

6 FEB 1953

LONDON

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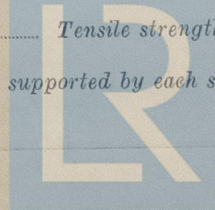
## REPORT ON BOILERS.

Received at London Office.....

Writing Report ..... When handed in at Local Office ..... 19..... Port of Kobe  
 Survey held at Nagasaki Date, First Survey 5th March Last Survey 28th August 1952  
 on the Twin Screw motor vessel "AWATA MARU" (Number of Visits 26) Tons Gross 7,401.48  
 Net 4,220.50  
 Built at Nagasaki By whom built Nagasaki Works, Mitsubishi Zosen K.K. Yard No. 1428 When built 1952 8 mo.  
 By whom made Nagasaki Works, Mitsubishi Zosen K.K. Engine No. 245246 When made 1952 5 mo.  
 By whom made Nagasaki Works, Mitsubishi Zosen K.K. Boiler No. 1368 When made 1952 5 mo.  
 Owners Nippon Yusen Kaisha Port belonging to Tokyo  
 Owners Nippon Yusen Kaisha

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

Manufacturers of Steel Yawata Iron and Steel Works (Letter for Record.....)  
 Heating Surface of Boilers 268.5 m<sup>2</sup> Is forced draught fitted Yes ✓ Coal or Oil fired Oil and Exhaust Gas ✓  
 and Description of Boilers one off, Multitubular cylindrical dry combustion ✓ Working Pressure 7 kgs/cm<sup>2</sup> ✓  
 LTD. by hydraulic pressure to 14 kgs/cm<sup>2</sup> Date of test 19 May 1952 No. of Certificate B-335 Can each boiler be worked separately.....  
 of Firegrate in each Boiler..... No. and Description of safety valves to each boiler one set, 2 valves full lift type  
 of each set of valves per boiler per Rule 56.2 cm<sup>2</sup> ✓ Pressure to which they are adjusted 7 kgs/cm<sup>2</sup> ✓ Are they fitted with easing gear Yes ✓  
 of donkey boilers, state whether steam from main boilers can enter the donkey boiler.....  
 est distance between boilers or uptakes and bunkers or woodwork 6,000 mm. Is oil fuel carried in the double bottom under boilers.....  
 est distance between shell of boiler and tank top plating 6,000 mm. Is the bottom of the boiler insulated Yes  
 st internal dia. of boilers 3,800 mm. ✓ Length 2,650 mm. ✓ Shell plates: Material Boiler quality steel ✓ Tensile strength 28~35 T/d ✓  
 8-52 ness 19 mm. ✓ Are the shell plates welded or flanged No ✓ Description of riveting: circ. seams end Double riveted lap joint  
 580 seams Double riveted double butt strap ✓ Diameter of rivet holes in circ. seams 26.5 mm. ✓ Pitch of rivets 8.8 mm. ✓  
 7-204. ntage of strength of circ. end seams plate 69.9 ✓ rivets 53.8 ✓ Percentage of strength of circ. intermediate seam plate 74 ✓ rivets 87.7 ✓  
 7-7 C ntage of strength of longitudinal joint plate 74 ✓ rivets 87.7 ✓ Working pressure of shell by Rules 7.77 kgs/cm<sup>2</sup>  
 52 ntage of strength of longitudinal joint combined ✓  
 580 ness of butt straps outer 13 mm. ✓ inner 16 mm. ✓ No. and Description of Furnaces in each Boiler one, Morrison corrugated ✓  
 rial Boiler quality steel ✓ Tensile strength 26~30 T/d ✓ Smallest outside diameter 874 mm. ✓  
 h of plain part top 14 mm. ✓ Thickness of plates bottom 14 mm. ✓ Description of longitudinal joint Butt fusion weld from both sides ✓  
 nsions of stiffening rings on furnace or c.c. bottom..... Working pressure of furnace by Rules 13.8 kgs/cm<sup>2</sup>  
 plates in steam space: Material Boiler quality steel ✓ Tensile strength 26~30 T/d ✓ Thickness 22 mm. ✓ Pitch of stays 400 mm. ✓  
 are stays secured With nuts inside and outside of end plates ✓ Working pressure by Rules 8.1 kgs/cm<sup>2</sup>  
 plates: Material front Boiler quality steel ✓ Tensile strength 26~30 T/d ✓ Thickness 22 mm. ✓  
back do. ✓ Tensile strength 26~30 T/d ✓ Thickness 22 mm. ✓  
 pitch of stay tubes in nests 318 mm. ✓ Pitch across wide water spaces 340 mm. ✓ Working pressure front 7.86 kgs/cm<sup>2</sup>  
back 7.86 kgs/cm<sup>2</sup>  
 rs to combustion chamber tops: Material..... Tensile strength..... Depth and thickness of girder  
 tre..... Length as per Rule..... Distance apart..... No. and pitch of stays  
 h..... Working pressure by Rules..... Combustion chamber plates: Material.....  
 ation e strength..... Thickness: Sides..... Back..... Top..... Bottom.....  
 of stays to ditto: Sides..... Back..... Top..... Are stays fitted with nuts or riveted over.....  
 ing pressure by Rules..... Front plate at bottom: Material Boiler quality steel ✓ Tensile strength 26~30 T/d ✓  
 ness 22 mm. ✓ Lower back plate: Material Boiler quality steel ✓ Tensile strength 26~30 T/d ✓ Thickness 22 mm. ✓  
 of stays at wide water space..... Are stays fitted with nuts or riveted over.....  
 ing pressure..... Main stays: Material Longitudinal stay ✓ Tensile strength 28~35 T/d ✓  
 ter At body of stay 6.5 mm. ✓ No. of threads per inch Si.x ✓ Area supported by each stay 190.7 cm<sup>2</sup> ✓  
Over threads ✓  
 ing pressure by Rules 13.4 kgs/cm<sup>2</sup> ✓ Screw stays: Material..... Tensile strength.....  
 of Shippi ter At turned off part ✓ No. of threads per inch..... Area supported by each stay.....  
Over threads ✓



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Working pressure by Rules..... Are the stays drilled at the outer ends..... Margin stays: Diameter <sup>At turned off part</sup> <sub>or</sub> <sup>Over threads</sup>..... 4c.  
No. of threads per inch..... Area supported by each stay..... Working pressure by Rules.....  
Tubes: Material *Boiler tube* ✓ External diameter <sup>Plain</sup> *76.2* <sub>Stay</sub> *76.2* Thickness <sup>4</sup> <sub>8</sub> No. of threads per inch *11/2*  
Pitch of tubes <sup>Vertical</sup> *105* <sub>Horizontal</sub> *107* Working pressure by Rules *7 kgs/cm<sup>2</sup>* Manhole compensation: Size of *10*  
shell plate *105 x 30.5* Section of compensating ring *19 x 160 x 160* No. of rivets and diameter of rivet holes *36 x 26.5*  
Outer row rivet pitch at ends *122.7* Depth of flange if manhole flanged *85* Steam Dome: Material.....  
Tensile strength..... Thickness of shell..... Description of longitudinal joint.....  
Diameter of rivet holes..... Pitch of rivets..... Percentage of strength of joint <sup>Plate</sup> <sub>Rivets</sub>.....  
Internal diameter..... Working pressure by Rules..... Thickness of crown..... No. and dia  
stays..... Inner radius of crown..... Working pressure by Rules.....  
How connected to shell..... Size of doubling plate under dome..... Diameter of rivet holes  
of rivets in outer row in dome connection to shell.....

Type of Superheater *Name*..... Manufacturers of <sup>Tubes</sup>..... <sub>Steel forgings</sub>..... <sub>Steel castings</sub>.....  
Number of elements..... Material of tubes..... Internal diameter and thickness of tubes.....  
Material of headers..... Tensile strength..... Thickness..... Can the superheater be shut  
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 casing gear..... Working pressure  
Rules..... Pressure to which the safety valves are adjusted..... Hydraulic test p  
tubes..... forgings and castings..... and after assembly in place..... Are drain  
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,

*Seno*  
NAGASAKI WORKS

Dates of Survey while building <sup>1952</sup> During progress of work in shops - - *March 5, 7, 14, 24, 28, 31, April 7, 8, 10, 22, 28, May 2, 6, 26, 27, 1952* Are the approved plans of boiler and superheater forwarded herewith *28 April 1952*  
During erection on board vessel - - *May 21, 22, June 26, 30, July 1, 2, 28, Aug 6, 13, 18, 28* Total No. of visits..... *26*

Is this Boiler a duplicate of a previous case..... *Yes*..... If so, state Vessel's name and Report No. *ASO HARU, ARI HARU, TOSHI HARU*

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

*The Donkey Boiler of this vessel has been constructed under Special Survey in accordance with the Rules, Approved plans and Secretary's letter.*

*The material and workmanship are good.*

*The Donkey Boiler has been examined under steam, the Safety Valves were adjusted to 7 kgs per sq. cm. and found satisfactory.*

Survey Fee ... .. £ *75,000* } When applied for..... *27. JAN. 1953*  
Travelling Expenses (if any) £ : : } When received..... *LOCALLY*

*For D. Currie self*  
*Y. Hamada*

Engineer Surveyor to Lloyd's Register of Shipping

TUES. 24 FEB 1953

Committee's Minute.....

Assigned..... *Su F.E. mch. rpt.*