

# REPORT ON BOILERS.

Received at London Office

Date of writing Report 27th Sept. 19 60 When handed in at Local Office NOV - 8 1960 19 19 Port of KOBE

No. in Survey held at Tamano, Japan Date, First Survey 28th April, 1960 Last Survey 18th August, 19 60  
Reg. Book.

on the m.v. "NAGAOSAN MARU" (Number of Visits 16) Tons 6554.8  
Gross  
Net

Built at Tamano, Japan By whom built Mitsui Shipbuilding & Eng., Co., Ltd. Yard No. 641 When built 1960-8

Engines made at Tamano, Japan By whom made Mitsui Shipbuilding & Eng., Co., Ltd. Engine No. 817 When made 1960-8

Boilers made at Tamano, Japan By whom made Mitsui Shipbuilding & Eng., Co., Ltd. Boiler No. 467 When made 1960-8

Owners Mitsui Steamship Co., Ltd. Port belonging to Tokyo

## VERTICAL BOILER.

Made at Tamano By whom made Mitsui Shipbuilding & Eng., Co., Ltd. Boiler No. 467 When made 1960-8 Where fixed On partial deck in engine room

Manufacturers of Steel Tubes: please see on other leaf

Total Heating Surface of each Boiler 48 m<sup>2</sup> Is forced draught fitted Yes Coal or Oil fired Oil

No. and Description of Boilers 1-Vertical Cochran Type Working Pressure 7 kg/cm<sup>2</sup>

Tested by hydraulic pressure to 14 kg/cm<sup>2</sup> Date of test 15th July, 1960 No. of Certificate I-6238 Kobe

Area of fire grate in each Boiler - No. and description of safety valves to each boiler 1 set double spring ordinary type

Area of each set of valves per boiler per Rule 4,956.5 mm<sup>2</sup> as fitted 5,654.8 mm<sup>2</sup> 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 No Smallest distance between base of boiler and tank top plating -

Is the base of the boiler insulated Yes Largest internal dia. of boiler 2100 mm Height 5250 mm

Shell plates: Material O.H. steel Tensile strength 50.6 - 52.3 kg/mm<sup>2</sup> Thickness 12 mm

Are the shell plates welded or flanged Welded If fusion welded, state name of welding firm Mitsui Shipbuilding & Eng., Co., Ltd.

Have all the requirements of the Rules for Class I vessels been complied with Yes Description of riveting: circ. seams { end - inter - }

long. seams - Dia. of rivet holes in { circ. seams - long. seams - } Pitch of rivets { - } Thickness of butt straps { outer - inner - }

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Dished partial spherical Material O.H. steel Tensile strength 46.7 kg/mm<sup>2</sup> Thickness 16 mm

Radius 1550 mm Description of Furnace: Plain, spherical, or dished crown Spherical crown Material O.H. steel

Tensile strength 45.3 kg/mm<sup>2</sup> 46.7 kg/mm<sup>2</sup> Thickness 12 mm External diameter { top - bottom 1820 mm } Length as per Rule -

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 898 mm

Thickness of Ogee Ring 22 mm Diameter as per Rule { D 2100 mm d 1820 mm }

Combustion Chamber: Material - Tensile strength - Thickness of top plate -

Radius if dished - 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 -

Tube Plates: Material { front O.H. steel back O.H. steel } Tensile strength { 44.3 kg/mm<sup>2</sup> 44.4 kg/mm<sup>2</sup> } Thickness { 32 mm 27 mm } Mean pitch of stay tubes in nests 270 x 285 mm

If comprising shell, dia. as per Rule { front - back - } Pitch in outer vertical rows { 180 mm 180 mm } Dia. of tube holes FRONT { stay 71 mm plain 68 mm } BACK { stay 65 mm plain 65 mm }

Is each alternate tube in outer vertical rows a stay tube -

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 -

Crown Stays: Material - Tensile strength - Diameter { at body of stay, - or over threads, - }  
 No. of threads per inch - Screw Stays: Material - Tensile strength -  
 Diameter { at turned off part, - or over threads, - } No. of threads per inch - Are the stays drilled at the outer ends. 3-8  
 Tubes: Material O.H. Steel External diameter { plain 65 mm stay 65 mm } Thickness { 35 mm 8 mm }  
 No. of threads per inch 9 Pitch of tubes 90 x 95 mm  
 Manhole Compensation: Size of opening in shell plate 324 x 424 mm Section of compensating ring 4,400 mm<sup>2</sup> No. of rivets and diameter of rivet holes - Outer row rivet pitch at ends - Depth of flange if manhole flanged -  
 Uptake: External diameter 559 mm Thickness of uptake plate 4.5 mm  
 Cross Tubes: No. - External diameters { - } Thickness of plates -

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes  
 MITSUI SHIPBUILDING & ENGINEERING CO., LTD., TAMANO WORKS. *The foregoing is a correct description,*  
S. Takata Manufacturer.  
Managing Director.

1960/ Apr. 28 May 10,14,20,23,30 June 7,15, 27th April, 1960  
 21,27 July 8,13,15 Aug. 3 Is the approved plan of boiler forwarded herewith (If not state date of approval.)  
 Dates of Survey while building { During progress of work in shops - - } August 12, 18 Total No. of visits 16  
 { During erection on board vessel - - }

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.) The Auxiliary Boiler of this vessel has been constructed and installed under Special Survey in accordance with the Rules, Approved Plans and Secretary's Letters. The workmanship and materials are sound and good. The Auxiliary Boiler has been examined under steam and adjusted safety valves to 7 kg per square centimetre on board of this ship and found in good conditions. Also accumulation test was carried out in accordance with the Rules with satisfactory results.

Location	Roll & Charge No.	Maker
Upper shell plate	R6588, S83901	Yawata Iron & Steel Works, Yawata.
Middle shell plate	R6083, S83901	
Lower shell plate	R1891, S83901	
Compensation ring for manhole	R516, T52749	
Furnace plate	R7185, S83892	Fuji Iron & Steel Co., Hirohata Works, Hirohata
End plate & manhole ring	R7168, S83892	
Rear tube plate	R1299, S84503	Sumitomo Metal Ind., Steel Tube Works, Amagasaki.
Ogee ring	R7095, S83898	
Front tube plate	30379, Hg5098	
Smoke tubes	1AB - XA3077	
Stay tubes	1AB - XA3078	

Survey Fee ... .. £22,500.- : When applied for 19  
 Travelling Expenses (if any) £ / : : When received 19

Date FRIDAY 10 FEB 1961  
 Committee's Minute See Rpt 1.

Y. Kojima  
 Engineer Surveyor to Lloyd's Register of Shipping.  
 Y. Kojima



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