets {100.7 104.4

Percentage of strength of circ. end seams {plate 76.2 rivets 47 Percentage of strength of circ. intermediate seam {plate / rivets /

Percentage of strength of longitudinal joint {plate 74.6 rivets 85.6 combined - Working pressure of shell by Rules 8.08 sq/cm

Thickness of butt straps {outer 12 m/m inner 15 m/m No. and Description of Furnaces in each Boiler One, Corrugated.

Material Steel Tensile strength 41-48 Kg/sq m/m. Smallest outside diameter 1050 m/m

Length of plain part {top / bottom / Thickness of plates {crown 10 m/m Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace or c.c. bottom / Working pressure of furnace by Rules 9.94 Kg.

End plates in steam space: Material Steel Tensile strength 41-48 Kg. Thickness 22 m/m Pitch of stays 400 m/m

How are stays secured Double nuts and riveted strip. Working pressure by Rules 16.1 Kg. and 9.8 Kg.

Tube plates: Material {front Steel back / Tensile strength {41-48 Kg. Thickness {22 m/m

Mean pitch of stay tubes in nests 228x222 m/m Pitch across wide water spaces 340 m/m Working pressure {front 10.8 back -

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 41-48 Kg

Thickness 22 m/m Lower back plate: Material Steel Tensile strength 41-48 Kg Thickness 22 m/m

Pitch of stays at wide water space / Are stays fitted with nuts or riveted over /

Working Pressure / Main stays: Material Steel Tensile strength 44-55 Kg

Diameter {At body of stay, 2 @ 65m/m & 4 @ 57m/m. No. of threads per inch 6 Area supported by each stay 270000 m<sup>2</sup> {Over threads 72m/m & 4 @ 64m/m.

Working pressure by Rules 8.05 Kg 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, or Over threads /

No. of threads per inch / Area supported by each stay / Working pressure by Rules /

Tubes: Material **Steel** External diameter { Plain **83 m/m** Stay { Thickness { **3.25 m/m** **6.5 & 8 m/m** No. of threads per inch **9 per 25.4 m/m**

Pitch of tubes **228 x 222 m/m** Working pressure by Rules **21.6 Kg** Manhole compensation: Size of opening in shell plate **405 x 305 m/m** Section of compensating ring **Flanged 19 m/m thick** No. of rivets and diameter of rivet holes **36 @ 26.5 m/m**

Outer row rivet pitch at ends **128.5 m/m** Depth of flange if manhole flanged **90 m/m** Steam Dome: Material **Steel**

Tensile strength **41-48 Kg** Thickness of shell **12 m/m** Description of longitudinal joint **Seam E. welded & fitted with butt strap.**

Diameter of rivet holes **23 m/m** Pitch of rivets **55.6 m/m** Percentage of strength of joint { Plate **58.6** Rivets **50.2**

Internal diameter **800 m/m** Working pressure by Rules **11.5 Kg** Thickness of crown **15 m/m** No. and diameter of stays / Inner radius of crown **750 m/m** Working pressure by Rules **16.5 Kg**

How connected to shell **Riveted Double Row.** Size of doubling plate under dome **600m/m Dia x 22 m/m thick.** Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell **23m/m x 104m/m pitch.**

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 **Yes**

The foregoing is a correct description,

GENERAL MANAGER.

Manufacturer.

Dates of Survey { During progress of work in shops - - } **See Machinery Report.** Are the approved plans of boiler and superheater forwarded herewith **10-11-36** (If not state date of approval.)

while building { During erection on board vessel - - - } Total No. of visits /

Is this Boiler a duplicate of a previous case **Yes** If so, state Vessel's name and Report No. **"Asaka Maru"**

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

**This Boiler has been constructed under Special survey in accordance with the Rules & Approved plan.**

**The materials have been tested found efficient and the workmanship throughout is good.**

**A water test of 14 Kg/cm<sup>2</sup> was applied to the boiler and <sup>it was</sup> found sound and tight.**

**This boiler has now been installed on board and the safety valves adjusted under steam to 7 Kg/cm<sup>2</sup>, on the 20th November 1937 afterwards an accumulation test carried out and all found satisfactory.**

**Eligible in our opinion to have record of **DBS.12-37** in the Register Book.**

**Fitted for oil fuel F.P. above 150° F.**

**Note:- A pressure feed water heater has been fitted, constructed in accordance with Approved plan, 4th May 1937 and tested by hydraulic pressure of 17 Kg/cm<sup>2</sup> and found sound & tight. (Nag. Cert No. 1832)**

**The exhaust gases from the Auxiliary diesel engines are used for heating the feed water in this heater and a relief valves is fitted and adjusted to release at 9 Kg/cm<sup>2</sup>.**

Survey Fee ... £ : : When applied for, 19

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

**See Machinery Report.**

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

Committee's Minute **FRI. 18 FEB 1938**

Assigned **See other F.P. report**



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