

REPORT ON BOILERS.

Received at London Office APR 19 1938

Date of writing Report 22nd Mar 1938 When handed in at Local Office 22nd Mar 1938 Port of NAGASAKI.

No. in Reg. Book. 71515 Survey held at NAGASAKI. Date, First Survey 23rd July 1937 Last Survey 10th March 1938

on the Steel Single Screw Motor Vessel "AZUMA MARU" (Number of Visits See Maghy Rpt. 6646) Tons 6646 Gross 5651 Net

Master / Built at Nagasaki By whom built Mitsubishi Jukogyo KK Yard No. 700 When built 1938

Engines made at Nagasaki By whom made Mitsubishi Jukogyo K.K. Engine No. 700 When made 1938

Boilers made at Nagasaki By whom made Mitsubishi Jukogyo K.K. Boiler No. 700 When made 1938

Nominal Horse Power 2,248. Owners Nippon Yusen K.K. Port belonging to Yokyo

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

Manufacturers of Steel Consett Iron Co., Ltd., and Steel Co of Scotland, Ltd., (Letter for Record S.)

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

No. and Description of Boilers One Cylindrical Multitubular. Working Pressure 7 Kg/cm²

Tested by hydraulic pressure to 14 Kg/cm² Date of test 10-11-37 No. of Certificate 1924 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/m² as fitted 25446.8 m/m² 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 ~~bulkhead~~ 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 3rd 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. & D.B.S. Diameter of rivet holes in { circ. seams 26.5 m/m long. 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.mm. Smallest outside diameter 1050 m/m

Length of plain part { top / bottom / Thickness of plates { crown 10 m/m bottom / 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 & 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 228x228 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

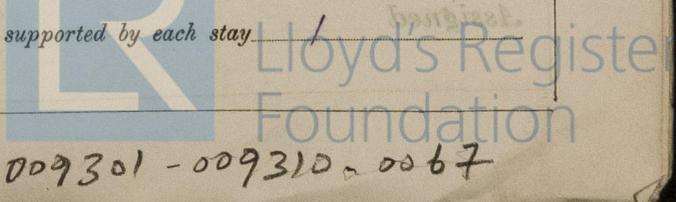
Pitch of stays at wide water space / Are stays fitted with nuts or riveted over /

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/m²

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 /



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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 / 9 per

Tubes: Material **Steel** External diameter { Plain 83 m/m / Stay 83 m/m / Thickness { 3.25 m/m / 6.5 & 8 m/m / No. of threads per inch 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** Seam **E. welded & fitted with butt strap.**

Tensile strength 41-48 Kg Thickness of shell 12 m/m Description of longitudinal joint

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 16.6 Kg

How connected to shell **Riveted Double Row.** Size of doubling plate under dome 600m/m Dia x 22m/m Diameter of rivet holes and pitch thick.

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,
[Signature] Manufacturer.
GENERAL MANAGER.

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

Are the approved plans of boiler and superheater forwarded herewith **4-5-37** (If not state date of approval.)

See Machinery Report.

Total No. of visits /

Is this Boiler a duplicate of a previous case **Yes** If so, state Vessel's name and Report No. **"Awata 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/cm2 was applied to the boiler and it was found sound and tight.

The boiler has now been installed on board and the safety valves adjusted under steam to 7 Kg/cm2, on the 8th February 1938, afterwards an accumulation test carried out and all found satisfactory.

Eligible in our opinion to have record of **DBS. 37-38 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, and tested by hydraulic pressure to 17 Kg/cm2 and found sound & tight (Nag. Cert No. 1965). The exhaust gases from Aux. diesel engines are used for heating the feed water in this heater and a relief valves is fitted and adjusted to releases at 9 Kg/cm2.

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

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

See Machinery Report.

[Signature]
 Engineer/Surveyor to Lloyd's Register of Shipping.

Committee's Minute **TUE. 26 APR 1938**

Assigned *See Vol 38. 2336*

