

## REPORT ON BOILERS.

No. 450

Received at London Office 13 SEP 1955

Date of writing Report 14th June 1955 When handed in at Local Office 19 Port of Shimomaseki

No. in Survey held at Nagasaki, Japan Date, First Survey 6th November, 1954 Last Survey 11th June 1955

Reg. Book. on the M.T. "KOCHU MARU" carrying vegetable oil in deep tanks in way of tunnel. (Number of Visits 18) Tons Gross 9197.25 Net 5372.24

Built at Nagasaki, Japan By whom built Mitsubishi Zosen K.K. Yard No. 1445 When built 6mo 1955

Engines made at Nagasaki, Japan By whom made Mitsubishi Zosen K.K. Engine No. 276 When made 3mo 1955

Boilers made at Nagasaki, Japan By whom made Mitsubishi Zosen K.K. Boiler No. 1399 When made 3mo 1955

Owners Daido Kaikan K.K. Port belonging to Kobe

## VERTICAL BOILER.

Made at Nagasaki By whom made Mitsubishi Zosen K.K. Boiler No. 1399 When made 3mo 1955 Where fixed Nagasaki

Manufacturers of Steel Plates: Yawata Iron & Steel Co. Ltd. Tubes: Sumitomo Metal Ind. Ltd. Wakayama

Total Heating Surface of each Boiler 80 m<sup>2</sup> Is forced draught fitted No Coal or Oil fired Oil

No. and Description of Boilers One - Cochran Donkey Boiler Working Pressure 7 Kg/cm<sup>2</sup>

Tested by hydraulic pressure to 14 Kg/cm<sup>2</sup> Date of test 5.3.55 No. of Certificate Nag. M-11271

Area of fire grate in each Boiler - No. and description of safety valves to each boiler One - 50mm dia. double spring improved high lift

Area of each set of valves per boiler { per Rule 2.2.2.7 mm<sup>2</sup> as fitted 3.2.2.7 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 - Smallest distance between base of boiler and tank top plating

Boiler placed on 3rd deck level. Is the base of the boiler insulated Yes Largest internal dia. of boiler 2400 mm Height 5200 mm

Shell plates: Material Boiler steel Tensile strength 46.4 ~ 51.6 Kg/mm<sup>2</sup> Thickness Top & Bot. 16 mm Middle 18 mm

Are the shell plates welded or flanged No If fusion welded, state name of welding firm -

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

long. seams double butt straps Dia. of rivet holes in { circ. seams 26.5 mm Pitch of rivets { 75.4 mm Thickness of butt straps { outer 1.3 mm inner 1.6 mm

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Dished partial Material Boiler steel Tensile strength 45.9 ~ 46.3 Kg/mm<sup>2</sup> Thickness 23 mm

Radius 1900 mm Description of Furnace: Plain, spherical, or dished crown Spherical Material Boiler steel

Tensile strength 45.5 ~ 45.7 Kg/mm<sup>2</sup> Thickness 18 mm External diameter { top - bottom - 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 1038 mm

Thickness of Ogee Ring 32 mm Diameter as per Rule { D 2400 mm d 1981 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 Boiler steel back Boiler steel Tensile strength { 46.5 ~ 46.8 Kg/mm<sup>2</sup> Thickness { 3.0 mm Mean pitch of stay tubes in nests 247.5 mm

If comprising shell, dia. as per Rule { front - back - Pitch in outer vertical rows { 2137.3 mm Dia. of tube holes FRONT { stay 69.75 mm plain 67 mm BACK { stay 69.75 mm plain 65 mm

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

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 -



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Crown Stays: Material - Tensile strength - Diameter { at body of stay, -  
No. of threads per inch - Screw Stays: Material - Tensile strength -  
Diameter { at turned off part, - No. of threads per inch - Are the stays drilled at the outer ends -

Tubes: Material Seamless mild steel External diameter { plain 6.5 mm ✓  
No. of threads per inch 9 ✓ Pitch of tubes Vertical 105 mm x Horizontal 95 mm Thickness { 3.5 mm ✓  
8 mm ✓

Manhole Compensation: Size of opening in shell plate - Section of compensating ring - No. of rivets and diameter of rivet holes -  
Outer row rivet pitch at ends - Depth of flange if manhole flanged 85 mm ✓

Uptake: External diameter - Thickness of uptake plate -

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,

L. Maki-shita

NAGASAKI WORKS  
MITSUBISHI SHIPBUILDING & ENGINEERING CO., LTD. Manufacture

Dates of Survey while building During progress of work in shops - 1954 Nov. 6, 30, Dec. 9, 15, 22, 30; 1955 Jan. 26, 28 Is the approved plan of boiler forwarded herewith 25.11.54, 28.1.55  
During erection on board vessel - Feb. 9, 18, March 5 28.12.54 (Kobe letter)  
1955 March 25, May 17, 19, 26, June 3, 6, 11 Total No. of visits 18

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 Cochran Donkey Boilers of this ship has been made under special survey in accordance with the requirements of the Rules, the approved plans and the Secretary's letters.

The materials and workmanship are good.

The donkey boiler was examined under steam, safety valves were adjusted to 7 Kgs. per sq. cm. and accumulation test was carried out with satisfactory results.

Survey Fee ... £ ¥33,750 :

When applied for 5. AUG. 1955

Travelling Expenses (if any) £ :

When received LOCALLY 19

FRIDAY 21 OCT 1955

Date

Committee's Minute

See Rpt. 4 c.

Engineer Surveyor to Lloyd's Register of Shipping.



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