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# REPORT ON BOILERS.

SECONDARY SECTION OF

No. FE-1960

LONDON

of writing Report 19 When handed in at Local Office 25th Feb. 1962 Received at London Office  
Survey held at Hiroshima, Japan Port of SHIMONOSEKI  
Date, First Survey 19th May, 1961 Last Survey 23rd February 1962  
on the Motor Tanker "LUGANSK" (Number of Visits 56)  
at Hiroshima, Japan Tons (Gross 22,262.48 Net 15,397.05)  
By whom built Mitsubishi Shipbuilding & Engineering Co., Ltd., Hiroshima Works Yard No. H-145 When built 2-1962  
By whom made Mitsubishi Shipbuilding & Engineering Co., Ltd., Hiroshima Works Engine No. 21 When made 9-1961  
By whom made Mitsubishi Shipbuilding & Engineering Co., Ltd., Hiroshima Works Boiler No. 87 When made 2-1962  
V/O "SUDOIMPORT" Port belonging to Odessa

ndary  
BOILER.  
at Hiroshima By whom made Mitsubishi Shipbuilding & Eng. Co., Ltd., Hiroshima Works Boiler No. 87 & 88 When made 2-1962 Where fixed Boiler room  
Plates - Fuji Iron & Steel Co., Ltd., Hirohata Works, Hirohata  
Tubes - Sumitomo Metal Industries, Wakayama & Amagasaki Works  
Heating Surface of each Boiler 65 m<sup>2</sup> Is forced draught fitted No Heated by Coal or Oil fired primary steam  
nd Description of Boilers 2 - Mitsubishi Double Evaporation Boilers Design Pressure 18 kg/cm<sup>2</sup> Working Pressure 16 kg/cm<sup>2</sup>  
by hydraulic pressure to 30.5 Kg/cm<sup>2</sup> Date of test 25th Sept., 1961, 27th Sept., 1961 No. of Certificate I-11798 I-11800  
of fire grate in each Boiler - No. and description of safety valves to each boiler 1 set Double spring loaded improved high lift type  
of each set of valves per boiler { per Rule 11,500 mm<sup>2</sup> as fitted 12,723.46 mm<sup>2</sup> Pressure to which they are adjusted 16 Kg/cm<sup>2</sup> Are they fitted with easing gear Yes  
whether steam from primary boilers can enter the secondary boiler No  
Is oil fuel carried in the double bottom under boiler No Smallest distance between boiler or uptake and bunkers  
Is the base of the boiler insulated Yes Smallest distance between base of boiler and tank top plating  
plates: Material O.H. Steel Largest internal dia. of boiler 1,590 mm Length 4,510 mm  
e shell plates welded or flanged Welded Tensile strength 47.7 -- 47.9 Kg/mm<sup>2</sup> Thickness 18 mm  
If fusion welded, state name of welding firm Mitsubishi Shipbuilding & Engineering Co., Ltd., Hiroshima Works  
all the requirements of the Rules for Class I vessels been complied with Yes Description of riveting: circ. seams { end - inter -  
Dia. of rivet holes in { circ. seams - long. seams - Pitch of rivets { Dished partial spherical & toriconical  
Crown: Whether complete hemisphere, dished partial spherical, or flat spherical & toriconical Thickness of butt straps { outer - inner -  
1,300 mm Description of Furnace: Plain, spherical, or dished crown O.H. steel for crown 48.2--53.2 Kg/mm<sup>2</sup> (Crown) O.H. steel for toriconical 53.2 Kg/mm<sup>2</sup> (Crown) toriconical 22mm (toriconical)  
strength - Thickness - External diameter { top - bottom - Length as per Rule -  
support stays circumferentially - and vertically - Are stays fitted with nuts or riveted over -  
Radius of spherical or dished furnace crown -  
Chest  
Material O.H. Steel Diameter as per Rule { D - d -  
Tensile strength 31.0 Kg/mm<sup>2</sup> Thickness of top plate 30 mm (chest)  
Thickness of back plate - Diameter if circular -  
Pitch of stays -  
Is fitted with nuts or riveted over -  
plates: Material { front Forged steel Tensile strength 58.2--58.5 Kg/mm<sup>2</sup> Thickness { 120 mm Mean pitch of stays/tubes in nests -  
Pitch in outer vertical rows { front - back - Dia. of tube holes FRONT { stay - plain 25.1 mm BACK { stay - plain -  
alternate tube in outer vertical rows a stay tube.  
to Combustion Chamber Tops: Material - Tensile strength -  
nd thickness of girder at centre - Length as per Rule -  
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 -

**Tubes:** Material Boiler Tube External diameter { plain 25 mm ✓ stay - Thickness { 2.6 mm ✓

No. of threads per inch - Pitch of tubes 35 mm

**Manhole Compensation:** Size of opening in end plate 305 x 405 mm Section of compensating ring - No. of rivets and date of -

of rivet holes - Outer row rivet pitch at ends - Depth of flange if manhole flanged -

**Uptake:** External diameter 2,000 mm square section 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

MITSUBISHI SHIPBUILDING & ENGINEERING CO., LTD.  
HIROSHIMA WORKS

*The foregoing is a correct description.*  
S. Iwasaki Manu

Dates of Survey while building { During progress of work in shops - - 1961; May 19, June 14, 20, 23, July 3, 5, 11, 12, 15, 18, 19, 24  
Aug. 1, 3, 4, 10, 12, 13, 14, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, 28, 29  
Sept. 1, 2, 6, 7, 8, 9, 12, 19, 21, 22, 25, 26, 27 the approved plan of boiler forwarded herewith. 27-5-61  
1962; Feb. 6, 9, 13, 14 (If not state date of approval.) 26-6-61  
During erection on board vessel - - 1962; Jan. 9, 13, 22  
Feb. 6, 9, 14, 19, 20, 21, 23 Total No. of visits 58

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 boilers of this vessel have been constructed and installed under Special Survey in accordance with the Rules, Approved Plans and Secretary's letter. The workmanship and material are sound and good.

The auxiliary boilers have been examined under steam and the safety valves adjusted to 228 lb/in<sup>2</sup> on board ship. Accumulation tests have been carried out in accordance with the Rules with satisfactory results.

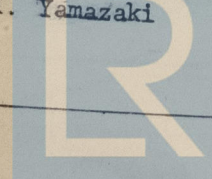
The secondary boiler was subjected to strain gauge test the results of which were submitted previously.

Survey Fee ... £ 48,000 When applied for 19  
Travelling Expenses (if any) £ - When received 19

Date FRIDAY 27 APR 1962

Committee's Minute Sur Kot 10257

P. Manson, W.A. Cook, J. Nonomura, K. Tabuchi  
Y. Kojima, K. Yamazaki



Lloyd's Register  
Foundation  
Date 1 APR  
Committee's Minute Sur

**GENERAL REMARKS**  
under special survey  
ship are good.  
to 782 lb/in<sup>2</sup> and  
Survey Fee ...  
Travelling Expenses